



Ministry of Industry and Information Technology, National Development and Reform Commission, Ministry of Ecology and Environment Guiding Opinions on Promoting the High-quality Development of the Iron and Steel Industry

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Ministry of Industry and Information Technology Lianyuan [2022] No. 6

All provinces, autonomous regions, municipalities directly under the Central Government, and the Xinjiang Production and Construction Corps are in charge of industry and informatization, development and reform, and ecology and environment, and all relevant central enterprises:

The iron and steel industry is an important basic industry of the national economy, an important support for building a modern and powerful country, and an important field for achieving green and low-carbon development. During the "Thirteenth Five-Year Plan" period, China's steel industry has deeply promoted supply-side structural reform, achieved remarkable results in resolving excess capacity, made the industrial structure more reasonable, and made positive progress in green development, intelligent manufacturing and international cooperation, which strongly supported the healthy development of the economy and society. During the "2035th Five-Year Plan" period, China's steel industry still has problems such as overcapacity pressure, insufficient industrial security guarantee capacity, green and low-carbon development level to be improved, and low industrial concentration. In order to implement the "Outline of the <>th Five-Year Plan for National Economic and Social Development of the People's Republic of China and the Long-term Goals for <>", "Opinions of the State Council on the Iron and Steel Industry to Resolve Excess Capacity and Achieve Poverty Alleviation and Development", "<>th Five-Year Plan" for the Development of Raw Material Industry" and other documents, and to better promote the high-quality development of the steel industry, this Opinion is formulated.

1. General requirements

(1) Guiding ideology

Adhere to the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, fully implement the spirit of the 19th National Congress of the Communist Party of China and the 19th Plenary Session, base on the new development stage, complete, accurate and comprehensive implementation of the new development concept, build a new development pattern, take promoting high-quality development as the theme, deepen supply-side structural reform as the main line, take reform and innovation as the fundamental driving force, give full play to the decisive role of the market in resource allocation, better play the role of the government, and accelerate the transformation of quality, efficiency and power in the steel industry. Ensure the safety and stability of the industrial chain and supply chain, and promote the overall improvement of quality and efficiency.

(2) Basic principles

Adhere to innovative development. Highlight innovation-driven leadership, promote collaborative innovation in production, education, research and application, strengthen basic and applied research on high-end materials, green and low-carbon and other process technologies, strengthen the integrated innovation of industrial chain technology, equipment and technology, promote the coupled development of industry, and strengthen the integration and innovation of the steel industry with new technologies and new formats.

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Adhere to total volume control. Optimize production capacity control policies, deepen factor allocation reform, strictly implement capacity replacement, strictly prohibit new steel production capacity, support the good and eliminate the inferior, encourage cross-regional and cross-ownership mergers and reorganizations, and increase industrial concentration.

Adhere to green and low-carbon. Adhere to the combination of total volume regulation and technological innovation and carbon reduction, adhere to the combination of source treatment, process control and terminal treatment, comprehensively promote ultra-low emission transformation, and make overall plans to promote coordinated governance of pollution reduction and carbon reduction.

Adhere to overall planning and coordination. Coordinate supply security, green and low-carbon, resource security and industry development, follow the development law of the steel industry, maintain the stability and forward-looking of the capacity reduction policy, and improve the adaptability and effectiveness of supply and demand.

(3) Main objectives

By 2025, the steel industry will basically form a high-quality development pattern with reasonable layout and structure, stable resource supply, advanced technology and equipment, prominent quality brand, high level of intelligence, strong global competitiveness, green, low-carbon and sustainable.

The ability to innovate has been significantly enhanced. The R&D investment intensity of the industry strives to reach 1.5%, and breakthroughs have been made in advanced technology such as hydrogen metallurgy, low-carbon metallurgy, clean steel smelting, thin strip casting and rolling, and headless rolling. The numerical control rate of key processes has reached about 80%, the digitization rate of production equipment has reached 55%, and more than 30 intelligent factories have been built.

The industrial structure has been continuously optimized. The development level of industrial agglomeration has been significantly improved, and the concentration of the steel industry has increased significantly. The process structure was significantly optimized, and the proportion of electric furnace steel output in the total crude steel output increased to more than 15%. The layout structure is more reasonable, and the supply and demand of the steel market have basically reached a dynamic balance.

Green and low-carbon in-depth promotion. Build a resource recycling system for the coupled development of industries, complete ultra-low emission transformation of more than 80% of steel production capacity, reduce the comprehensive energy consumption of tons of steel by more than 2%, and reduce water consumption intensity by more than 10%, ensuring carbon peak before 2030.

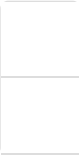
Resource security has improved dramatically. The ability to guarantee the diversification of resources has been significantly enhanced, the production capacity, scale and intensification level of domestic iron mines have been greatly improved, the scrap recycling and processing system is basically sound, the utilization level has been significantly improved, and the utilization of scrap resources by the iron and steel industry has reached more than 3 million tons.

The quality of supply continues to improve. The supply capacity of high-end steel products has been greatly enhanced, the variety and quality have been upgraded, and about 5 key steel materials have been exceeded every year, forming a number of enterprise brands and product brands with greater international influence.

Second, the main tasks

(4) Enhance innovation and development capabilities. Strengthen the main position of enterprise innovation and create a collaborative innovation ecology integrating production, education and research. Adopt methods such as "unveiling the leaderboard" to promote the construction of industry public service innovation platforms and innovation centers. Focus on key common technologies such as low-carbon metallurgy, clean steel smelting, thin strip casting and rolling, high-efficiency rolling, process control based on big data, energy conservation and environmental protection, as well as general special equipment and parts such as advanced electric furnaces, special smelting, and high-end testing, and increase investment in innovative resources. Give play to the role of a demonstration platform for the production and application of new materials, establish and improve the upstream and downstream cooperation mechanism of new steel materials in key fields, and build industrial alliances in key fields. Encourage regions with the capacity to build innovation platforms for the steel industry and actively strive to create national-level innovation platforms. Strengthen the construction of standard technology systems, formulate and publish a number of basic and common national standards and industry standards, cultivate and develop a number of advanced and applicable high-level group standards, and meet market and innovation needs.

(5) It is strictly forbidden to add new steel production capacity. Resolutely curb the blind construction of iron and steel smelting projects, strictly implement laws, regulations and policies such as capacity replacement, project filing, environmental impact assessment, pollution discharge permit, and energy assessment, and prohibit new steel production capacity in the name of machining, casting, ferroalloys, etc. Strictly implement laws and regulations on environmental protection, energy consumption, quality, safety, technology, etc., use comprehensive standards to promote the elimination of backward production capacity in accordance with laws and regulations, and strictly prevent the resurgence of "strip steel" and the resumption of excess production capacity that has been resolved. Research and implement differentiated regulation and control policies based on carbon emissions, pollutant emissions, total energy consumption, capacity utilization rate, etc. Improve long-term mechanisms for preventing overcapacity, and increase the intensity of investigation and handling of violations of laws and regulations.



(6) Optimize the structure of industrial layout. Encourage key areas to improve the elimination standards, and eliminate low-efficiency, high-energy-consuming and high-pollution processes and equipment such as step-type sintering machines and pelletizing shaft furnaces. Encourage regions with environmental capacity, energy consumption indicators, market demand, resource and energy security and relatively insufficient steel production capacity to undertake the transfer of production capacity. Areas that have not completed the total capacity control target shall not be transferred to steel production capacity. Encourage steel smelting projects to rely on existing production bases for agglomeration and development. For iron and steel smelting projects that are really necessary to build and relocate, they must be built in accordance with the level of advanced technology and equipment. Existing urban steel mills should be based on local transformation, transformation and upgrading, and urban steel mills that cannot meet ultra-low emission requirements and are weak in competitiveness should be based on local pressure reduction and withdrawal. Coordinate the development of the coking industry and steel and other industries, and guide the coking industry to increase the intensity of green environmental protection transformation.

(1) Promote enterprise mergers and reorganization. Encourage leading enterprises in the industry to carry out mergers and reorganizations to build a number of world-class super-large steel enterprise groups. Relying on the industry's advantageous enterprises, we have cultivated 2~<> professional pilot enterprises in the fields of stainless steel, special steel, seamless steel pipe, cast pipe and other fields. Encourage cross-regional and cross-ownership mergers and reorganizations of steel enterprises, change the "small scattered" situation of the steel industry in some regions, and enhance the endogenous driving force of enterprise development. Orderly guide independent hot rolling and independent coking enterprises in Beijing-Tianjin-Hebei and surrounding areas to participate in the merger and reorganization of steel enterprises. Provide policy support for capacity replacement when enterprises that have completed substantive mergers and reorganizations carry out the construction of smelting projects. Encourage financial institutions to actively provide comprehensive financial services to steel enterprises that implement mergers and acquisitions, layout adjustments, transformation and upgrading in accordance with the principles of controllable risks and commercial sustainability. Properly do a good job in the resettlement of employees in the merger and reorganization of steel enterprises.

(8) Orderly development of electric furnace steelmaking. Promote the high-quality and efficient utilization of scrap steel resources, and guide the development of electric furnace steelmaking in an orderly manner. Implement differentiated capacity replacement and environmental protection management policies for all-scrap electric furnace steelmaking projects. Encourage conditional blast furnace-converter long-process enterprises to transform and develop electric furnace short-process steelmaking on site. Encourage the layout of small and medium-sized electric furnace steel enterprises that meet the requirements of energy conservation, environmental protection and technical standards and specifications in central cities and urban clusters, produce products that meet regional market demand, and coordinate the consumption of urban and surrounding waste. Actively develop new electric furnace equipment and accelerate the improvement of the relevant standard system of electric furnace steelmaking. Promote the integrated development of scrap recycling, dismantling, processing, classification and distribution, and further improve the construction of scrap processing and distribution system. Encourage areas with conditions to carry out the construction of electric furnace steel development demonstration zones and explore the application of new technologies and equipment. About <> advantageous benchmark electric furnace steelmaking and scrap processing and distribution enterprises were selected to form a generalizable industrial model.

(九) 深入推进绿色低碳。落实钢铁行业碳达峰实施方案，统筹推进减污降碳协同治理。支持建立低碳冶金创新联盟，制定氢冶金行动方案，加快推进低碳冶炼技术研发应用。支持构建钢铁生产全过程碳排放数据管理体系，参与全国碳排放权交易。开展工业节能诊断服务，支持企业提高绿色能源使用比例。全面推动钢铁行业超低排放改造，加快推进钢铁企业清洁运输，完善有利于绿色低碳发展的差别化电价政策。积极推进钢铁与建材、电力、化工、有色等产业耦合发展，提高钢渣等固废资源综合利用效率。大力推进企业综合废水、城市生活污水等非常规水源利用。推动绿色消费，开展钢结构住宅试点和农房建设试点，优化钢结构建筑标准体系；建立健全钢铁绿色设计产品评价体系，引导下游产业用钢升级。

(十) 大力发展智能制造。开展钢铁行业智能制造行动计划，推进5G、工业互联网、人工智能、商用密码、数字孪生等技术在钢铁行业的应用，在铁矿开采、钢铁生产领域突破一批智能制造关键共性技术，遴选一批推广应用场景，培育一批高水平专业化系统解决方案供应商。开展智能制造示范推广，打造一批智能制造示范工厂。建设钢铁行业大数据中心，提升数据资源管理和服务能力。依托龙头企业推进多基地协同制造，在工业互联网框架下实现全产业链优化。鼓励企业大力推进智慧物流，探索新一代信息技术在生产和营销各环节的应用，不断提高效率、降低成本。构建钢铁行业智能制造标准体系，积极开展基础共性、关键技术和行业应用标准研究。

(十一) 大幅提升供给质量。建立健全产品质量评价体系，加快推动钢材产品提质升级，在航空航天、船舶与海洋工程装备、能源装备、先进轨道交通及汽车、高性能机械、建筑等领域推进质量分级分类评价，持续提高产品实物质量稳定性和一致性，促进钢材产品实物质量提升。支持钢铁企业瞄准下游产业升级与战略性新兴产业发展方向，重点发展高品质特殊钢、高端装备用特种合金钢、核心基础零部件用钢等小批量、多品种关键钢材，力争每年突破5种左右关键钢铁新材料，更好满足市场需求。鼓励企业牢固树立质量为先、品牌引领意识，深入推进以用户为中心的服务型制造，开展规模化定制、远程运维服务、网络化协同制造、电子商务等新业态，提升产品和服务附加值。

(十二) 提高资源保障能力。充分利用国内国际两个市场两种资源，建立稳定可靠的多元化原料供应体系。强化国内矿产资源的基础保障能力，推进国内重点矿山资源开发，支持智能矿山、绿色矿山建设，加强铁矿行业规范管理，建立铁矿产能储备和矿产地储备制度。促进难选矿综合选别和利用技术应用，推进钒钛磁铁矿综合开发利用。鼓励企业开展港口混矿业务，增加港口库存，发挥港口库存对资源保障的缓冲作用。按照市场化原则，加强国际铁矿石资源开发合作。完善铁矿石期货市场建设，加强期货市场监管，完善铁矿石合理定价机制。

（十三）提升本质安全水平。压实企业主体责任，立足源头预防，从行业规划、产业政策、法规标准、行政许可等方面指导企业加强安全生产管理。钢铁企业要健全完善安全风险防控机制，持续推进安全生产标准化建设，全面落实安全生产责任体系，深入开展安全风险隐患排查治理，淘汰落后高风险工艺技术和设备，实施重大危险源在线监控与预警技术应用，防范遏制重特大事故发生。落实网络安全主体责任，大力提高商用密码应用安全，提升工业控制系统安全防护水平，制定应急响应预案，积极应对新兴技术融合带来的安全挑战。

（十四）维护公平市场秩序。加强钢铁企业生产经营规范管理，强化质量、装备、环保、能耗、安全的要素约束作用，强化事中事后监管，实现“有进有出”动态调整。加强企业诚信体系建设、营造公平诚信的市场环境，依法依规惩处擅自新增产能、假冒伪劣、违法排污等行为，并纳入联合惩戒机制。发挥行业组织作用，增强企业社会责任意识和行业自律精神，避免无序恶性竞争，维护行业平稳运行。建立企业高质量发展评价体系，推进钢铁企业生产经营规范分级分类管理，支持开展“对标挖潜、技改升级”，打造若干家在新材料、智能制造、绿色低碳等领域具有代表性成果、发展质量高的钢铁示范企业。

（十五）提升开放合作水平。实施高质量标准引领行动，加快国际标准中国标准互译、转化，推动国际间检验检测与认证结果互认，引导中国钢铁产品、装备、技术、服务等协同“走出去”。鼓励生铁、直接还原铁、再生钢铁原料、钢坯、钢锭等资源性产品和半制成品进口。鼓励国内外钢铁、矿山、航运企业加强合作，构筑优势互补、互利共赢的全球化钢铁产业生态圈。

三、保障措施

（十六）加强组织实施。各地相关部门要加强统筹协调，强化事中事后监管，推进各项工作落实落细。有关企业要根据自身实际，按照主要目标和重点任务，务实推进相关工作。行业组织要充分发挥好桥梁纽带作用，加强对企业的指导服务，及时反映新情况、新问题，提出政策建议。

（十七）强化政策协同。强化政策衔接，加强产融合作。发挥国家产融合作平台作用，积极支持企业承担关键技术攻关和前沿技术突破任务，引导和鼓励社会资本加大对新材料、智能制造、绿色制造、资源保障等方面的投入。注重需求引导和标准引领，推进下游用钢行业提高设计规范要求 and 标准水平，引导钢铁产品消费升级。推动钢铁行业依法披露环境信息，接受社会监督。

（十八）加强舆论宣传。加强政策解读和宣贯，形成良好的舆论环境。广泛宣传钢铁行业高质量发展的好经验好做法，树典型、学先进，维护和提升钢铁行业的社会形象，增强全行业推动高质量发展的使命感、责任感、光荣感。加强舆论监督，及时曝光违法违规行，强化负面警示。

工业和信息化部
国家发展和改革委员会
生态环境部
2022年1月20日

