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Conservation and

## Ministry of Industry and Information Technology on the issuance of the "Industrial Green Development Plan (2016- 2020)" notice

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Provinces, autonomous regions, municipalities directly under the Central Government and municipalities under the plan, Xinjiang Production and Construction Corps, the competent departments of industry and information technology, provinces, autonomous regions, municipalities directly under the Central Communications Administration, the relevant central enterprises, the Ministry of relevant institutions:

To implement the "Thirteenth Five-Year Plan for National Economic and Social Development of the People's Republic of China" and "Made in China 2025", accelerate the construction of ecological civilization and promote the green development of industry, the Ministry has formulated the "Industrial Green Development Plan (2016-2020)". Now issued to you, please take into account the actual implementation in earnest.

Ministry of  
Industry and  
Information  
Technology  
June 30, 2016

### Industrial Green Development Plan (2016-2020)

To implement the "13th Five-Year Plan for National Economic and Social Development" and "Made in China 2025" strategic deployment, accelerate the construction of ecological civilization, promote the green development of industry, the development of this plan.

I. The situation facing

“Twelfth Five-Year” period, the industrial sector adhere to the development of resource-saving, environmentally friendly industry as an important focus of transformation and upgrading, energy conservation and emission reduction as an important means of transformation, structural adjustment, vigorously promote technological transformation, the promotion of energy conservation and environmental protection of new technologies, new equipment and new products, and gradually improve the energy conservation and emission reduction system. Successfully complete the “12th Five-Year Plan” target tasks. Industrial energy efficiency and water efficiency have been greatly improved, with energy consumption per unit of industrial added value of enterprises above the scale dropping by 28%, achieving energy savings of 690 million tons of standard coal, water consumption per unit of industrial added value dropping by 35%, and completing the task of eliminating backward production capacity one year ahead of the “12th Five-Year Plan”. Industrial clean production of advanced and applicable technology demonstration and promotion of a wide range of toxic and harmful raw material substitution, the initial establishment of a mechanism to promote the green design of industrial products. Comprehensive utilization of industrial resources industry is growing steadily, the level of technology and equipment continues to improve, the use of bulk industrial solid waste in five years about 7 billion tons, 1.2 billion tons of renewable resources. Energy saving and environmental protection industry is growing rapidly, in 2015, energy saving and environmental protection equipment, comprehensive utilization of resources, energy saving services and other energy saving and environmental protection industry output value of about 4 trillion yuan.

The next five years is a critical period for the implementation of the strategy of manufacturing power, and is the stage of attack to achieve the green development of industry. Resource and environmental issues are common to human

Challenges, promote green growth, the implementation of the Green New Deal is the common choice of the world's major economies, resource and energy utilization efficiency has also become an important factor in measuring the competitiveness of national manufacturing industries, and promoting green development is an inevitable way to enhance international competitiveness. China's industry in general has not yet got rid of the high input, high consumption, high emissions of development, resource and energy consumption, ecological and environmental problems are more prominent, the situation is still very serious, the urgent need to accelerate the construction of high technology content, low resource consumption, environmental pollution less green manufacturing system. Accelerate the green development of industry, is also to promote the structural reform of the supply side, to promote industrial growth and structure of an important measure, is conducive to promoting energy saving and reducing consumption, to achieve cost reduction and efficiency, is conducive to increasing the effective supply of green products and services, to make up for the shortcomings of green development.

## II. General requirements

### (I) Guiding Ideas

Implement the spirit of the 18th Party Congress and the 3rd, 4th and 5th Plenary Sessions of the 18th CPC Central Committee, firmly establish the development concept of innovation, coordination, green, openness and sharing, fully implement the strategy of manufacturing power, adhere to the basic national policy of resource conservation and environmental protection, hold high the banner of green development, closely focus on resource and energy utilization efficiency and clean production level improvement, focus on the green transformation of traditional industries, green science and technology innovation as the To support the construction of regulations and standards as a guarantee, implement green manufacturing projects, accelerate the construction of green manufacturing system, vigorously develop green manufacturing industry, promote the comprehensive development of green products, green factories, green parks and green supply chain, establish and improve the long-term mechanism of industrial green development, improve green international competitiveness, take the green development path of high efficiency, clean, low-carbon, recycling, promote industrial civilization and ecological civilization Harmonious integration, to achieve the harmonious coexistence of man and nature.

### (II) Basic Principles

Innovation-driven, standards-led. Promote industrial green development of scientific and technological innovation, management innovation and business model innovation, research and development to promote the core key green process technology and equipment. Accelerate the improvement of industrial energy efficiency, water efficiency, emissions and comprehensive utilization of resources and other standards, the implementation of green regulation in accordance with the law, to guide green consumption.

Policy guidance and market promotion. Play the guiding role of the government in promoting industrial green development, optimize the industrial structure and regional layout, strengthen mechanism innovation, and form an effective incentive and restraint mechanism. Strengthen the main position of enterprises in promoting industrial green development, stimulate their vitality and creativity, and actively fulfill their social responsibilities.

Transform the stock and optimize the increment. Accelerate the green transformation and upgrading of traditional manufacturing industries, encourage the use of green and low-carbon energy, improve the efficiency of resource utilization, eliminate outdated equipment and processes, and reduce the generation of pollutants from the source. Actively lead the green development of new industries from a high starting point, strengthen green design, accelerate the development of green products, and vigorously develop energy-saving and environmental protection industries.

Promote comprehensively and focus on breakthroughs. Invest in solving the resource and environmental problems in the development of key industries, enterprises and regions, and give full play to the leading role of pilot demonstration.

Actively promote the green development of new industries and small and medium-sized enterprises, and accelerate the overall level of industrial green development.

(iii) Development goals

By 2020, the concept of green development has become a universal requirement for the whole field and process of industry, the basic formation of industrial green development promotion mechanism, green manufacturing industry has become a new engine of economic growth and new advantages in international competition, and the overall level of industrial green development has been significantly improved.

--Energy utilization efficiency has been significantly improved. The growth rate of industrial energy consumption slowed down, the proportion of the six high-energy-consuming industries in industrial value added continued to decline, some heavy industrial energy consumption appeared to turn a corner, the energy consumption per unit of product in major industries reached or approached the world's advanced level, some industrial industries near the peak of carbon emissions, green low-carbon energy accounted for a significant increase in the proportion of industrial energy consumption.

-- The level of resource utilization has improved significantly. Further decline in water consumption per unit of industrial value added, further increase in the comprehensive utilization rate of bulk industrial solid waste, and a steady increase in the recycling rate of major renewable resources.

--Clean production level is significantly improved. Advanced and applicable clean production technology and equipment is basically universal, iron and steel, cement, paper and other key industries to significantly improve the level of clean production, industrial sulfur dioxide, nitrogen oxides, chemical oxygen demand and ammonia nitrogen emissions fell significantly, a significant reduction in high-risk pollutant emissions.

-- Rapid development of green manufacturing industry. Significant growth in green products, electric vehicles and solar energy, wind power and other new energy technology and equipment manufacturing levels significantly improved, energy-saving and environmental protection equipment, products and services and other green industries to form a new economic growth point.

--The initial establishment of green manufacturing system. Green manufacturing standards system is basically established, green design and evaluation is widely used, the establishment of 100 green demonstration parks and 1,000 green demonstration factories, the promotion and popularization of 10,000 kinds of green products, the initial formation of green supply chain in major industries.

Column 1 "Thirteenth Five-Year" period of industrial green development of the main indicators				
Indicators	Indicators	2015	2020	Cumulative speed reduction
(1) Energy consumption per unit of industrial added value of enterprises above the scale Drop (%)		-	-	18
Comprehensive energy consumption per ton of steel (kg of standard coal)		572	560	
Comprehensive energy consumption of cement clinker (kg standard coal/ton)		112	105	
Electrolytic aluminum liquid AC power consumption (kWh/ton)		13350	13200	
Comprehensive refinery energy consumption (kg of standard oil/ton)		65	63	
Comprehensive energy consumption of ethylene (kg standard coal/ton)		816	790	
Synthetic ammonia comprehensive energy consumption (kg standard coal/ton)		1331	1300	
Comprehensive energy consumption of paper and paperboard (kg standard coal/ton)		530	480	
(2) Decrease in CO2 emissions per unit of industrial value added (%)		-	-	22
(3) Decrease in water consumption per unit of industrial added value (%)		-	-	23
(4) key industries to reduce the intensity of emissions of major pollutants (%)		-	-	20
(5) Comprehensive utilization rate of industrial solid waste (%)		65	73	
Of which: Tailings (%)		22	25	
Coal gangue (%)		68	71	
Industrial by-product gypsum (%)		47	60	
Iron and steel smelting slag (%)		79	95	
Red mud (%)		4	10	
(6) The main recycling volume of renewable resources (billion tons)		2.2	3.5	

Of which: recycled non-ferrous metals (10,000 tons)	1235	1800	
Steel scrap (million tons)	8330	15000	
Waste electrical and electronic products (billion units)	4	6.9	
Waste plastics (domestic) (million tons)	1800	2300	
Waste and scrap tires (million tons)	550	850	
(7) Green low-carbon energy as a proportion of industrial energy consumption (%)	12	15	
(8) Six high-energy-consuming industries accounted for the proportion of industrial value added (%)	27.8	25	
(9) Green manufacturing industry output value (trillion yuan)	5.3	10	
Note: This column are guiding indicators, most of the national average, each region can be set with the actual goal Mark.			

### III. Main tasks

(A) vigorously promote energy efficiency and accelerate the development of savings

Adhere to the priority of conservation, vigorously promote the energy consumption revolution, improve the efficiency of industrial energy use, promote enterprises to reduce costs and increase efficiency, accelerate the formation of green intensive production methods, and enhance the core competitiveness of the manufacturing industry.

Take supply-side structural reform as the guide to promote structural energy conservation. Optimize the industrial structure and energy consumption structure as an important way to promote industrial energy conservation in the new period, strengthen energy-saving assessment and post-evaluation, further improve energy consumption, environmental protection and other entry thresholds, and strictly control the expansion of high energy-consuming industries capacity. Focus on steel, petrochemicals, building materials, non-ferrous metals and other industries, and actively use environmental protection, energy consumption, technology, process, quality, safety and other standards to eliminate backwardness and resolve excess capacity in accordance with the law. Accelerate the development of advanced manufacturing and strategic new industries with low energy consumption and low pollution, and promote the transformation of production-based manufacturing to service-based manufacturing. Vigorously adjust the product structure, and actively develop high value-added, low-consumption, low-emission products. Vigorously promote the green and low-carbon transformation of industrial energy consumption structure, encourage enterprises to develop and use renewable energy, accelerate the construction of distributed energy centers for industrial enterprises, implement coal-to-gas or renewable energy alternatives to fossil energy in industrial parks or enterprises with conditions, and promote green lighting. Implementation of clean and efficient use of coal action plan, in the coking, coal chemical industry, industrial boilers, kilns and other key coal areas, to promote clean, efficient, sub-quality use of coal.

To apply advanced technology and equipment as a means to strengthen technical energy conservation. Comprehensively promote the transformation of energy-saving technologies in traditional industries, deeply promote key industries and key enterprises to improve energy efficiency special actions, and accelerate the promotion of advanced technologies such as high-temperature and high-pressure dry coke quenching, non-spherical grinding, new structure aluminum electrolytic tank, and intelligent control. Continue to promote energy efficiency improvement projects for boilers, motors, transformers and other general equipment, and organize and implement energy efficiency improvement plans for air compressor systems. Focusing on enterprises in high energy-consuming industries, accelerate process innovation, implement system energy-saving renovation, encourage the integrated and optimal use of advanced energy-saving technologies, promote short-process processes such as electric furnace steel and direct supply of aluminum liquid, and promote industrial energy-saving from local and individual energy-saving to whole-process and system energy-saving. Enhance the lightweight level of products, promote composite materials, light alloys, vacuum aluminized paper and other new materials of high strength and toughness, promote ultra-high strength steel hot stamping and forming technology, vacuum high-pressure casting, ultra-high vacuum thin-wall casting and other lightweight forming processes. Popularize low-grade waste heat and pressure power generation, heat supply and recycling, and actively promote the use of low-grade waste heat from enterprises in steel and chemical industries to supply heat to urban residents and promote the integration of production and cities. Implement energy-saving renovation projects in industrial parks, strengthen the use of energy laddering in parks, and promote centralized heating and cooling.

Take the construction of energy management system as the core, and improve management energy saving. Implement mandatory energy consumption standards, and implement price policies such as step tariffs and differential tariffs in the electrolytic aluminum and cement industries. Promote the construction of energy management systems in key enterprises, integrate energy management systems into the entire production process of enterprises, conduct regular energy measurement reviews, energy audits, energy efficiency diagnoses and benchmarking, explore energy-saving potential, and build a long-term mechanism for energy efficiency improvement. Implement energy efficiency leaders in key industries to drive the overall energy efficiency of the industry. Build public service platforms around energy-saving management of small and medium-sized industrial enterprises, organize energy-saving service companies into enterprises, and comprehensively improve the awareness and capacity of energy management of small and medium-sized enterprises. Strengthen the supervision of industrial energy conservation, organize the supervision of mandatory energy consumption, energy efficiency standards and the elimination of outdated energy-using equipment, implement special supervision and inspection of key industries and key energy-using enterprises, and strictly implement the Energy Conservation Law and the Industrial Energy Conservation

Management Measures and other regulations. Further improve the nationwide provincial, municipal and county energy-saving monitoring system, support the improvement of hardware facilities, business training, and effectively perform monitoring functions.

Column 2 Energy
<p>Key industry system transformation Iron and steel industry to implement high temperature and high pressure dry quenching, sintering flue gas cycle and other technical transformation; non-ferrous industry to implement a new structure of aluminum electrolytic cell, aluminum liquid direct supply, oxygen-rich melting and other technical transformation; petrochemical chemical industry to implement refining energy system optimization, olefin raw material lightweight, advanced coal gasification, nitric acid production technology upgrading and other technical transformation; cement industry to implement high solids to gas ratio clinker calcination, large thrust multi-channel combustion and other technical transformation; The paper industry to implement efficient paper machine molding, efficient double-disc mill and other technical transformation; textile industry to implement a small bath ratio dyeing, spandex single canal 64 head spinning and other technical transformation.</p> <p>High energy-consuming general equipment transformation. In the motor system to implement permanent magnet synchronous servo motor, high voltage frequency conversion speed control and other technical transformation. In the distribution transformer system to implement amorphous alloy transformers, on-load capacitance regulation and other technical transformation. Promote the application of new power electronic devices and other information technology. Implement energy efficiency improvement and transformation of construction machinery, agricultural machinery and diesel engines for inland waterway vessels. By 2020, the average operating efficiency of motor and internal combustion engine systems will increase by 5 percentage points, and the proportion of high-efficiency distribution transformers operating on the network will increase by 20%.</p> <p>Efficient recovery and utilization of waste heat and waste pressure. In the</p>



(B) solidly promote cleaner production, significantly reduce pollution emissions

Clean production technology transformation around key pollutants, promote green basic manufacturing processes, reduce the intensity of pollutant emissions, and promote the implementation of air, water and soil pollution prevention and control action plans.

Reduce the use of toxic and harmful raw materials. Revise the state encourages the replacement of toxic and hazardous raw materials directory, guide enterprises in the production process to use non-toxic and harmless or low-toxic and low-hazardous raw materials, from the source to reduce or avoid the generation of pollutants, and promote the replacement of toxic and hazardous substances. Promote the use of electrical and electronic appliances, automobiles and other key products to limit the use of toxic and hazardous substances. Continue to implement action plans to reduce high-risk pollutants, strengthen the reduction of mercury, lead, highly toxic pesticides and other alternatives, and gradually expand the scope of implementation to reduce environmental risks. Implementation of volatile organic compounds reduction plan, in the paint, furniture, printing, automotive manufacturing and painting, rubber products, shoes and other key industries to promote alternative or reduction technology. Promote chrome-free refractory materials.

Promote clean production technology transformation. For sulfur dioxide, nitrogen oxides, chemical oxygen demand, ammonia nitrogen, smoke (dust) and other major pollutants, and actively guide key industry enterprises to implement clean production technology transformation, and gradually establish an efficient implementation model of clean production based on technological progress. In the Beijing-Tianjin-Hebei, Yangtze River Delta, Pearl River Delta, Northeast and other key regions to organize the implementation of steel, building materials and other key industries to enhance the level of clean production project, reduce sulfur dioxide, nitrogen oxides, smoke (dust) emissions intensity. In the Yangtze River, the Yellow River and other seven major river basin organizations to implement key industries to enhance the level of clean production project, reduce the paper, chemical, printing and dyeing, chemical raw materials, electroplating and other industries such as total wastewater emissions and chemical oxygen demand, ammonia nitrogen and other pollutants emissions intensity. Promote the prevention of soil pollution in industrial areas at source, and promote advanced and applicable soil remediation technology and equipment and products.

Strengthen water conservation and pollution reduction. Around iron and steel, chemical industry, paper making, printing and dyeing, beverage and other high water-consuming industries, the implementation of water consumption enterprises water efficiency leader to lead the action, to carry out water balance testing and water efficiency benchmarking standards, vigorously promote water-saving technology transformation, promote industrial water-saving technology, technology and equipment. Strengthen the management of water consumption in the production process and processes of enterprises in high water-consuming industries, strictly implement national standards for water quotas, carry out special actions for industrial water conservation around high water-consuming industries and water-scarce areas, and improve industrial water efficiency. Promote the recycling of water resources and industrial wastewater treatment and reuse, promote franchising, commissioning and other specialized water conservation models, promote the intensive use of water resources in industrial parks, and implement the optimal use of water resources and centralized wastewater treatment and reuse. Promote the development and utilization of unconventional water resources such as water, recycled water and seawater, support the industrialization of unconventional water resources demonstration projects, promote iron and steel, thermal power and other enterprises to make full use of urban water, and support conditional parks and enterprises to carry out rainwater harvesting and utilization.

Promote green basic manufacturing processes. Promote clean and efficient manufacturing processes, focusing on casting, heat treatment, welding, plating and other fields, promote the application of alloy steel oxidation-free clean heat treatment, heat treatment atmosphere reduction, vacuum low-pressure carburizing heat treatment, induction heat treatment and other energy-efficient heat treatment process, lead-free wave soldering a n t i - o x i d a t i o n , nitrogen protection lead-free reflow welding, efficient material-saving friction welding and other welding processes, green oil

removal, lead-free plating, trivalent chromium Electroplating, electroplating chromium alternative and other clean coating technology to reduce the manufacturing process energy consumption and pollutant emissions. Promote the short process, waste-free manufacturing, focusing on the development of near-net forming, digital casting, additive manufacturing, new corrosion prevention and other short process green material-saving technology, as well as dry cutting, low-temperature micro-lubrication cutting, castings, such as waste-free heat treatment heat treatment technology to reduce the production process of resource consumption.

Column 3 green and clean production promotion
<p>Key regions to enhance the level of clean production action. In Beijing, Tianjin and Hebei, the Yangtze River Delta, the Pearl River Delta and other key regions to implement air pollution in key industries to enhance the level of clean production action. By 2020, the national industry to reduce soot 1 million tons / year, 500,000 tons / year of sulfur dioxide, nitrogen oxides 1.8 million tons / year.</p> <p>Key basins to enhance the level of clean production action. In the Yangtze River, the Yellow River, the Pearl River, the Songhua River, the Huai River, the Hai River, the Liao River and other key basins to implement water pollution in key industries to improve the level of clean production action. By 2020, the national industry to reduce 400 million tons of wastewater / year, chemical oxygen demand 500,000 tons / year, ammonia nitrogen 50,000 tons / year.</p> <p>Characteristic pollutant reduction plan. To reduce volatile organic compounds, persistent organic compounds, heavy metals and other pollutants as the goal, around the key industries, key areas to implement industrial characteristics of pollutant reduction plan. By 2020, reduce the use of 280 tons of mercury / year, reduce the total chromium 15 tons / year, total lead 15 tons / year, arsenic 10 tons / year.</p> <p>Green basic manufacturing process promotion action. Focus on the promotion of green casting, forging, welding, cutting, heat treatment, surface treatment and other basic manufacturing process technologies and equipment. By 2020, the casting scrap rate reduced by 10%, forging material utilization rate increased by 10%, cutting material utilization rate increased by 10%, electroplating and painting industry to reduce pollutant emissions by more than 30%.</p> <p>Small and medium-sized enterprises clean production implementation plan. Enhance the level of R&amp;D and application of cleaner production technologies for SMEs, carry out pilot government purchase of cleaner production services, and implement training programs on cleaner production for SMEs. Continue to implement the Guangdong-Hong Kong Cleaner Production Partnership Program and promote the demonstration in other regions.</p>

Industrial water conservation special action. Around the iron and steel, textile printing and dyeing, paper, petrochemical and chemical, food fermentation and other key industries to implement water conservation and pollution control transformation projects, the implementation of water

(C) strengthen the comprehensive utilization of resources, and continue to promote the development of recycling

In accordance with the principles of reduction, reuse and resourcefulness, accelerate the establishment of a recycling industrial system, promote symbiosis and synergistic use of links between enterprises, parks, industries and regions, and substantially improve the efficiency of resource utilization.

Vigorously promote the comprehensive utilization of industrial solid waste. To high value, scale, intensive use as the focus, around tailings, waste rock, coal gangue, fly ash, smelting slag, metallurgical dust mud, red mud, industrial by-product gypsum, chemical slag and other industrial solid waste, promote a number of advanced and applicable technology and equipment, and promote the depth of resource utilization. In-depth promotion of Chengde, Shuozhou, Guiyang and other comprehensive utilization of resources base construction, select the foundation, potential, industrial clustering and demonstration effect is obvious in the region, reasonable layout, highlight the characteristics, strengthen the institutional mechanism and operational management model innovation, to create a complete industrial solid waste comprehensive utilization of industrial chain. Explore a new model of regional synergistic development of the comprehensive utilization of resources industry, play to the advantages of each region, promote the synergistic development of regional comprehensive utilization of resources, the implementation of the Beijing-Tianjin-Hebei region comprehensive utilization of resources industry synergistic development action plan, the establishment of a number of comprehensive utilization of industrial solid waste across provincial boundaries synergistic development demonstration areas.

Accelerate the efficient use of renewable resources and industry standardized development. Around scrap iron and steel, scrap non-ferrous metals, waste paper, waste rubber, waste plastics, waste oil, waste electrical and electronic products, end-of-life vehicles, waste textiles, used power batteries, construction waste and other major renewable resources, accelerate the promotion and application of advanced and applicable recycling technology and equipment. Construction of a number of renewable resources industry clusters, promote cross-regional synergistic use of renewable resources, and build a regional recycling system. Implementation of the extended producer responsibility system, in the field of electrical and electronic products, automotive and other industries to carry out pilot demonstrations of extended producer responsibility. Promote the gradual standardization of industry order, regularly release the list of enterprises that meet the industry specifications, and cultivate the backbone of the renewable resources industry.

Actively develop remanufacturing. Around the traditional mechanical and electrical products, high-end equipment, in-service equipment and other key areas, the implementation of high-end, intelligent and in-service remanufacturing demonstration projects, to create a number of remanufacturing industry demonstration areas. Strengthen the remanufacturing technology research and development and promotion, research and application of remanufacturing surface engineering, fatigue testing and remaining life assessment, additive manufacturing and other key common technology processes, the development of automated and efficient disassembly, parts green cleaning, remanufactured product service life assessment, based on monitoring and diagnosis of personalized design and in-service remanufacturing key technologies. Guide remanufacturing enterprises to establish a product information management platform covering the whole process of remanufacturing, and promote the standardized and healthy development of remanufacturing. Promote product identification, encourage the promotion and application of remanufactured products.

Comprehensive implementation of circular production methods. Promote iron and steel, non-ferrous, petrochemical, chemical, building materials and other industries to expand product manufacturing, energy conversion, waste treatment - consumption and re-resource industry functions, strengthen the horizontal coupling between industries, ecological links, mutual supply of raw materials, resource sharing. Promote cement kiln co-disposal of solid waste according to

local conditions, and encourage the paper industry to use forestry waste and crop straw and other pulp. Promote all kinds of parks to carry out recycling transformation, realize the production process coupling and multi-production, improve the park resource output rate and comprehensive competitiveness.

Column 4 efficient recycling of resources project
<p>Comprehensive utilization of bulk industrial solid waste action. Focus on promoting the comprehensive utilization of smelting slag and dust mud, chemical slag, tailings, coal and electricity slag. By 2020, the comprehensive utilization of bulk industrial solid waste reached 2.1 billion tons, phosphogypsum utilization rate of 40%, fly ash utilization rate of 75%.</p> <p>Comprehensive utilization of renewable resources action. In the field of scrap metal, waste electrical and electronic products, end-of-life vehicles, construction waste, etc., focusing on the application and promotion of efficient crushing, rapid detection of rare and precious metal components, multi-metal recycling and other major key technology and equipment. By 2020, the utilization rate of major renewable resources to 75%.</p> <p>Regional comprehensive utilization of resources action. In Beijing, Tianjin, Hebei and the surrounding areas, the Yangtze River Economic Belt, the Pearl River Delta region, the northeast and other old industrial bases, the establishment of 10 smelting slag and mining waste, coal and electricity waste,</p>

(iv) reduce greenhouse gas emissions and actively promote low-carbon transition

Industry is a key area to address climate change, and to achieve the goal of reaching the peak of carbon emissions by 2030, we must take multiple measures to promote some industries and some parks to take the lead in reaching the peak while increasing energy conservation in industry.

Promote low-carbon transformation of key industries. Combine the characteristics of key industries with carbon emissions, develop major low-carbon technology promotion and implementation programs, and promote the application of advanced and applicable low-carbon new technologies, new processes, new equipment and new materials. Research and develop carbon emission control targets and action plans for key industries such as iron and steel, building materials, non-ferrous metals and chemicals, and enhance the level of carbon productivity in key industries. In key industries, select a number of major low-carbon technologies with high emission reduction potential, high maturity and advanced applicability for demonstration and promotion, and promote the reduction of carbon emission intensity in industrial industries.

Control industrial process greenhouse gas emissions. To reduce industrial process carbon dioxide, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride and other greenhouse gas emissions as the goal, with cement, steel, lime, calcium carbide, adipic acid, nitric acid, fertilizer, refrigerant production, etc. as the focus of the control of industrial process greenhouse gas emissions. Carry out the substitution of raw materials for cement production, use industrial solid waste and other non-carbonate raw materials to produce cement, and reduce carbon dioxide emissions in the production process. Carry out high-carbon product substitution, guide the use of new low-carbon cement to replace traditional cement, new steel materials or renewable materials to replace traditional steel, organic fertilizer or slow-release fertilizer to replace traditional fertilizer, reduce the consumption of high-carbon emission products.

Carry out pilot demonstrations of industrial low-carbon development. Continue to carry out pilot demonstrations in parks, combined with the construction of new industrialization industry demonstration bases, increase the construction of low-carbon industrial parks, develop national guidelines for low-carbon industrial parks, promote the preparation of carbon emission inventories in parks, and promote the participation of park enterprises in carbon emissions trading. Carry out pilot demonstrations of low-carbon enterprises, guide enterprises to implement low-carbon development strategies, gradually establish low-carbon enterprise evaluation standards, indicator systems and incentive and constraint mechanisms, cultivate low-carbon benchmark enterprises, and enhance the low-carbon competitiveness of enterprises. Encourage building materials, chemical and other industries to implement pilot demonstrations of carbon capture, utilization and sequestration, and promote the resource utilization of carbon dioxide.

Column 5 Industrial low-
<p>Green energy promotion action. Control and reduce the total consumption of coal, increase the proportion of solar energy, wind energy, biomass, water energy and other renewable energy use. Conduct pilot <b>demonstration of</b> smart microgrids in industrial parks and enterprises, and encourage smart microgrids to connect to the region's power demand-side management platform.</p> <p>Control industrial process greenhouse gas emissions program. Promote electric furnace steelmaking - hot rolling short process, non-ferrous metal smelting short process, improve the production process of calcium carbide, lime, reduce the production process of carbon dioxide emissions. Improve the production process of fertilizer, adipic acid, nitric acid, caprolactam, etc., to reduce industrial production process nitrous oxide emissions. Implement high greenhouse potential gas substitution, and significantly reduce industrial</p>

(E) enhance the ability to support science and technology, and promote the development of green innovation

Follow closely the direction of the scientific and technological revolution and industrial change, accelerate green science and technology innovation, increase the research and development of key common technologies, increase

the effective supply of green scientific and technological achievements, and play a leading role in the industrial green development of science and technology innovation.

Accelerate the transformation of traditional industries green key technology research and development. Around the iron and steel, non-ferrous, chemical, building materials, paper and other industries, with a new generation of clean and efficient recyclable production process equipment as the focus, combined with major national science and technology projects, major science and technology projects, breakthroughs in a number of industrial green transformation of core key technologies, the development of a number of major equipment to support the technological transformation and upgrading of traditional industries. Focus on supporting the iron and steel industry R & D heat exchanger two-stage coke oven and efficient, clean all-waste steel smelting new technology, non-ferrous industry R & D oversized electrolytic tank, continuous blowing and other equipment and processes, chemical industry R & D fluidized bed polysilicon production, titanium dioxide production by chlorination, a new generation of separation membranes and membranes and other new processes and equipment, cement industry R & D new low-carbon, high-grade clinker production process, paper industry R & D high-speed The paper industry researches and develops intelligent control equipment for paper machines, and high concentration extraction and evaporation processes for non-wood pulp black liquor.

Support green manufacturing industry core technology research and development. For energy conservation and environmental protection, new energy equipment, new energy vehicles and other green manufacturing industry technology needs, strengthen the core key technology research and development, build a technology system to support the development of green manufacturing industry. Energy conservation and environmental protection industry focus on research and development of clean and efficient use of coal, Rankine cycle and other efficient use of waste heat, high energy-consuming industries and other energy-saving technologies, volatile organic compounds online analyzer, high concentration of ammonia and nitrogen wastewater treatment, chemical waste salt incineration and resource treatment, sludge high-speed fluid injection crushing and drying and other environmental technology and equipment, as well as the efficient use of low-grade co-related mineral resources, red mud and electrolytic manganese slag resource Utilization, steel slag powder and other comprehensive utilization of technology and equipment. New energy equipment focus on research and development of core equipment components manufacturing, grid connection, grid scheduling and operation and maintenance management and other key technologies.

Electric vehicles focus on promoting power battery, motor, electric control and other technology research and development.

Encourage common technology research and development to support the green development of industry. In accordance with the concept of the whole life cycle of the product, to improve the level of industrial green development technology as the goal, increase the green design technology, environmental protection materials, green technology and equipment, recycling and remanufacturing of waste products and other areas of common technology research and development efforts. Focus on breakthroughs in product lightweight, modular, integrated, intelligent and other common green design technologies, research and development to promote high-performance, lightweight, green and environmentally friendly new materials, breakthroughs in scrap metal, waste plastics and other products intelligent sorting and high-value utilization, solid waste fine dismantling and clean recycling and other key industrialization technologies, based on the whole life cycle of green evaluation technology research.

(F) accelerate the construction of green manufacturing system, the development and growth of green manufacturing industry

Strengthen the whole life cycle of green management of products, support enterprises to implement green design, develop green products, build green factories, develop green industrial parks, create a green supply chain, and comprehensively promote the construction of green manufacturing system.

Develop green products. In accordance with the concept of green management of the whole life cycle of products, follow the principle of minimizing energy and resource consumption, minimizing ecological and environmental impact, and maximizing renewable rate, vigorously carry out green design demonstration pilot, point by point, accelerate the development of green products with harmless, energy-saving, environmental protection, low consumption, high reliability, long life and easy recycling characteristics. Actively promote the third-party evaluation and certification of green products, publish industrial green product catalogs, guide green production, and promote green consumption. Establish a mechanism for collaboration among all parties, carry out pilot evaluations of typical products, and establish an effective regulatory mechanism.

Create a green factory. In accordance with the principles of plant intensification, harmless raw materials, clean production, waste resources, low-carbon energy classification to create a green factory. Guide enterprises in accordance with the green factory construction standards to build, renovate and manage the plant, intensive use of plant. Encourage enterprises to use clean raw materials, a variety of materials strictly sorted and stacked separately to avoid pollution. Give priority to the use of advanced clean production technology and efficient end management equipment, promote the resourceful and harmless use of water, gas and solid pollutants, reduce environmental noise, vibration and pollutant emissions at the plant boundary, and create a good occupational health environment. Adopt technologies such as combined electric and thermal supply, combined electric and thermal cooling supply to improve the utilization of primary energy in the plant, set up waste heat recovery systems, and effectively use the waste (waste) heat generated by the process and equipment. Increase the proportion of clean and renewable energy use in the factory, and build a plant photovoltaic power station, energy storage system, intelligent microgrid and energy management center.

Develop green industrial parks. Focusing on the development of enterprise clustering, industrial ecological links and service platform construction, promote the construction of green industrial parks. Optimize the layout and structure of industrial land, and improve the level of economical and intensive use of land. Actively use waste heat and waste pressure waste heat resources, promote the application of combined heat and power, distributed energy and photovoltaic energy storage integration system, build intelligent microgrid in the park, increase the proportion of renewable energy use, and realize the graded use of energy in the whole park. Strengthen the recycling of water resources, promote the green transformation of water supply, sewage and other infrastructure, and enhance sewage treatment and recycling. Promote the exchange and utilization of waste resources between enterprises in the park, and improve the efficiency of resource utilization through linking symbiosis, mutual supply of raw materials and resource sharing between enterprises and the park. Promote the construction of infrastructure capacity for resource and

environmental statistics and monitoring, and develop public service platforms for information, technology and commerce in the park.

Establish a green supply chain. Based on the leading enterprises of automobile, electronic and electrical appliances, communication, machinery, large complete sets of equipment and other industries, supported by green supply chain standards and extended producer responsibility system, drive the upstream parts or components suppliers and downstream recycling enterprises to practice environmental protection responsibilities while ensuring product quality, and build a resource-saving, environment-friendly, procurement, production, marketing, recycling and logistics-oriented green supply chain. We will build a green supply chain that is resource-saving and environment-friendly, covering procurement, production, marketing, recycling, logistics and other aspects. Establish a traceable information system for green raw materials and products.

Support enterprises to implement green strategies, green standards, green management and green production, carry out the construction of green corporate culture, and enhance the green competitiveness of the brand. Guide enterprises to establish a set of resources, energy, environment, safety, occupational health as one of the green management system, green management throughout the enterprise R & D, design, procurement, production, marketing, service and other processes, to achieve green production and management of the whole process. Cultivate a number of leading green backbone enterprises with independent brands and strong core technology capabilities, play the role of large enterprise groups to demonstrate and drive the early and pilot green development, guide enterprises to establish a public information system, regularly release social responsibility reports and sustainable development reports.

Column 6 green manufacturing system to create
<p>Green product design demonstration. Promote green design pilot demonstration, carry out a typical product green design level evaluation pilot, cultivate a number of green design demonstration enterprises, the development of green product standards. By 2020, the creation of 100 green design demonstration enterprises, 100 green design center, and strive to develop and promote 10,000 kinds of green products.</p> <p>Green demonstration plant creation. Develop green factory construction standards and guidelines, in iron and steel, non-ferrous, chemical, building materials, machinery, automotive, light industry, textiles, pharmaceuticals, electronic information and other key industries to carry out pilot demonstrations. By 2020, create a thousand green demonstration factories.</p>



Green demonstration park creation. Select a number of industrial parks with good basic conditions and strong representation to carry out green park creation demonstration project. By 2020, the creation of a hundred demonstration of strong significance, comprehensive level of green parks.

Green supply chain demonstration. Take the core supply chain enterprises as a grip, carry out pilot demonstrations, the implementation of green

(G) give full play to the comparative advantages of the region, and promote the green and coordinated development of industry

Implement the green concept in regional industrial development, give full play to regional comparative advantages, strengthen regional synergy and promote regional industrial green development.

Closely follow the main function positioning, further adjust and optimize the industrial layout. Play the leading role of the main functional area planning, according to the regional resource carrying capacity and environmental capacity, determine the direction of regional industrial development and development intensity. Optimize the development of the region to actively develop energy-saving, land-saving, environmentally friendly advanced manufacturing, promote the industrial structure to high-end, high-efficiency, high value-added transformation, vigorously increase the proportion of clean energy, energy and water consumption and pollutant emissions intensity to reach or approach the international advanced level. Key development areas reasonably develop and effectively protect energy and mineral resources, transform resource advantages into economic advantages, transform traditional industries, vigorously develop new industries, significantly improve the level of clean production, and reduce the intensity of resource consumption, pollutants and carbon dioxide emissions. Restricted development areas to strengthen the development intensity control, to limit large-scale high-intensity industrialized development. Prohibit the development of the region shall not be industrialized development.

Implement major development strategies to promote green manufacturing demonstration and industrial upgrading. Promote green synergistic development in the Beijing-Tianjin-Hebei region, focus on the decommissioning of Beijing's non-capital functions, drive the optimization and adjustment of regional industrial structure with industrial transfer, build a regional comprehensive resource utilization synergistic development system, promote coal substitution and green energy consumption, improve regional resource and energy utilization efficiency, and reduce pollutant emissions. Vigorously promote the ecological protection of the Yangtze River Economic Zone, promote industrial water conservation and pollution control along the river, clean production transformation, accelerate the development of energy conservation and environmental protection, new energy equipment and other green industries, and support the construction and development of a number of energy conservation and environmental protection industry demonstration bases.

Promote the green transformation of regional industry and implement regional green manufacturing pilot demonstration. Further improve the efficiency of regional industrial resource and energy use, reduce pollution emissions, strengthen resource and environmental standards constraints and leadership, and explore new models, new mechanisms and new ideas for industrial green and low-carbon transformation. Guide pilot cities to tighten energy consumption, water consumption, emission standards, strengthen scientific and technological innovation and management innovation, the first to achieve industrial green low-carbon transformation. Sort out and summarize the successful experiences and practices of the pilot cities, form a distinctive development model of industrial green transformation, and promote the development of industrial green transformation with a point.

(H) the implementation of green manufacturing + Internet, to enhance the level of industrial green intelligence

Promote the integration of the Internet and green manufacturing, enhance the level of intelligent management of energy, resources and environment, promote the sharing of production factors and resources, tap the potential of resources and data with the sharing economy model, and promote the digital upgrading of green manufacturing.

Promote the wisdom of energy management. Implement digital energy efficiency promotion plan, encourage enterprises to implement dynamic monitoring, control and optimization management of energy consumption, especially large energy-consuming equipment, through the Internet of Things, big data, cloud computing, advanced process control and other technology applications, improve energy analysis, forecasting and balance scheduling capabilities, and realize digitalization and refinement of enterprise energy management. Increase the construction of energy control centers, and continue to popularize and improve the construction of energy control centers in industries such as steel, chemical, textile, and paper. Actively cultivate the industrial energy-saving cloud service market and encourage the majority of small and medium-sized enterprises to use cloud computing technology to share energy management. Innovate energy consumption supervision models, promote the construction of energy consumption monitoring systems in parks and regions, and establish analysis and prediction and early warning mechanisms.

Promote green lean production methods. Use mobile Internet, cloud computing, big data, Internet of Things and sharing economy models to promote green transformation of production methods, promote accurate collaboration in the whole process of R&D and design, raw material supply, processing and manufacturing, and product sales, strengthen the sharing and utilization of production materials, technical equipment, human resources and other production factors, and achieve optimal integration and efficient allocation of production resources. Accelerate the formation of an intelligent environmental data perception system for enterprises and implement ecological environmental protection information technology projects. Accelerate the construction of green data centers. Develop large-scale personalized customization, network collaborative manufacturing, and remote operation and maintenance services to reduce waste of resources in production and distribution. Promote e-commerce enterprises to operate green products and services directly or in cooperation with physical enterprises, encourage the use of the Internet to sell green products, and meet the diversified green consumption needs of different subjects. The use of online and offline integration and other modes to promote the formation of green consumption habits and enhance the people's sense of access to green consumption.

Innovative resource recovery and utilization. Development of "Internet+" recycling new mode, support the use of Internet of things, big data to carry out information collection, data analysis, flow monitoring, encourage the use of renewable resources enterprises and Internet recycling enterprises to establish strategic alliances, e-commerce business to expand the field of resource recycling and intelligent recycling machine to the Internet recycling extension. Support the use of electronic tags, two-dimensional codes and other Internet of Things technology to track the flow of waste electrical and electronic products. Encourage Internet enterprises to actively participate in the construction of industrial park waste information platform, promote the transformation and upgrading of the existing backbone renewable resources trading market to the combination of online and offline, and gradually form an industry, regional and national industrial waste and renewable resources online trading system.

(ix) efforts to strengthen the standard leading constraints, improve the basic capacity of green development

Establish and improve industrial green development standards, evaluation and innovation services and other systems, create a green manufacturing service platform, accelerate the cultivation and growth of energy conservation and environmental protection services, and comprehensively enhance the basic capabilities of green development.

Sound standard system. Focus on industrial green development needs, around green products, green factories, green parks and green supply chain to build a green manufacturing standards system, improve energy saving, water saving, land saving, material saving indicators and measurement requirements, accelerate energy consumption, water consumption, carbon emissions, clean production and other standards to improve the standardization of industrial green development. Give full play to the role of enterprises in the development of standards, encourage the development of corporate standards that are stricter than national standards, industry standards, and promote the upgrading of industrial green development standards. Actively promote the mutual recognition of standards, encourage enterprises, research institutes, industry organizations and other initiatives to participate in international standardization work around energy conservation and environmental protection, new energy, new materials, new energy vehicles and other fields, leading or participating in the development of international standards to enhance the level of internationalization of standards. Strengthen the supervision and evaluation of the implementation of mandatory standards, the implementation effect evaluation, the establishment of mandatory standards implementation statistics and analysis reporting system.

Establish an evaluation mechanism. Accelerate the establishment of self-evaluation, social evaluation and government guidance of green manufacturing evaluation mechanism. Accelerate the development of green manufacturing evaluation system, research and propose green manufacturing evaluation methods and guidelines, the development of sub-industry, sub-sector green evaluation indicators and assessment methods, the development and application of evaluation tools. Carry out green products, green factories, green parks, green supply chain evaluation pilot, guide green production, promote green consumption. Encourage and guide the third-party service institutions to innovate green manufacturing evaluation and service mode, to carry out a package of services such as consulting, testing, assessment, identification, auditing and training for key areas, and provide overall solutions for green manufacturing. Strengthen the application of green evaluation results, establish and implement energy efficiency, water efficiency and environmental protection leader system, and gradually establish a mechanism to link evaluation results with green consumption.

Consolidate the data foundation. Accelerate the construction of the basic database of ecological impact covering the whole life cycle of industrial products in terms of resource consumption, energy consumption, pollutants and greenhouse gas emissions, human health impact and other elements. Promote the construction of a basic database of green production and a database of production value, including a green materials library, an equipment resource library, a green process library, a parts information library, etc. Support the construction of industry green manufacturing production process material flow and energy flow database in key industries such as iron and steel, non-ferrous, paper, printing and dyeing, electronic information. Establish a green product traceability information system to improve the level of green product logistics information and supply chain coordination. Research and develop data standards and collection methods, improve data measurement, information collection, monitoring and analysis guarantee system, and develop software systems for interfacing enterprise production data with the database public service platform.

Strengthen innovation services. Encourage enterprises and universities, scientific research institutions, service institutions to jointly build R & D centers, laboratories, pilot bases and other scientific and technological innovation carriers, and promote the construction of a number of national green innovation demonstration enterprises and enterprises green technology center. Establish industry green innovation alliances and other innovation platforms to carry out collaborative innovation between industry, academia, research and use. Strengthen the intellectual property reserves of key core technologies of green manufacturing, build industrialization-oriented patent portfolios and strategic

layouts, build patent pools for green manufacturing technologies, and promote the sharing of intellectual property resources. Enhance the service capacity of green manufacturing project screening, technology appraisal, result promotion and information exchange, establish the interaction mechanism between enterprises, intermediaries and financial institutions, and provide integrated services of knowledge training, problem diagnosis, technical solutions, financing support and effect evaluation by using market mechanism and information means. Implement green manufacturing training action plan, improve green manufacturing personnel training, consulting, information and other green promotion service system, for small and medium-sized enterprises to carry out online training, free clinic, etc.

(X) actively carry out international exchanges and cooperation to promote the green and open development of industry

Grasp the opportunity of "One Belt and One Road" construction, comprehensively enhance the level of international exchange and open cooperation in the field of industrial green development, seek green development together, and make new contributions to global ecological security.

Promote green international economic cooperation. In the "Belt and Road" and other international cooperation to implement the concept of green development, focusing on global resource allocation, the use of overseas investment, engineering contracting, technical cooperation, equipment exports and other ways to promote green manufacturing and green services to take the lead in going out. Steel, building materials, paper and other industries focus on cooperation in circular economy mode, petrochemical and chemical industries to strengthen the construction of green production bases abroad, and actively participate in the investment, construction and operation of wind power, solar energy, nuclear energy, power grids and other international new energy projects.

Strengthen international cooperation in green science and technology. Follow closely the global trend of green science and technology and industrial development, strengthen international exchange and cooperation in industrial green development, make full use of the advantages in market scale, equipment production capacity, innovation environment and talent team, etc., and attract top global R&D resources and advanced technology transfer. Accelerate the establishment of an international green technology innovation platform, strengthen international scientific and technological cooperation research in green industry and climate change, encourage domestic R&D institutions to establish stable partnerships with world-class research institutions, conduct extensive exchanges and training for scientific researchers, and promote international green technology cooperation at a higher level and in a wider field.

Improve the long-term mechanism of foreign exchange and cooperation. Make full use of multilateral and bilateral cooperation mechanisms to strengthen energy conservation and emission reduction, climate change, clean technology, clean energy development

We will continue to promote exchanges and dialogues with the United Nations Industrial Development Organization in the field of industrial green development, actively participate in negotiations on industrial green development and the formulation of relevant rules, and promote the establishment of a new global green development order that is fair, transparent and reasonable. Strengthen cooperation with the United Nations Development Program and the Global Environment Facility, and continue to promote cooperation and exchange with the United Nations Industrial Development Organization in the field of industrial green development. Within the framework of cooperation between China and Europe, China and the United States and relevant international organizations, promote bilateral and multilateral exchanges and interactions among government departments, research institutions, industry associations and relevant enterprises, promote in-depth exchanges and dialogues on green product policies between China and Europe, and strengthen exchanges and cooperation in the field of green energy development and utilization between China and the United States. Support Hong Kong, Macao and other regions to cooperate with the Mainland to carry out energy-saving and environmental protection exhibition and exchange activities.

#### IV. Security measures

##### (i) Strengthen organizational leadership

The competent departments of industry and information technology at all levels should fully understand the significance of industrial green development, promote industrial green development as an important task to promote the construction of ecological civilization, strengthen organizational leadership, actively work with relevant departments to improve the working mechanism, combined with the actual situation to accelerate the promotion of industrial green development goals and tasks and work programs, and strengthen the interface between local planning and this plan. Establish a work system of industrial green development with clear responsibilities, orderly coordination and strong supervision, effectively carry out responsibilities, further strengthen the evaluation and assessment of target responsibilities, strengthen supervision and inspection, and guarantee the completion of planning objectives and tasks. Give full play to the role of industry associations, industrial alliances and other bridges and links to promote the green development of key industries.

##### (II) innovative institutional mechanisms

Give full play to the role of market regulation, and build a long-term mechanism for industrial green development. Deepen the reform of the resource system, by rationalizing the resource price system, establish a market-oriented resource price formation mechanism that can reflect market supply and demand, resource scarcity and environmental damage costs, establish and improve the initial allocation system of energy use rights, water use rights, emission rights and carbon emission rights, innovate paid use, budget management, investment and financing mechanisms, and cultivate and develop the trading market. Establish a green management system covering the entire life cycle of industrial products and the entire value chain. Carry out energy efficiency, water efficiency, environmental protection leader leading action. Release and implement the "Industrial Energy Conservation Management Measures", strengthen the regulations and standards of industrial green development constraints, strict supervision, and create a good market environment.

##### (C) the implementation of financial and tax policies

Increase investment, make full use of the central budget investment, technological transformation, energy saving and emission reduction, clean production, special construction funds and other funding channels and government and ~~social capital cooperation (PPP) model, focus on supporting the transformation of traditional industries, green~~ manufacturing pilot demonstration, comprehensive utilization of resources. The implementation of comprehensive utilization of resources, energy and water conservation and environmental protection (special) equipment and other areas of fiscal support policies, green energy-saving products into government procurement.

## (D) the development of green finance

Support the green development of industry with green finance, continuously expand the scale of industrial green credit and green bonds, innovate financial products and services, and actively carry out green consumer credit business. Actively study the establishment of industrial green development fund and encourage social capital to invest in green manufacturing industry. Establish a linkage mechanism between the level of green development of enterprises and their credit rating and loans. Encourage financial institutions to provide convenient and preferential guarantee services and credit support for the green transformation of small and medium-sized enterprises, and actively develop financial leasing, intellectual property pledge loans, and credit insurance policy pledge loans.

## (E) strengthen the propaganda guidance

Strengthen the guidance of public opinion propaganda, carry out multi-level and multi-forms of publicity and education, actively carry out public welfare activities, and vigorously spread the concept of green development. Give full play to all kinds of media, public welfare organizations, industry associations, industrial alliances, public participation, public opinion supervision and other active role in guiding consumers to establish the concept of green consumption, to create a good atmosphere of public opinion for industrial green development.

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