

Catalogue for Guiding Industry Restructuring (2011 Version) (2013 Amendment)[Partially Invalid]

产业结构调整指导目录(2011 年本)(2013 修正) [部分失效]

Issuing authority:	State Development & Reform Commission (incl. former State Development Planning Commission)	Document Number:	Order No. 21 of the National Development and Reform Commission
Date issued:	02-16-2013	Effective date:	05-01-2013
Level of Authority:	Departmental Rules	Area of law:	Reform and Opening-up

Catalogue for Guiding Industry Restructuring (2011 Version) (2013 Amendment)

产业结构调整指导目录（2011 年本）
（修正）

(Issued by Order No. 9 of the National Development and Reform Commission on March 27, 2011, and amended in accordance with the Decision of the National Development and Reform Commission on Amending the Relevant Clauses of the Catalogue for Guiding Industry Restructuring (2011 Version) issued by Order No. 21 of the National Development and Reform Commission on February 16, 2013)

（2011 年 3 月 27 日国家发展改革委第 9 号令公布，根据 2013 年 2 月 16 日国家发展改革委第 21 号令公布的《国家发展改革委关于修改〈产业结构调整指导目录（2011 年本）〉有关条款的决定》修正）

Category I Encouragement

第一类 鼓励类

I. Agriculture and Forestry

一、农林业

1. Comprehensive improvement of low- and medium-yield fields and construction of basic farmlands with stable and high yields
2. Construction of agricultural product bases
3. Development and application of advanced protected cultivation technologies for vegetables, melons, fruits, and flowers (including soilless cultivation)
4. Development and application of high-quality, high-yield, efficient, and standardized cultivation technologies
5. Development and application of technologies for the standardized breeding of livestock and poultry on a certain scale

- 1、中低产田综合治理与稳产高产基本农田建设
- 2、农产品基地建设
- 3、蔬菜、瓜果、花卉设施栽培（含无土栽培）先进技术开发与应用
- 4、优质、高产、高效标准化栽培技术开发与应用
- 5、畜禽标准化规模养殖技术开发与应用

6. Prevention and control of serious plant diseases, insect pests, and animal diseases	6、重大病虫害及动物疫病防治
7. Genetic engineering of crops, livestock, poultry, aquatic animals and plants, and wildlife, as well as construction of gene pools	7、农作物、家畜、家禽及水生动植物、野生动植物遗传工程及基因库建设
8. Selection, breeding, breed conservation, and development of the fine varieties of animals and plants (including wild animals and plants); biological breeding; and production, processing, storage, and appraisal of seeds	8、动植物（含野生）优良品种选育、繁育、保种和开发；生物育种；种子生产、加工、贮藏及鉴定
9. Development and application of seed (seedling) detoxification technologies	9、种（苗）脱毒技术开发与应用
10. Development and application of technologies for dry land water-saving agriculture, protective cultivation, ecological agricultural construction, arable land quality construction, and rapid fertilization of new arable land	10、旱作节水农业、保护性耕作、生态农业建设、耕地质量建设及新开耕地快速培肥技术开发与应用
11. Development and application of ecological planting (or breeding)	11、生态种（养）技术开发与应用
12. Development and application of pollution-free degradation technologies for agricultural membrane and heavy metal degradation technologies for farmland soil	12、农用薄膜无污染降解技术及农田土壤重金属降解技术开发与应用
13. Development of green and pollution-free feeds and feed additives	13、绿色无公害饲料及添加剂开发
14. Resource multiplication and protection projects of large inland lake basins	14、内陆流域性大湖资源增殖保护工程
15. Distant fishery and projects of fishery administration and fishing ports	15、远洋渔业、渔政渔港工程
16. Industrialized production of embryo (in vivo) and semen of cattle and sheep	16、牛羊胚胎（体内）及精液工厂化生产
17. Development and application of agricultural biotechnology	17、农业生物技术开发与应用
18. Arable land maintenance management and development and application of fast testing technologies for soil, fertilizer and water	18、耕地保养管理与土、肥、水速测技术开发与应用
19. Construction of conservation lands and conservation zones of germ plasm resources of agricultural, forestry and fishery species; collection, conservation, appraisal, development, and application of germ plasm resources of animals and plants	19、农、林作物和渔业种质资源保护地、保护区建设；动植物种质资源收集、保存、鉴定、开发与应用
20. Crop straw manure and comprehensive utilization (including but not	20、农作物秸秆还田与综合利用（青贮

limited to the development and utilization of ensile, cattle raising with ammoniated straws to realize return of straws to land, straw methane and its pyrolyzation and gasification, cultivation of edible fungus, densified biomass briquette fuel, man-made straw boards, straw cellulose fuel ethanol, and non-cereal feed resources)

21. Projects of comprehensive utilization and development of rural renewable resources (including but not limited to biogas projects, comprehensive utilization of "biogas, biogas slurry, and biogas residue," and biogas filling and purification)

22. Recovery projects of leveling embankment for flood running and returning farmland to lake

23. Cultivation of edible (medicinal) fungus

24. Comprehensive harnessing projects for grassland and forest disasters

25. Projects of returning cultivated land (or grazed field) to forest (or grassland) and restoring vegetation of natural grassland, where non-arable land is utilized

26. Development and application of new techniques and technologies for new diagnosis reagents and vaccines for animal epidemics and veterinary drugs with low toxin and low residue (including biological products for animals)

27. Artificial cultivation and processing of high-quality and high-yield forage grass

28. Planting and production of natural rubber and eucommia

29. Pollution-free agricultural products and development and application of technologies for monitoring harmful elements in the environment of producing areas

30. Development and application of technologies for the innocuous disposal of organic waste and the industrialization of organic fertilizer

31. Development and application of production technologies for pollution-free and green agricultural, husbandry, and fishery products

32. Storage, transportation, freshness maintenance, processing, and comprehensive utilization of agricultural, forestry, husbandry, and fishery

饲料, 秸秆氨化养牛、还田, 秸秆沼气及热解、气化, 培育食用菌, 固化成型燃料, 秸秆人造板, 秸秆纤维素燃料乙醇、非粮饲料资源开发利用等)

21、农村可再生资源综合利用开发工程 (沼气工程、“三沼”综合利用、沼气灌装提纯等)

22、平垸行洪退田还湖恢复工程

23、食(药)用菌菌种培育

24、草原、森林灾害综合治理工程

25、利用非耕地的退耕(牧)还林(草)及天然草原植被恢复工程

26、动物疫病新型诊断试剂、疫苗及低毒低残留兽药(含兽用生物制品)新工艺、新技术开发与应用

27、优质高产牧草人工种植与加工

28、天然橡胶及杜仲种植生产

29、无公害农产品及其产地环境的有害元素监测技术开发与应用

30、有机废弃物无害化处理及有机肥料产业化技术开发与应用

31、农牧渔产品无公害、绿色生产技术开发与应用

32、农林牧渔产品储运、保鲜、加工与综合利用

products

33. Protection projects of natural forest and other natural resources	33、天然林等自然资源保护工程
34. Planting of carbon sequestration forest, tree planting and grass growing projects, and tree seedling projects	34、碳汇林建设、植树种草工程及林木种苗工程
35. Development and application of technologies for the comprehensive harnessing of water loss and soil erosion	35、水土流失综合治理技术开发与应用
36. Ecosystem restoration and reconstruction projects	36、生态系统恢复与重建工程
37. Construction of natural reserves including but not limited to ocean, forest, wildlife, wetland, desert and grassland and eco-demonstration projects	37、海洋、森林、野生动植物、湿地、荒漠、草原等自然保护区建设及生态示范工程
38. Shelter forest projects	38、防护林工程
39. Desertification prevention and control and sand prevention and control projects	39、石漠化防治及防沙治沙工程
40. Production of new materials for sand stabilization, water conservation, and soil improvement	40、固沙、保水、改土新材料生产
41. Cultivation of salt-tolerance and drought-enduring plants	41、抗盐与耐旱植物培植
42. Fast-growing and high-yield plantation projects, industrial raw material forest projects, cultivation of rare trees, and planting of famous, featured, high-quality, and novel economic forests	42、速生丰产林工程、工业原料林工程、珍贵树种培育及名特优新经济林建设
43. Construction of bamboo and rattan bases and development of bamboo and rattan products undergoing fine or deep processing and bamboo by-products	43、竹藤基地建设、竹藤精深加工产品及竹副产品开发
44. Projects of forest tending and improvement of low-yield forests	44、森林抚育、低产林改造工程
45. Protection, improvement, development, and utilization of wild economic forest species	45、野生经济林树种保护、改良及开发利用
46. Conservation projects of rare and endangered species of wild animals and plants	46、珍稀濒危野生动植物保护工程
47. Conservation projects of forest genetic resources	47、林业基因资源保护工程
48. Deep processing and product development of inferior and small	48、次小薪材、沙生灌木及三剩物深加

firewoods, shrubs grown in sand, and “three residues” (felling residue, forest planting residue, and processing residue)	工与产品开发
49. Construction of cultivation, taming and breeding bases of wild animals and plants and development of a monitoring and early warning system of epidemic sources and diseases	49、野生动植物培植、驯养繁育基地及疫源疫病监测预警体系建设
50. Planting (breeding) of fine traditional Chinese medicine and high-quality, high-yield, endangered, or rare animal and plant medicinal materials	50、道地中药材及优质、丰产、濒危或紧缺动植物药材的种植（养殖）
51. Artificial cultivation and development of underwood species including but not limited to spices and wild flowers	51、香料、野生花卉等林下资源人工培育与开发
52. Development of technologies for wood-based composite materials and structural artificial boards	52、木基复合材料及结构用人造板技术开发
53. Production and comprehensive utilization of wood-based composite materials and bamboo construction materials	53、木质复合材料、竹质工程材料生产及综合利用
54. Construction of turpentine orchards and deep processing of forest chemicals	54、松脂林建设、林产化学品深加工
55. Development and application of artificial rainfall and hail suppression and other weather modification technologies	55、人工增雨防雹等人工影响天气技术开发与应用
56. Development and application of digital (information-based) agricultural technologies	56、数字（信息）农业技术开发与应用
57. Development and application of agricultural environment and improvement and protection technologies	57、农业环境与治理保护技术开发与应用
58. Mariculture and deep processing of marine products and multiplication and protection of marine fishery resources	58、海水养殖及产品深加工，海洋渔业资源增殖与保护
59. Construction of ecologically-clean small watersheds and prevention and control of non-point source pollution	59、生态清洁型小流域建设及面源污染防治
60. Construction of major farm tracks (bridges) in farmlands	60、农田主要机耕道（桥）建设
61. Construction of oil tea, oil palm, and other woody foodstuff and oil bases	61、油茶、油棕等木本粮油基地建设
62. Dedicated cultivation and industrialization of bio-energy forests	62、生物质能源林定向培育与产业化

63. Popularization and application of energy-saving grain and oil drying equipment, green grain storage technologies for farmers, deratization technologies, new barns for farmers (including but not limited to color plate mixing barns, rectangle barns with a steel skeleton, steel mesh drying barns, and hot-dip zinc-coated steel barns)

64. Development and application of automatic pest density monitoring technologies for crops and forests

65. Development and application of automatic fire monitoring and alarming technologies for forests and grasslands

66. Meteorological satellite projects (including but not limited to satellite research, development and manufacturing, supporting software systems, and ground receiving and processing equipment) and meteorological information services

II. Water Conservancy

1. River dyke construction projects and river course and reservoir harnessing projects

2. Cross-basin water diversion projects

3. Water supply source projects for urban and rural areas

4. Rural drinking water safety projects

5. Construction of flood storage and retention areas

6. Construction of sea walls

7. Projects of silt clean-up in rivers, lakes, and reservoirs

8. Risk elimination and reinforcement projects for defective and dangerous reservoirs and water gates

9. Development and application of technologies for the monitoring and elimination of hidden risks in dykes and dams

10. Urban water logging early warning and flood prevention projects

11. Improvement projects of outlets to sea

63、粮油干燥节能设备、农户绿色储粮生物技术、驱鼠技术、农户新型储粮仓（彩钢板组合仓、钢骨架矩形仓、钢网式干燥仓、热浸镀锌钢板仓等）推广应用

64、农作物、林木害虫密度自动监测技术开发与应用

65、森林、草原火灾自动监测报警技术开发与应用

66、气象卫星工程（卫星研制、生产及配套软件系统、地面接收处理设备等）和气象信息服务

二、水利

1、江河堤防建设及河道、水库治理工程

2、跨流域调水工程

3、城乡供水水源工程

4、农村饮水安全工程

5、蓄滞洪区建设

6、海堤建设

7、江河湖库清淤疏浚工程

8、病险水库、水闸除险加固工程

9、堤坝隐患监测与修复技术开发与应用

10、城市积涝预警和防洪工程

11、出海口门整治工程

12. Key water harnessing projects for comprehensive utilization	12、综合利用水利枢纽工程
13. Water conservancy projects in pastureland	13、牧区水利工程
14. Warp land dam projects	14、淤地坝工程
15. Development and manufacturing of geosynthetic materials and new materials for water conservancy projects	15、水利工程用土工合成材料及新型材料开发制造
16. Improvement of irrigation areas and construction of supporting facilities	16、灌区改造及配套设施建设
17. Construction of emergency reponse facilities for preventing and controlling flood and drought	17、防洪抗旱应急设施建设
18. Popularization and application of efficient water delivery and distribution and water-saving irrigation technologies	18、高效输配水、节水灌溉技术推广应用
19. Development of automatic water condition and water quality monitoring and automatic flood control and dispatching systems	19、水情水质自动监测及防洪调度自动化系统开发
20. Infrastructure construction for hydrology emergency forecasting and drought monitoring	20、水文应急测报、旱情监测基础设施建设
21. Projects of renovation and improvement of irrigation and drainage pump stations	21、灌溉排水泵站更新改造工程
22. Water conservancy projects for bilharziasis prevention and control (by taking engineering measures to prevent and extinguish snails, such as slope protection, hydraulic reclamation, isolation ditch, water gate improvement, establishment of snail retention tanks, and lifting islets and dropping mud flats, and measures for epidemic surveillance and publicity of prevention and control)	22、水利血吸虫病防治工程（采用护坡、吹填、隔离沟、涵闸改造、设置沉螺池、抬洲降滩等防螺灭螺工程措施和疫情监测、防治宣教等措施）
23. Farmland water conservancy construction projects (construction of irrigation and drainage channels, water gates, and pump stations)	23、农田水利设施建设工程（灌排渠道、涵闸、泵站建设等）
24. Development and application of new technologies and new products for flood control and drought relief	24、防汛抗旱新技术新产品开发与应用
25. Projects of prevention and control of geological disasters from mountain torrents (construction of the monitoring, forecasting, and early warning system for mountain torrent geological disaster prevention and	25、山洪地质灾害防治工程（山洪地质灾害防治区监测预报预警体系建设及山洪沟、泥石流沟和滑坡治理等）

control areas and control of mountain torrent ditches, debris flow gullies, and landslide)

26. Protection and restoration projects of the aquatic ecosystem and underground water

27. Water source conservation projects (zoning of water source conservation areas, isolated protection, conservation of water and soil, protection of water resources, water ecological restoration, and development and popularization of relevant technologies)

28. Development and application of the automatic water loss and soil erosion monitoring and forecasting system (an integration of collection and storage of water loss and soil erosion data, intelligent transmission, data analysis and processing, scientific estimation and forecasting, and database management)

29. Flood risk mapping technologies and their application (thematic maps of flood information in specific areas such as middle and lower reaches of great rivers, major flood control areas, and protected areas of flood control)

30. Development of the water resources management information system (which is a comprehensive management information system based on the monitoring of key links of water resources development and utilization, including but not limited to water sources, water intake, water transmission, water supply, water use, water consumption, and water drainage, and the monitoring of administrative border control sections of great rivers and groundwater overdraft areas, depending on the national e-government network and the backbone network of the state flood control and command system and centering on the water resources business application system)

31. Construction of infrastructure for hydrologic stations and networks and development and application of instruments and equipment for them

III. Coal

1. Coalfield geological and geophysical exploration

2. Construction of high-yield and efficient mines (including mine shafts and open-pit mines) with an annual yield of not less than 1.2 million ton and efficient coal preparation plants

26、水生态系统及地下水保护与修复工程

27、水源地保护工程（水源地保护区划分、隔离防护、水土保持、水资源保护、水生态环境修复及有关技术开发推广）

28、水土流失监测预报自动化系统（水土流失数据采集存储、智能传输、数据分析处理、科学预测预报、数据库管理一体化）开发与应用

29、洪水风险图编制技术及应用（大江大河中下游及重点防洪区、防洪保护区等特定地区洪涝灾害信息专题地图）

30、水资源管理信息系统建设（以水源、取水、输水、供水、用水、耗水和排水等水资源开发利用主要环节的监测及大江大河行政边界控制断面、地下水超采区监测为基础，以国家电子政务外网和国家防汛指挥系统骨干网为依托，以水资源业务应用系统为核心的综合管理信息系统）

31、水文站网基础设施建设及其仪器设备开发与应用

三、煤炭

1、煤田地质及地球物理勘探

2、120 万吨/年及以上高产高效煤矿（含矿井、露天）、高效选煤厂建设

3. Prevention and control of mine disasters (including but not limited to gas, coal dust, mine water, fire, wall rock, earth temperature, and rock burst)	3、矿井灾害（瓦斯、煤尘、矿井水、火、围岩、地温、冲击地压等）防治
4. Development and application of briquette coal and coal water slurry technologies	4、型煤及水煤浆技术开发与应用
5. Processing and comprehensive utilization of resources co-existing and associated with coal	5、煤炭共伴生资源加工与综合利用
6. Exploration, development and utilization of coal-bed methane and extraction and utilization of coal mine gas	6、煤层气勘探、开发、利用和煤矿瓦斯抽采、利用
7. Comprehensive utilization of fuels with low heat value, such as coal gangue, coal slurry, and middling	7、煤矸石、煤泥、洗中煤等低热值燃料综合利用
8. Coal conveyance through pipelines	8、管道输煤
9. Development and application of efficient coal washing, dressing and desulphurization technologies	9、煤炭高效洗选脱硫技术开发与应用
10. Development and application of coal dressing engineering technologies	10、选煤工程技术开发与应用
11. Control of land subsidence areas and protection and utilization of water resources in mine	11、地面沉陷区治理、矿井水资源保护与利用
12. Coal and electricity integration construction	12、煤电一体化建设
13. Development and application of coal mining methods and techniques for improving resources recovery rate	13、提高资源回收率的采煤方法、工艺开发与应用
14. Development and application of coal gangue backfilling technologies for coal mine gob areas	14、矿井采空区矸石回填技术开发与应用
15. Development and application of underground rescue technologies and special equipment	15、井下救援技术及特种装备开发与应用
16. Development and application of comprehensive monitoring technologies and equipment for the process of coal mine production	16、煤矿生产过程综合监控技术、装备开发与应用
17. Construction of large-scale coal storage and transportation centers and coal trading markets	17、大型煤炭储运中心、煤炭交易市场建设
18. Development and application of the automatic monitoring and	18、矿井进出人员自动监控记录系统开

recording system for persons entering or exiting mines

19. Development and application of new equipment for risk avoidance and self-rescue of miners

20. Development and application of coal mining technologies using materials such as coal gangue as fillings under buildings, railways and other infrastructure and under water

IV. Electric Power

1. Water power

2. Construction of a supercritical or ultra-supercritical power plant with a unit generating capacity of not less than 600,000 kW

3. A backpressure (extraction back-pressure) heat and electricity cogeneration unit, a heat, electricity and cooling multi-generation unit, and a heat and electricity cogeneration unit with a generating capacity of not less than 300,000 kW

4. Construction of a large-scale air-cool power plant with a unit capacity of not less than 600,000 kW in a water-shortage area

5. Natural gas peak-shaving power generation projects in key power load centers in areas with sufficient natural gas

6. Clean coal power generation, such as power generation by circulating fluidized bed, pressurized fluidized bed, or integrated gasification combined cycle, with a generating capacity of not less than 300,000 kW

7. Power generation with a unit generating capacity of not less than 300,000 kW by using fluidized bed boilers and utilizing gangue, middling and coal slurry, among others.

8. Direct or alternate current transmission and transformation with a capacity of not less than 500 kV

9. Desulphurization and denitration improvement of in-service generating sets

10. Improvement and construction of grids

11. Development and application of relay protection technologies and grid operation safety monitoring information technologies

发与应用

19、新型矿工避险自救器材开发与应用

20、建筑物下、铁路等基础设施下、水体下采用煤矸石等物质充填采煤技术开发与应用

四、电力

1、水力发电

2、单机 60 万千瓦及以上超临界、超超临界机组电站建设

3、采用背压（抽背）型热电联产、热电冷多联产、30 万千瓦及以上热电联产机组

4、缺水地区单机 60 万千瓦及以上大型空冷机组电站建设

5、重要用电负荷中心且天然气充足地区天然气调峰发电项目

6、30 万千瓦及以上循环流化床、增压流化床、整体煤气化联合循环发电等洁净煤发电

7、单机 30 万千瓦及以上采用流化床锅炉并利用煤矸石、中煤、煤泥等发电

8、500 千伏及以上交、直流输变电

9、在役发电机组脱硫、脱硝改造

10、电网改造与建设

11、继电保护技术、电网运行安全监控信息技术开发与应用

12. Intensive design of large-scale power plants and large grid transformers and development and application of automation technologies	12、大型电站及大电网变电站集约化设计和自动化技术开发与应用
13. Development and application of inter-regional grid interconnection engineering technologies	13、跨区电网互联工程技术开发与应用
14. Popularization and application of energy-saving and environmental protection technologies for power transmission and transformation	14、输变电节能、环保技术推广应用
15. Development and application of technologies for the reduction of electric loss in the process of power transmission, transformation and distribution	15、降低输、变、配电损耗技术开发与应用
16. Popularization and application of distributed power supply and grid connection technologies	16、分布式供电及并网技术推广应用
17. Desulfuration and denitration of coal-fired power generation units and control of combined pollutants	17、燃煤发电机组脱硫、脱硝及复合污染物治理
18. Development and production of denitration catalysts for thermal power generation	18、火力发电脱硝催化剂开发生产
19. Development and application of engineering technologies for low and medium temperature water recovery measures and fish passage measures in hydropower generation	19、水力发电中低温水恢复措施工程、过鱼措施工程技术开发与应用
20. Development and application of large-capacity electricity storage technologies	20、大容量电能储存技术开发与应用
21. Charging facilities for electric automobiles	21、电动汽车充电设施
22. Power generation technologies utilizing ventilation air methane (VAM) and development and utilization	22、乏风瓦斯发电技术及开发利用
23. Complete equipment for power generation through waste incineration	23、垃圾焚烧发电成套设备
24. Distributed power supply	24、分布式电源

V. New Energy

五、新能源

1. Development and application of integrated technologies for solar thermal heating power generation systems and solar photovoltaic power generation systems and development and manufacturing of inverting control systems	1、太阳能热发电集热系统、太阳能光伏发电系统集成技术开发应用、逆变控制系统开发制造
---	---

2. Development and application of technologies for complementary wind and photovoltaic power generation systems

3. Design and manufacturing of components for integration of solar energy and buildings

4. Efficient solar water heaters and solar hot water projects, development of medium and high temperature utilization technologies for solar energy, and equipment manufacturing

5. Development and application of production technologies of non-cereal biomass fuels, such as biomass cellulose ethanol and biodiesel

6. Development of power generation technologies by direct combustion or gasification of biomass and equipment manufacturing

7. Development of collection, transportation and storage technologies for agricultural and forestry biomass resources and equipment manufacturing; and manufacturing of processing equipment of agricultural and forestry biomass briquette fuels, boilers, and furnaces

8. Complete equipment for large-scale biogas production with raw materials such as waste of livestock and poultry farms, urban landfills, and industrial organic waste water

9. Manufacturing of biogas power generating sets, biogas purification equipment, and complete equipment for biogas supply in pipelines and biogas filling in cylinders

10. Development of marine energy and geothermal energy utilization technologies and equipment manufacturing

11. Development of offshore wind turbine technologies and equipment manufacturing

12. Construction of offshore wind plants and equipment manufacturing

VI. Nuclear Energy

1. Geological exploration of uranium mine, uranium mining and metallurgy, uranium purification, and uranium conversion

2. Construction of advanced nuclear reactors and technology development

2、风电与光伏发电互补系统技术开发与应用

3、太阳能建筑一体化组件设计与制造

4、高效太阳能热水器及热水工程，太阳能中高温利用技术开发与设备制造

5、生物质纤维素乙醇、生物柴油等非粮生物质燃料生产技术开发与应用

6、生物质直燃、气化发电技术开发与设备制造

7、农林生物质资源收集、运输、储存技术开发与设备制造；农林生物质成型燃料加工设备、锅炉和炉具制造

8、以畜禽养殖场废弃物、城市填埋垃圾、工业有机废水等为原料的大型沼气生产成套设备

9、沼气发电机组、沼气净化设备、沼气管道供气、装罐成套设备制造

10、海洋能、地热能利用技术开发与设备制造

11、海上风电机组技术开发与设备制造

12、海上风电场建设与设备制造

六、核能

1、铀矿地质勘查和铀矿采冶、铀精制、铀转化

2、先进核反应堆建造与技术开发

3. Construction of nuclear power plants

4. Manufacturing of high-performance nuclear fuel elements

5. Post-processing of spent fuels

6. Development of applied technologies of isotope, accelerator and irradiation

7. Development of advanced uranium isotope separation technologies and equipment manufacturing

8. Development of radiation protection technologies and manufacturing of monitoring equipment

9. Development of instruments and meters for the physical protection of nuclear facilities

10. Decommissioning of nuclear facilities and control of radioactive waste

11. Technologies and equipment for life extension and decommissioning of nuclear power plants

12. Technologies and equipment for emergency response and rescue of nuclear power plants

VII. Oil and Natural Gas

1. Exploration and exploitation of conventional oil and natural gas

2. Exploration and development of unconventional resources, such as shale gas, oil shale, oil sand, and natural gas hydrate

3. Storage and transportation of crude oil, natural gas, liquefied natural gas, and product oil and construction of pipeline transportation facilities and networks

4. Comprehensive utilization of resources associated with oil and gas

5. Development and application of technologies for improving the recovery ratio of oil-gas fields, technologies for guaranteeing work safety, and technologies for restoring ecological environment and preventing and controlling pollution

6. Recycling of dumped natural gas and device manufacturing

3、核电站建设

4、高性能核燃料元件制造

5、乏燃料后处理

6、同位素、加速器及辐照应用技术开发

7、先进的铀同位素分离技术开发与设备制造

8、辐射防护技术开发与监测设备制造

9、核设施实体保护仪器仪表开发

10、核设施退役及放射性废物治理

11、核电站延寿及退役技术和设备

12、核电站应急抢险技术和设备

七、石油、天然气

1、常规石油、天然气勘探与开采

2、页岩气、油页岩、油砂、天然气水合物等非常规资源勘探开发

3、原油、天然气、液化天然气、成品油的储运和管道输送设施及网络建设

4、油气伴生资源综合利用

5、油气田提高采收率技术、安全生产保障技术、生态环境恢复与污染防治工程技术开发利用

6、放空天然气回收利用与装置制造

7. Development and application of natural gas distributed energy technologies

8. Development and application of volatile oil and gas recovery technologies for oil storage and transportation facilities

9. Development and application of liquefied natural gas technologies

VIII. Iron and Steel

1. Exploration of substitute resources for ferrous metal mines and development of key exploration technologies

2. Research, development and application of advanced technologies such as coal moisture control, winnowing and moisture control, rammed-coal coking, formed-coal coking, dry coke quenching, thermal oil heat-exchange, advanced treatment and recycling of coking waste water, fine and deep processing of coal tar, purification of benzene hydrogenation, production of needle coke from coal tar pitch, tar hydrogenation processing, and high value-added utilization of coke oven gas

3. Non-blast furnace ironmaking technologies

4. Production of nuclear power pipes for advanced pressurized water reactors, pipes for million-kilowatts thermal power boilers, corrosion-, pressure-, and temperature-resistance oil well pipes, corrosion-resistance aviation pipes, and high corrosion-resistance chemical pipes

5. Development and application of technologies for higher-performance, high-quality, and upgrading steel products, including but not limited to high-strength automobile sheets of not less than 600 MPa, high-performance pipeline steel for oil and gas transmission, high-strength wide and thick plates for vessels, marine engineering steel, moderate thickness plates of not less than 420 MPa for buildings, bridges and other structures, steel for high-speed and heavy-haul railways, low-iron loss and high-magnetic induction silicon steel, corrosion- and wear-resistance steel, alloy resource-saving stainless steel (modern ferritic stainless steel, duplex stainless steel, and nitrogen stainless steel), special steel bars and wire rods for high-performance basic parts (high-performance gears, bolts at or above Grade 12.9, high-strength spring, and long service life bearings), and high-quality special steel forged materials (tool and mould steel, stainless steel, and steel for machinery, among others)

6. Application of new-generation thermal machinery control processing

7、天然气分布式能源技术开发与应用

8、石油储运设施挥发油气回收技术开发与应用

9、液化天然气技术开发与应用

八、钢铁

1、黑色金属矿山接替资源勘探及关键勘探技术开发

2、煤调湿、风选调湿、捣固炼焦、配型煤炼焦、干法熄焦、导热油换热、焦化废水深度处理回用、煤焦油精深加工、苯加氢精制、煤沥青制针状焦、焦油加氢处理、焦炉煤气高附加值利用等先进技术的研发与应用

3、非高炉炼铁技术

4、先进压水堆核电管、百万千瓦火电锅炉管、耐蚀耐压耐温油井管、耐蚀航空管、高耐腐蚀化工管生产

5、高性能、高质量及升级换代钢材产品技术开发与应用。包括 600 兆帕级及以上高强度汽车板、油气输送高性能管线钢、高强度船舶用宽厚板、海洋工程用钢、420 兆帕级及以上建筑和桥梁等结构用中厚板、高速重载铁路用钢、低铁损高磁感硅钢、耐腐蚀耐磨损钢材、节约合金资源不锈钢（现代铁素体不锈钢、双相不锈钢、含氮不锈钢）、高性能基础件（高性能齿轮、12.9 级及以上螺栓、高强度弹簧、长寿命轴承等）用特殊钢棒线材、高品质特钢锻轧材（工模具钢、不锈钢、机械用钢等）等

6、在线热处理、在线性能控制、在线强

(TMCP) technologies with online heat treatment, online performance control, and online forced cooling

7. Development and production of ultra-high power electrode with a diameter of not less than 600 mm, micropore and ultra-micropore carbon bricks for blast furnaces, special graphite (with high strength, high density, high purity, and high modulus), graphitized (graphitiferous) cathode, and lengthwise graphitization furnaces

8. Production techniques of long-life, energy-saving, environment-friendly, and fireproof materials for coke furnaces, blast furnaces, and hot blast furnaces; and production techniques of low-carbon or carbon-free fireproof materials for refined steel and functional, environment-friendly, and fireproof materials for efficient continuous casting

9. Application of online quality inspection technologies in the process of production

10. Disposal of waste discharged to the public by utilizing iron and steel production facilities

11. Technologies for multi-functional dry removal, including but not limited to sintering flue gas desulfurization, denitration and de-dioxin, and reutilization and recycling of by-products

12. Advanced techniques and technologies for the comprehensive utilization of refractory lean ores and (co-existing or) associated ores

13. Advanced techniques and technologies for the comprehensive utilization of metallurgical solid waste (including but not limited to waste rocks and tailings in metallurgical mining and various dust, mud, residues, and iron sheets generated by steelworks)

14. New techniques and technologies for smelting of iron alloy by utilizing low-grade manganese ores and RKEF (rotary klin – electric furnace) techniques and technologies for smelting of refined ferronickel by efficiently utilizing nickel laterite ores

15. Techniques and technologies and equipment for the cyclic utilization of metallurgical liquid waste (including waste water, waste acid, and waste oil)

制冷却的新一代热机械控制加工
(TMCP) 工艺技术应用

7、直径 600 毫米及以上超高功率电极、高炉用微孔和超微孔碳砖、特种石墨（高强、高密、高纯、高模量）、石墨（质）化阴极、内串石墨化炉开发与生产

8、焦炉、高炉、热风炉用长寿节能环保耐火材料生产工艺；精炼钢用低碳、无碳耐火材料和高效连铸用功能环保性耐火材料生产工艺

9、生产过程在线质量检测技术应用

10、利用钢铁生产设备处理社会废弃物

11、烧结烟气脱硫、脱硝、脱二恶英等多功能干法脱除，以及副产物资源化、再利用化技术

12、难选贫矿、（共）伴生矿综合利用先进工艺技术

13、冶金固体废弃物（含冶金矿山废石、尾矿，钢铁厂产生的各类尘、泥、渣、铁皮等）综合利用先进工艺技术

14、利用低品位锰矿冶炼铁合金的新工艺技术，以及高效利用红土镍矿炼精制镍铁的回转窑—矿热炉（RKEF）工艺技术

15、冶金废液（含废水、废酸、废油等）循环利用工艺技术与设备

16. Development and application of new-generation steel recycled process techniques and technologies (on the basis of satisfactory internal recycling of the steel industry, development of horizontal and longitudinal logistics and energy flow recycling processes between the iron and steel industry and other industries, such as electricity industry, chemical industry, and equipment manufacturing industry)

17. Dry dedusting of blast furnace and converter gas

IX. Nonferrous Metals

1. Exploration and development of substitute resources for existing nonferrous mines and exploitation of deep and difficult-to-mine deposits of scarce resources

2. Development of efficient, low-consumption, low-pollution, and new smelting technologies

3. Recovery and comprehensive utilization on a certain scale of efficient, energy-saving, and low-pollution renewable resources. (1) Recovery of waste nonferrous metals. (2) Comprehensive utilization of valuable elements. (3) Comprehensive utilization of red mud and other smelting waste residues. (4) Extraction of alumina from high-alumina fly ash

4. Production of new nonferrous materials for information and new energy. (1) Information: silicon single crystal and polished section with a diameter of 200 mm or more, compound semiconductor with a diameter of 125 mm or more in LEC method or a diameter of 50 mm or more than in horizontal growth method, large-sized and high-purity targets of aluminum, copper, silicon, tungsten, and molybdenum, Cu-Ni-Si and Cu-Cr-Zr lead frame materials and electronic solders, among others, for ultra-large-scale integrated circuits. (2) New energy: nuclear-grade sponge zirconium and zirconium materials and high-capacity, long-life, and secondary cell electrode materials

5. Production of new nonferrous materials for transportation, high-end manufacturing, and other fields. (1) Transportation: high-strength and high-conductivity copper alloys, such as copper alloy precision strip and ultra-long wire products with compressive strength not less than 500 MPa and electric conductivity not less than 80% IACS, and new high-strength, high-tenacity, corrosion-resistance alloy materials and large-sized products for key bearing structures of means of transportation (the

16、新一代钢铁可循环流程（在做好钢铁产业内部循环的基础上，发展钢铁与电力、化工、装备制造等相关产业间的横向、纵向物流和能流的循环流程）工艺技术开发与应用

17、高炉、转炉煤气干法除尘

九、有色金属

1、有色金属现有矿山接替资源勘探开发，紧缺资源的深部及难采矿床开采

2、高效、低耗、低污染、新型冶炼技术开发

3、高效、节能、低污染、规模化再生资源回收与综合利用。（1）废杂有色金属回收（2）有价元素的综合利用（3）赤泥及其它冶炼废渣综合利用（4）高铝粉煤灰提取氧化铝

4、信息、新能源有色金属新材料生产。（1）信息：直径 200mm 以上的硅单晶及抛光片、直径 125mm 以上直拉或直径 50mm 以上水平生长化合物半导体材料、铝铜硅钨钼等大规格高纯靶材、超大规模集成电路铜镍硅和铜铬锆引线框架材料、电子焊料等。（2）新能源：核级海绵锆及锆材、大容量长寿命二次电池电极材料

5、交通运输、高端制造及其他领域有色金属新材料生产。（1）交通运输：抗拉强度不低于 500MPa、导电率不低于 80%IACS 的铜合金精密带材和超长线材制品等高强高导铜合金、交通运输工具主承力结构用的新型高强、高韧、耐蚀铝合金材料及大尺寸制品（航空用铝合

compressive strength of aluminum alloy is not less than 650 MPa for aviation and not less than 500 MPa for high-speed trains). (2) High-end manufacturing and other fields: biomedical materials, such as high-performance nano hard alloy cutters, large-particle hard alloy shield cutters and deep-processed products, rare earth and noble metal catalyst materials, low-module titanium alloys, and memory alloys; copper alloy and titanium alloy materials for corrosion-resistance heat exchangers; high-performance rare earth magnetic materials; hydrogen storage materials; and high-end applications

X. Gold

1. In-depth prospecting and exploitation of gold (1,000 m underground)

2. Recovery of gold from tailings and waste rocks

XI. Petrochemistry

1. Development and application of refining technologies for heavy and inferior sulfur- and acid-bearing crude oil and production technologies for high-standard oil products

2. Exploration, development, and comprehensive utilization of scarce chemical mineral resources such as sulfur, potassium, boron, and lithium; selection and utilization of low- and medium-grade phosphorite; and comprehensive utilization of resources associated with phosphorite.

3. Energy-saving technologies for zero-electrode-distance, oxygen-cathode and other ionic membrane caustic soda electrolytic cells; comprehensive utilization technologies such as production of chlorine by utilizing waste hydrochloric acid; development and application of new techniques for clean production of chromium salt; production of potassium permanganate by utilizing pneumatic fluidization tower; production of phosphoric acid in total heat recovery method; and large-scale production device of defluorinated calcium phosphate

4. Production devices for ethylene glycol of not less than 200,000 ton per year by utilizing synthesis gas, bisphenol A of not less than 100,000 ton per year in ion exchange method, propylene oxide of not less than 150,000 ton per year in direct oxidation method, propylene oxide of not less than 200,000 ton per year in common oxidation method, and adiponitrile of not less than 50,000 ton per year in butadiene method; and development and application of production technologies for ten-thousand-

金抗压强度不低于 650MPa，高速列车用铝合金抗压强度不低于 500MPa)。

(2) 高端制造及其他领域：高性能纳米硬质合金刀具和大晶粒硬质合金盾构刀具及深加工产品、稀土及贵金属催化剂材料、低模量钛合金材料及记忆合金等生物医用材料、耐蚀热交换器用铜合金及钛合金材料、高性能稀土磁性材料和储氢材料及高端应用

十、黄金

1、黄金深部（1000 米以下）探矿与开采

2、从尾矿及废石中回收黄金

十一、石化化工

1、含硫含酸重质、劣质原油炼制技术，高标准油品生产技术开发与应用

2、硫、钾、硼、锂等短缺化工矿产资源勘探开发及综合利用，中低品位磷矿采选与利用，磷矿伴生资源综合利用

3、零极距、氧阴极等离子膜烧碱电解槽节能技术、废盐酸制氯气等综合利用技术、铬盐清洁生产新工艺的开发和应用，气动流化塔生产高锰酸钾，全热能回收热法磷酸生产，大型脱氟磷酸钙生产装置

4、20 万吨/年及以上合成气制乙二醇、10 万吨/年及以上离子交换法双酚 A、15 万吨/年及以上直接氧化法环氧丙烷、20 万吨/年及以上共氧化法环氧丙烷、5 万吨/年及以上丁二烯法己二腈生产装置，万吨级脂肪族异氰酸酯生产技术开发与应用

ton aliphatic isocyanate

5. Production of high-quality potassium fertilizer and various specialized fertilizers and slow control release fertilizers; energy conservation, emission reduction, and raw material restructuring of nitrogenous fertilizer enterprises; development and application of comprehensive utilization technologies for ardealite; and purification and production devices of phosphoric acid with an annual capacity of not less than 100,000 ton in wet process

6. Development and production of efficient, safe, and environment-friendly new-type pesticides, new formulations of pesticides (such as water-based formulation), special midbody, and assistants (such as water-based assistants); development and application of clean production techniques such as production technique of acetochlor in methylene method, production technique of chorpyriphos by the aqueous phase process, recovery technique of chloromethane by utilizing glyphosate, production of chirality and three-dimensional-structure pesticides in directional synthesis method, and synthesis technologies of ethyl chloride; development and production of new biological pesticide products and development of new technologies for biological pesticides

7. Production of environment-friendly and energy-saving paints such as paints for water-based wood, industrial and marine paints, and exterior wall and external thermal insulation paints with high solid, solvent free, radiation curing, and functionality; and production of titanium white chloridization with a single capacity of not less than 30,000 ton per year and with rich titanium materials containing titanium dioxide of not less than 90% (artificial rutile, natural rutile, and high titanium slag)

8. Development and production of reactive dyes with high fixation rate, high color fastness, high upgrading, high dyeing levelness, high reproducibility, low pollution, low salt, low temperature, dyeing with small bath ratio and dyeing with a wet short steaming pad; disperse dyes with high and superfine denier polyester fiber, high fastness to chemical washing, high dyeing, high fastness and low staining (nylon and spandex), and dyeing with small bath ratio; weak acid dyes without metal for dyeing of polyamide fiber, wool, and leather; and organic pigments with good fastness and high weathering

9. Development and application of new technologies for clean production of dyes and dye intermediates and essential safety (including

5、优质钾肥及各种专用肥、缓控释肥的生产，氮肥企业节能减排和原料结构调整，磷石膏综合利用技术开发与应用，10万吨/年及以上湿法磷酸净化生产装置

6、高效、安全、环境友好的农药新品种、新剂型（水基化剂型等）、专用中间体、助剂（水基化助剂等）的开发与生产，甲叉法乙草胺、水相法毒死蜱工艺、草甘膦回收氯甲烷工艺、定向合成法手性和立体结构农药生产、乙基氯化物合成技术等清洁生产工艺的开发和应用，生物农药新产品、新技术的开发与生产

7、水性木器、工业、船舶涂料，高固体的、无溶剂、辐射固化、功能性外墙外保温涂料等环境友好、资源节约型涂料生产；单线产能3万吨/年及以上、并以二氧化钛含量不小于90%的富钛料（人造金红石、天然金红石、高钛渣）为原料的氯化法钛白粉生产

8、高固着率、高色牢度、高提升性、高匀染性、高重现性、低沾污性以及低盐、低温、小浴比染色用和湿短蒸轧染用的活性染料，高超细旦聚酯纤维染色性、高洗涤牢度、高染着率、高光牢度和低沾污性（尼龙、氨纶）、小浴比染色用的分散染料，用于聚酰胺纤维、羊毛和皮革染色的不含金属的弱酸性染料，高耐晒牢度、高耐气候牢度有机颜料的开发与生产

9、染料及染料中间体清洁生产、本质安全的新技术（包括催化、三氧化硫磺

technologies such as catalysis, trioxide sulfonation, continuous nitrification, adiabatic nitration, directional chloride, synergistic combination, solvent reaction, and cyclic utilization; appropriate technologies in which such highly-toxic raw materials as phosgene are replaced; and technologies of membrane filtration and primary pulp drying)

10. Development and production of high-performance barrier resins such as EVOH and PVDC and special polyolefins such as PI and POE

11. Development and application of production devices of non-phosgene polycarbonate with an annual capacity of not less than 600,000 ton, production technologies of engineering plastics such as LCP and technologies of blending modification and alloying, development and production of water-absorbent resin, conductive epoxy, and degradable polymer, and development and production of new polyamides such as nylon 11, nylon 1414, nylon 46, long carbon chain nylon, and high temperature resistance nylon

12. Development and application of production devices with an annual capacity of not less than 30,000 ton of butyl rubber, ethylene propylene rubber (EPR), isoprene rubber, solution polymerized styrene-butadiene rubber (SSBR), rare earth butadiene rubber, and polyacrylate rubber, as well as filling oil styrene butadiene rubber with low aromatic content, and chemical modification technologies of synthetic rubber

13. Development and production of thermal-plastic elastic materials such as PTPE, TPPE, SIS and TPU

14. Development and production of modified or water-based adhesives and new hot melt glue, environment-friendly water absorbents and water treatment chemicals, efficient and environment-friendly new catalysts and assistants such as molecular sieve solid mercury and mercury-free catalysts and assistants, safe food additives and feed additives, nanometer materials, functional membrane materials, and new and fine chemicals such as ultra-clean and high-purity reagents, photoresist, electron gas, and high-performance liquid crystal materials

化、连续硝化、绝热硝化、定向氯化、组合增效、溶剂反应、循环利用等技术，以及取代光气等剧毒原料的适用技术，膜过滤和原浆干燥技术）的开发与应用

10、乙烯-乙烯醇树脂（EVOH）、聚偏氯乙烯等高性能阻隔树脂，聚异丁烯（PI）、聚乙烯辛烯（POE）等特种聚烯烃开发与生产

11、6万吨/年及以上非光气法聚碳酸酯生产装置，液晶聚合物（LCP）等工程塑料生产以及共混改性、合金化技术开发和应用，吸水性树脂、导电性树脂和可降解聚合物的开发与生产，尼龙 11、尼龙 1414、尼龙 46、长碳链尼龙、耐高温尼龙等新型聚酰胺开发与生产

12、3万吨/年及以上丁基橡胶、乙丙橡胶、异戊橡胶，溶聚丁苯橡胶、稀土系顺丁橡胶、丙烯酸酯橡胶及低多芳含量填充油丁苯橡胶等生产装置，合成橡胶化学改性技术开发与应用

13、聚丙烯热塑性弹性体（PTPE）、热塑性聚酯弹性体（TPPE）、苯乙烯-异戊二烯-苯乙烯热塑性嵌段共聚物（SIS）、热塑性聚氨酯弹性体等热塑性弹性体材料开发与生产

14、改性型、水基型胶粘剂和新型热熔胶，环保型吸水剂、水处理剂，分子筛固汞、无汞等新型高效、环保催化剂和助剂，安全型食品添加剂、饲料添加剂，纳米材料，功能性膜材料，超净高纯试剂、光刻胶、电子气、高性能液晶材料等新型精细化学品的开发与生产

15. New organosilicone monomers such as phenyl chlorosilane and vinyl chlorosilane; phenyl silicone oil, amino silicon oil, polyether modified silicone oil, and others; high-performance rubbers and hybrid materials such as phenyl siloxane rubber and phenylene silicone rubber; high-performance resins such as methylphenyl silicone resin; and serial efficient coupling reagents such as triethoxysilane

16. Development and application of special fluoride monomers such as perfluorinated ene ether; high-quality fluororesins such as FEP, PVDF, PTFCE, and ETFE; high-performance fluororous rubbers such as fluoroether rubber, fluorinated silicone rubber, AFLAS FEP, and 246 high fluoride fluorine rubber; fluoride lubricating grease; substitutes of Ozone Depleting Substances (ODS) with zero Ozone-depleting Potentials (ODP) and low Global Warming Potentials (GWP); PFOS and PFOA and their salt substitutes and substitution technologies; fine chemicals containing fluorine and high-quality inorganic salt containing fluorine

17. Production of high-performance radial tyres (including tubeless tyres, low-section tyres and flattened tyres (with flatness ratio lower than 55%), high-performance radial tyres for passenger cars with a large rim (with a diameter of 15 inch or more), aviation tyres, and agricultural radial tyres) and ancillary special materials and equipment; and development and application of new natural rubber

18. Development and production of biopolymer material, padding, reagent, chip, interferon, sensor, cellulase, alkaline protease, diagnosis enzyme, and other enzymic preparation and cellulose biochemical products

19. Comprehensive utilization of by-products such as carbon tetrachloride, silicon tetrachloride, methyl trichloro silane, and chlorotrimethylsilane; and capture and application of carbon dioxide

XII. Building Materials

1. Disposal of industrial waste, urban sludge, and domestic garbage by utilizing the existing new dry-process cement furnaces with a daily disposal capacity of 2,000 ton or more, and power generation by purely utilizing low temperature exhaust heat; and energy-saving transformation of grinding systems

15、苯基氯硅烷、乙烯基氯硅烷等新型有机硅单体，苯基硅油、氨基硅油、聚醚改性型硅油等，苯基硅橡胶、苯撑硅橡胶等高性能橡胶及杂化材料，甲基苯基硅树脂等高性能树脂，三乙氧基硅烷等系列高效偶联剂

16、全氟烯醚等特种含氟单体，聚全氟乙丙烯、聚偏氟乙烯、聚三氟氯乙烯、乙烯-四氟乙烯共聚物等高品质氟树脂，氟醚橡胶、氟硅橡胶、四丙氟橡胶、高含氟量 246 氟橡胶等高性能氟橡胶，含氟润滑油脂，消耗臭氧潜能值（ODP）为零、全球变暖潜能值（GWP）低的消耗臭氧层物质（ODS）替代品，全氟辛基磺酰化合物（PFOS）和全氟辛酸（PFOA）及其盐类替代品和替代技术的开发和应用，含氟精细化学品和高品质含氟无机盐

17、高性能子午线轮胎（包括无内胎载重子午胎，低断面和扁平化（低于 55 系列）、大轮辋高性能轿车子午胎（15 吋以上），航空轮胎及农用子午胎）及配套专用材料、设备生产，新型天然橡胶开发与应用

18、生物高分子材料、填料、试剂、芯片、干扰素、传感器、纤维素酶、碱性蛋白酶、诊断用酶等酶制剂、纤维素生化产品开发与生产

19、四氯化碳、四氯化硅、一甲基氯硅烷、三甲级氯硅烷等 副产物综合利用，二氧化碳的捕获与应用

十二、建材

1、利用现有 2000 吨/日及以上新型干法水泥窑炉处置工业废弃物、城市污泥和生活垃圾，纯低温余热发电；粉磨系统等节能改造

2. Development and application of ultra-thin (less than 1.3 mm in depth) electronic industry glass, ultra-white (converted to 5 mm in thickness and transmission ratio of visible light > 90%) solar energy industry glass, on-line coated glass, low-radiation glass, and other special float glass production lines; combustion technology in pure oxygen and technology of power generation with low temperature exhaust heat adopted by the existing float glass production lines; high-grade refractory materials for glass furnaces; and process equipment and technologies for deep processing of glass

3. Development and production of materials such as new walling and roofing materials, insulation and deadening materials, and waterproof and airproof materials

4. Development and application of production lines of ceramic plate which is less than 6 mm in depth with an annual capacity of not less than 1.5 million m² and process equipment and technologies

5. Development and production of sitting and squatting toilet pans, water-saving urinals and water control equipment with the amount of each flush not more than 6 liter

6. Technology development and production of alkali free glass fiber tank klin wire drawing and high-performance glass fiber and products with an annual yield of 50,000 ton

7. Development and production of new technologies and new products of asbestos-free friction and sealing materials using synthetic mineral fiber or aramid fiber as reinforcing material

8. Production equipment technology development of high-quality artificial crystalline materials, products, and parts for fields such as information, new energy, national defense, and aerospace aviation; manufacturing technology development and production of high-purity quartz raw materials, quartz glass materials and their products; and technology development and production of special glass demanded in the field of aerospace aviation

9. Production of nonferrous deep processing materials such as kaolin, graphite and diatomite for high-purity, superfine, modified, and other refined processing as demanded in the high-tech fields and development and manufacturing of their technical equipment

10. Production of ultra-thin composite stones with an annual yield of not

2、电子工业用超薄（1.3mm 以下）、太阳能产业用超白（折合 5mm 厚度可见光透射率>90%）、在线镀膜玻璃和低辐射等特殊浮法玻璃生产线；现有浮法生产线采用纯氧燃烧技术、低温余热发电技术；玻璃熔窑用高档耐火材料；玻璃深加工工艺装备技术开发与应用

3、新型墙体和屋面材料、绝热隔音材料、建筑防水和密封等材料的开发与生产

4、150 万平方米/年及以上、厚度小于 6 毫米的陶瓷板生产线和工艺装备技术开发与应用

5、一次冲洗用水量 6 升及以下的坐便器、蹲便器、节水型小便器及节水控制设备开发与生产

6、5 万吨/年及以上无碱玻璃纤维池窑拉丝技术和高性能玻璃纤维及制品技术开发与生产

7、使用合成矿物纤维、芳纶纤维等作为增强材料的无石棉摩擦、密封材料新工艺、新产品开发与生产

8、信息、新能源、国防、航天航空等领域用高品质人工晶体材料、制品和器件生产装备技术开发；高纯石英原料、石英玻璃材料及其制品制造技术开发与生产；航天航空等领域所需的特种玻璃制造技术开发与生产

9、高新技术领域需求的高纯、超细、改性等精细加工的高岭土、石墨、硅藻土等非金属矿深加工材料生产及其技术装备开发与制造

10、30 万平方米/年以上超薄复合石材生

less than 300,000 m²; mechanized quarrying; and production for the comprehensive utilization of ore and sheet scraps and development of technical equipment

11. Comprehensive utilization of waste rock, tailings, and construction waste

12. Technology development and production of farm construction materials for agriculture

13. Development and manufacturing of new walling materials by utilizing industrial by-product gypsum and technical equipment

14. Development and production of emergency settlement dwellings

XIII Medicine

1. Development and production of new medicine with independent intellectual property right, development and production of natural medicine, development and production of new birth-control medicine (including the third-generation progestogen contraceptive), initial development and production of generic medicine that meets China's demand for prevention and control of grave and frequent diseases, development and production of new formulations and new supplementary materials, development and application of technologies in the process of medicine production such as membrane separation, supercritical extraction, new crystallization, chiral synthesis, enzymatic synthesis, biotransformation, and self-control, and development and application of energy-saving and consumption-reduction technologies in the production of Active Pharmaceutical Ingredients (APIs) and new pharmaceutical preparation technologies

2. Development and production of modern biotech medicine, vaccine and medicine for prevention and control of grave epidemic diseases, and new diagnosis reagents, development and application of large-scale cell culture and purification technologies and synthesis, fermentation, and purification technologies of large-scale therapeutic peptide and nucleic acid, and transformation of traditional production technologies by utilizing modern biotechnology

3. Development and production of new packing materials for medicine and technologies (first-class waterproof pharmaceutical glass, degradable materials, functional materials with lucifuge, high barrier and high permeability, packing of novel drug delivery systems; and printing

产; 机械化石材矿山开采; 矿石碎料和板材边角料综合利用生产及工艺装备开发

11、废矿石、尾矿和建筑废弃物的综合利用

12、农用田间建设材料技术开发与生产

13、利用工业副产石膏生产新型墙体材料及技术装备开发与制造

14、应急安置房屋开发与生产

十三、医药

1、拥有自主知识产权的新药开发和生产, 天然药物开发和生产, 新型计划生育药物 (包括第三代孕激素的避孕药) 开发和生产, 满足我国重大、多发性疾病防治需求的通用名药物首次开发和生产, 药物新剂型、新辅料的开发和生产, 药物生产过程中的膜分离、超临界萃取、新型结晶、手性合成、酶促合成、生物转化、自控等技术开发与应用, 原料药生产节能降耗减排技术、新型药物制剂技术开发与应用

2、现代生物技术药物、重大传染病防治疫苗和药物、新型诊断试剂的开发和生产, 大规模细胞培养和纯化技术、大规模药用多肽和核酸合成、发酵、纯化技术开发和应用, 采用现代生物技术改造传统生产工艺

3、新型药用包装材料及其技术开发和生产 (一级耐水药用玻璃, 可降解材料, 具有避光、高阻隔性、高透过性的功能性材料, 新型给药方式的包装; 药包材

technique with non-benzene ink for medicine packing materials, among others)

4. Development of artificial propagation technologies for endangered and rare medicinal plants and animals and development and production of their substitutes, application of advanced agricultural technologies in the standardized planting and breeding of traditional Chinese medicinal materials, development and application of new technologies of extraction, purification and quality control of active ingredients of traditional Chinese medicine, development and application of modern formulation techniques and technologies of traditional Chinese medicine, production process control technologies and equipment, development and application of innovative technologies of traditional Chinese medicine prepared in ready-to-sue forms, and secondary development and production of traditional Chinese patent medicine

5. Development and production of ethnic medicine

6. Development and production of new medical instruments and equipment for medical diagnosis, minimal invasive surgery and interventional therapy equipment, medical first-aid and mobile medical equipment, rehabilitation engineering technology devices, domestic medical instruments, new birth-control instruments (third-generation intra-uterine device), new medical materials, artificial organs, and key components; and development and application of digital medical imaging products and medical information technologies

7. Standardized breeding of laboratory animals and animal experiment services

8. Improvement of the quality and production technology level of essential medicines and reduction of costs

XIV. Machinery

1. High-speed and precision numerically-controlled machine tools with the joint action of three or more axes and supporting numerically-controlled systems, servo motors and drive devices, functional parts, tools, measuring tools, measuring instruments, and high-grade abrasive tools and abrasives

2. Distributed control systems (DCS), fieldbus control systems (FCS), and new energy power generation control systems used for major technical equipment, such as large generating sets, large petrochemical

无苯油墨印刷工艺等)

4、濒危稀缺药用动植物人工繁育技术及代用品开发和生产, 先进农业技术在中药材规范化种植、养殖中的应用, 中药有效成份的提取、纯化、质量控制新技术开发和应用, 中药现代剂型的工艺技术、生产过程控制技术和装备的开发与应用, 中药饮片创新技术开发和应用, 中成药二次开发和生产

5、民族药物开发和生产

6、新型医用诊断医疗仪器设备、微创外科和介入治疗装备及器械、医疗急救及移动式医疗装备、康复工程技术装置、家用医疗器械、新型计划生育器具(第三代宫内节育器)、新型医用材料、人工器官及关键元器件的开发和生产, 数字化医学影像产品及医疗信息技术的开发与应用

7、实验动物标准化养殖及动物实验服务

8、基本药物质量和生产技术水平提升及降低成本

十四、机械

1、三轴以上联动的高速、精密数控机床及配套数控系统、伺服电机及驱动装置、功能部件、刀具、量具、量仪及高档磨具磨料

2、大型发电机组、大型石油化工装置、大型冶金成套设备等重大技术装备用分散型控制系统(DCS), 现场总线控制

installations, and large complete metallurgical equipment

3. Programmable logic controllers (PLC) with 512 or more input and output points

4. Digital, intelligent, and networked industrial automated detection meters and sensors, in-situ online component analysis instruments, low-power intelligent sensors with wireless communication function, electromagnetic compatibility testing devices, intelligent ammeters used for intelligent grids (with functions of sending and receiving signals, self-diagnosis, and data processing), and fiber optic sensors

5. Instruments and meters used for the detection and analysis of radiation, toxicity, flammables, explosives, heavy metals, and dioxins, among others, testing instruments for water quality, flue gas and air, mass spectrometers used for drug testing with the mass number of more than 1,000 atomic mass units (amu), color-mass spectrometers, and relevant automated sampling systems and sample handling systems

6. Multi-dimensional geometric parameter measuring instruments used for scientific research with a measurement precision of micron or a more precise measurement, automated, intelligent and multi-functional material mechanics performance testing equipment, non-destructive testing equipment such as industrial CT and three-dimensional ultrasonic flaw detector, and electron microscopes used for nanometer observation and measurement with a resolution higher than 3.0 nm

7. Technical equipment for urban intelligent visual surveillance, video analysis, and video-assisted criminal investigation

8. Monitoring instruments and meters and systems for mine disasters (gas, coal dust, mine water, fire, and wall rock, among others)

9. Comprehensive meteorological observation instruments and equipment (ground, high altitude, and marine meteorological observation instruments, equipment and consumables, professional meteorological observation and atmospheric composition observation instruments, equipment and consumables, and weather radars, among others), mobile emergency meteorological observation systems, mobile emergency meteorological command systems, meteorological measurement checking equipment, meteorological repair and maintenance equipment, and operation monitoring systems of meteorological observation instruments and equipment

系统 (FCS), 新能源发电控制系统

3、输入输出点数 512 个以上的可编程控制系统 (PLC)

4、数字化、智能化、网络化工业自动检测仪表与传感器, 原位在线成份分析仪器, 具有无线通信功能的低功耗智能传感器, 电磁兼容检测设备, 智能电网用智能电表 (具有发送和接收信号、自诊断、数据处理功能), 光纤传感器

5、用于辐射、有毒、可燃、易爆、重金属、二恶英等检测分析的仪器仪表, 水质、烟气、空气检测仪器, 药品检验用质量数大于 1000 原子质量单位 (amu) 的质谱仪, 质谱联用仪以及相关的自动取样系统和样品处理系统

6、科学研究用测量精度达到微米以上的多维几何尺寸测量仪器, 自动化、智能化、多功能材料力学性能测试仪器, 工业 CT、三维超声波探伤仪等无损检测设备, 用于纳米观察测量的分辨率高于 3.0 纳米的电子显微镜

7、城市智能视觉监控、视频分析、视频辅助刑事侦察技术设备

8、矿井灾害 (瓦斯、煤尘、矿井水、火、围岩等) 监测仪器仪表和系统

9、综合气象观测仪器装备 (地面、高空、海洋气象观测仪器装备及耗材, 专业气象观测、大气成分观测仪器装备及耗材, 气象雷达等)、移动应急气象观测系统、移动应急气象指挥系统、气象计量检定设备、气象维修维护设备、气象观测仪器装备运行监控系统

10. Hydrological data collection instruments and equipment and hydrological instrument measurement checking equipment	10、水文数据采集仪器及设备、水文仪器计量检定设备
11. Instruments and meters for the observation of earthquakes and geological disasters	11、地震、地质灾害观测仪器仪表
12. Ocean observation, detection, and monitoring technical systems, instruments, and equipment	12、海洋观测、探测、监测技术系统及仪器设备
13. Digital multifunctional integrated office equipment (copying, printing, fax, and scanning), digital cameras, digital cinema projectors, and other modern cultural and office equipment	13、数字多功能一体化办公设备（复印、打印、传真、扫描）、数字照相机、数字电影放映机等现代文化办公设备
14. Bearings of China Railway High-Speed (CRH) trains with a speed of 200 kilometers per hour or higher, bearings of heavy haul railway wagons with an axle load greater than 30 tons, bearings of new urban rail transit with a service life of two million kilometers or more, hub bearing units of automobiles with a service life of 250,000 kilometers or more, high temperature-resistant (400℃ or above) automobile turbines, supercharger bearings, numerically-controlled machine tool bearings of Classes P4 and P2, all kinds of precision bearings used for wind turbines of two megawatts (MW) or higher, bearings of large construction machinery such as shield machines with a service life of more than 5,000 hours, high-speed and precision metallurgical rolling mill bearings of Classes P5 and P4, aircraft and engine bearings, medical CT machine bearings, and parts of the above bearings	14、时速 200 公里以上动车组轴承，轴重大于 30 吨重载铁路货车轴承，使用寿命 200 万公里以上的新型城市轨道交通轴承，使用寿命 25 万公里以上汽车轮毂轴承单元，耐高温（400℃ 以上）汽车涡轮、机械增压器轴承，P4、P2 级数控机床轴承，2 兆瓦（MW）及以上风电机组用各类精密轴承，使用寿命大于 5000 小时盾构机等大型施工机械轴承，P5 级、P4 级高速精密冶金轧机轴承，飞机及发动机轴承，医疗 CT 机轴承，以及上述轴承零件
15. Francis hydroelectric equipment with a unit capacity of 800,000 kilowatts or above (water turbines, generators, governors, excitation, and other ancillary equipment), pumped-storage hydroelectric equipment with an unit capacity of 350,000 kilowatts or above, tubular hydroelectric equipment with a unit capacity of 50,000 kilowatts or above, pelton hydroelectric equipment with a unit capacity of 100,000 kilowatts or above, and their key supporting auxiliary engines	15、单机容量 80 万千瓦及以上混流式水力发电设备（水轮机、发电机及调速器、励磁等附属设备），单机容量 35 万千瓦及以上抽水蓄能、5 万千瓦及以上贯流式和 10 万千瓦及以上冲击式水力发电设备及其关键配套辅机
16. Generator circuit breakers, pumps, valves, and other key ancillary engines and parts used for supercritical and ultra-supercritical thermal power units of 600,000 kilowatts or above	16、60 万千瓦及以上超临界、超超临界火电机组用发电机保护断路器、泵、阀等关键配套辅机、部件
17. Supercritical parameters circulating fluidized bed boilers of 600,000 kilowatts or above	17、60 万千瓦及以上超临界参数循环流化床锅炉
18. Gas turbine high temperature components and control systems	18、燃气轮机高温部件及控制系统

19. Rotors (forging or welding), runners, blades, pumps, valves, spindle sheaths, and other key castings and forgings used for power generation equipment of 600,000 kilowatts or above

20. High and low temperature-resistant, corrosion-resistant, and abrasion-resistant precision castings and forgings

21. Extra-high-voltage and ultra-high-voltage alternating current and direct current power transmission equipment of 500 kilovolt (kV) and above and key parts: transformer (outlet devices, casing, and pressure switches), switching devices (arc-control devices, hydraulic operating mechanism, and large basin insulators), high-intensity post insulators and hollow insulators, suspension composite insulators, molded insulation, ultra high voltage arresters, direct current arresters, electric control and light control thyristors, converter valves (flat wave reactors and cooling equipment), control and protection equipment, and direct current field outfits, among others

22. High-voltage vacuum components and switchgears, intelligent medium-voltage switch components and outfits, insulated switch cabinets using environment-friendly medium-voltage gas, intelligent (communicable) low-voltage electrical appliances, and amorphous alloy, roll-core, and other energy-saving distribution transformers

23. The second-generation improved and third-generation nuclear power equipment and key parts; complete wind power machines of 2.5 megawatts or above, and control systems, converters and other key components and parts of wind power equipment of 2.0 megawatts or above; production equipment of various types of crystalline silicon and thin film solar photovoltaic cells; power generation equipment using ocean energy (tide, wave, and ocean current)

24. Short-process molten techniques and equipment directly using blast furnace melted iron to manufacture iron castings; static pressure clay sand molding main engines; external heat blast water-cooled cupolas with a long service life and large tonnage (15 tons or more per hour); large die-casting machines (with clamping force of 3,500 tons or above); counter-pressure casting machines; automatic casting machines; and manufacture and application of special robots used for casting

25. Application of technologies of reclamation and reuse of resin sand and casting clay sand, among others, by dry (heat) process

19、60 万千瓦及以上发电设备用转子（锻造、焊接）、转轮、叶片、泵、阀、主轴护套等关键铸锻件

20、耐高低温、耐腐蚀、耐磨损精密铸锻件

21、500 千伏（kV）及以上超高压、特高压交直流输电设备及关键部件：变压器（出线装置、套管、调压开关），开关设备（灭弧装置、液压操作机构、大型盆式绝缘子），高强度支柱绝缘子和空心绝缘子，悬式复合绝缘子，绝缘成型件，特高压避雷器、直流避雷器，电抗、光控晶闸管，换流阀（平波电抗器、水冷设备），控制和保护设备，直流场成套设备等

22、高压真空元件及开关设备，智能化中压开关元件及成套设备，使用环保型中压气体的绝缘开关柜，智能型（可通信）低压电器，非晶合金、卷铁芯等节能配电变压器

23、二代改进型、三代核电设备及关键部件；2.5 兆瓦以上风电设备整机及 2.0 兆瓦以上风电设备控制系统、变流器等关键零部件；各类晶体硅和薄膜太阳能电池生产设备；海洋能（潮汐、海浪、洋流）发电设备

24、直接利用高炉铁液生产铸铁件的短流程熔化工艺与装备；粘土砂静压造型主机；外热送风水冷长炉龄大吨位（15 吨/小时以上）冲天炉；大型压铸机（合模力 3500 吨以上）；差压铸造机；自动浇注机；铸造专用机器人的制造与应用

25、树脂砂、铸造粘土砂等干（热）法再生回用技术应用

26. High-speed precision presses (180 to 2,500 kN, and 2,000 to 750 beats/min), ferrous metal hydraulic extruders (150 mm/sec or more), light alloy hydraulic extruders (10 mm/sec or less), high-speed precision shearing machines (2,000 kN or more, 70 to 80 beats/min, and with cross slope of less than 1.50), internal high-pressure molding machines (10,000 kN or more), large bending machines (60,000 kN or more), digital sheet metal processing centers (flexible manufacturing centers/flexible manufacturing systems), high-speed power spinning machines (radial rotation pressure per round: 1,000 kN, axial rotation pressure per round: 800 kN, spindle torque: 240 kN·m, maximum spindle speed: 95 rev/min), numerically-controlled multi-station punching machines, large nominal pressure cold/warm forging presses (with effective nominal pressure stroke of 25 mm or more and nominal pressure of 10,000 kN or more), and automatically warm/hot forging presses with four or more stations (with nominal pressure of 16,000 kN or more)

27. Cracked gas compressors, propylene compressors, and ethylene compressors, 400,000-ton (polypropylene, among others) extrusion granulation units, 500,000-ton synthesis gas, ammonia, and oxygen compressors, and other key equipment

28. Large wind power generation seals (with a service life of seven years or more and a working temperature from -45°C to 100°C); nuclear main pump mechanical seals (applicable pressure ≥ 17 MPa and working temperature from 26.7°C to 73.9°C); shield machine main bearing seals (with a service life of 5,000 hours); rotating seals for automobile power train systems and transmission systems; oil well drilling and logging equipment seals (applicable pressure ≥ 105 MPa); hydraulic support seals; high PV value rotary dynamic seals; mechanical seals with oversized diameter (≥ 2 m); seals for aerospace use (working temperature from -54°C to 275°C and line speed ≥ 150 m/s); high-pressure seals for hydraulic components (applicable pressure ≥ 31.5 MPa); high-precision hydraulic castings (runner size precision ≤ 0.25 mm and fatigue performance test ≥ 2 million times)

29. High-performance non-asbestos sealing materials (with a heat-resistant temperature of 500°C and a tensile strength ≥ 20 MPa); high-performance carbon graphite sealing materials (with a heat-resistant temperature of 350°C and a compressive strength ≥ 270 MPa); high-

26、高速精密压力机（180~2500 千牛，2000~750 次/分钟）、黑色金属液压挤压机（150 毫米/秒以上）、轻合金液压挤压机（10 毫米/秒以下）、高速精密剪切机（2000 千牛以上，70~80 次/分，断面斜度 1.50 以下）、内高压成形机（10000 千牛以上）、大型折弯机（60000 千牛以上）、数字化钣金加工中心（柔性制造中心/柔性制造系统）、高速强力旋压机（径向旋压力/每轮：1000 千牛，轴向旋压力/每轮：800 千牛，主轴转矩：240 千牛·米，主轴最高转速：95 转/分钟）、数控多工位冲压机床、大公称压力冷/温锻压力机（有效公称力行程 25 毫米以上，公称力 10000 千牛以上）、4 工位以上自动温/热锻造压力机（公称力 16000 千牛以上）

27、乙烯裂解三机，40 万吨级（聚丙烯等）挤压造粒机组，50 万吨级合成气、氨、氧压缩机等关键设备

28、大型风力发电密封件（使用寿命 7 年以上，工作温度 -45°C~100°C）；核电站主泵机械密封（适用压力 ≥ 17 兆帕，工作温度 26.7°C~73.9°C）；盾构机主轴承密封（使用寿命 5000 小时）；轿车动力总成系统以及传动系统旋转密封；石油钻井、测井设备密封（适用压力 ≥ 105 兆帕）；液压支架密封件；高 PV 值旋转动密封件；超大直径（ ≥ 2 米）机械密封；航天用密封件（工作温度 -54°C~275°C，线速度 ≥ 150 米/秒）；高压液压元件密封件（适用压力 ≥ 31.5 兆帕）；高精密液压铸件（流道尺寸精度 ≤ 0.25 毫米，疲劳性能测试 ≥ 200 万次）

29、高性能无石棉密封材料（耐热温度 500°C，抗拉强度 ≥ 20 兆帕）；高性能碳石墨密封材料（耐热温度 350°C，抗压强度 ≥ 270 兆帕）；高性能无压烧结碳化

performance pressureless sintered silicon carbide materials (with a flexural strength ≥ 200 MPa and a thermal conductivity ≥ 130 W/m²K)

30. Intelligent welding equipment; laser welding and cutting, electron beam welding, and other high-energy beam welding and cutting equipment; friction stir, composite heat sources, and other welding equipment; and digital and large capacity inverter welding power sources

31. Large (lower plate half cycle length of the stamping die $> 2,500$ mm, and lower plate half cycle length of the cavity die $> 1,400$ mm) and precision molds (precision of stamping dies ≤ 0.02 mm and precision of cavity dies ≤ 0.05 mm)

32. Large (with a furnace capacity of one ton or more) multifunctional controlled atmosphere heat treatment equipment, program-controlled chemical heat treatment equipment, program-controlled multifunctional vacuum heat treatment equipment and vacuum heat treatment equipment with a furnace capacity of 500 kg or more, and heat treatment heating furnaces with full fiber lining

33. High-strength (level 12.9 or above), special-shaped, and titanium alloy fasteners, springs used for aviation, aerospace, and engines, among others, miniature precision transmission junction pieces (clutches), and coupling shaft for heavy mills; new types of powder metallurgical parts: high-density (≥ 7.0 g/cc), high-precision, and complex-shaped structural parts; friction devices for high-speed trains and airplanes; oil bearings; speed-changing gearboxes for China Railway High-Speed(CRH) trains, gear transmission agents with adjustable blades used for vessels, gearboxes used for wind power of 2.0 megawatts and above, and gearboxes for metallurgical and mining machinery; automobile powertrain, engineering machinery, and chains used for large agricultural machinery

34. Sea water desalting equipment

35. Robot and industrial robot integrated systems

36. Integrated excavation equipment for a mine or a thin seam with an annual yield of five million tons or more and key equipment for a large-scale open-pit mine with an annual yield of 10 million tons or more

37. Supporting compressors, gas turbines, valves, and other key equipment for natural gas transmission lines with a diameter of 1,200 mm or above; supporting compressors, driven machinery, and cryogenic equipment, among others, for liquefaction of natural gas with an annual

硅材料（弯曲强度 ≥ 200 兆帕，热导率 ≥ 130 瓦/米·开尔文（w/m·K））

30、智能焊接设备，激光焊接和切割、电子束焊接等高能束流焊割设备，搅拌摩擦、复合热源等焊接设备，数字化、大容量逆变焊接电源

31、大型（下底板半周长度冲压模 > 2500 毫米，下底板半周长度型腔模 > 1400 毫米）、精密（冲压模精度 ≤ 0.02 毫米，型腔模精度 ≤ 0.05 毫米）模具

32、大型（装炉量 1 吨以上）多功能可控气氛热处理设备、程控化学热处理设备、程控多功能真空热处理设备及装炉量 500 公斤以上真空热处理设备、全纤维炉衬热处理加热炉

33、高强度（12.9 级以上）、异形及钛合金紧固件，航空、航天、发动机等用弹簧，微型精密传动联结件（离合器），大型轧机联结轴；新型粉末冶金零件：高密度（ ≥ 7.0 克/立方厘米）、高精度、形状复杂结构件；高速列车、飞机摩擦装置；含油轴承；动车组用齿轮变速箱，船用可变桨齿轮传动系统、2.0 兆瓦以上风电用变速箱、冶金矿山机械用变速箱；汽车动力总成、工程机械、大型农机用链条

34、海水淡化设备

35、机器人及工业机器人成套系统

36、500 万吨/年及以上矿井、薄煤层综合采掘设备，1000 万吨级/年及以上大型露天矿关键装备

37、直径 1200 毫米及以上的天然气输气管线配套压缩机、燃气轮机、阀门等关键设备；单线 260 万吨/年及以上天然气液化配套的压缩机及驱动机械、低温设

yield of 2.6 million tons or more per line; supporting oil pumps of 3,000 cubic meters or more per hour and other key equipment for large-scale oil pipelines

38. Sheet-fed and multi-color offset presses (width ≥ 750 mm; printing speed: single-sided and multicolor $\geq 16,000$ sheets/hour, and two-sided and multicolor $\geq 13,000$ sheets/hour); commercial web offset presses (width ≥ 787 mm, printing speed ≥ 7 m/s, and overprinter precision ≤ 0.1 mm); newspaper web offset presses (printing speed: single-paper path and single-width machine $\geq 75,000$ sheets/hour, double-paper path and double-width machine $\geq 150,000$ sheets/hour, and overprinter precision ≤ 0.1 mm); multicolor wide flexographic presses (printing width $\geq 1,300$ mm and printing speed ≥ 350 m/min); unit flexographic presses (printing speed ≥ 150 m/min); environment-friendly multicolor web photogravure presses (printing speed ≥ 300 m/min and overprinter precision ≤ 0.1 mm); inkjet digital presses (used for publication: printing speed ≥ 150 m/min and resolution ≥ 600 dpi; used for packaging: printing speed ≥ 30 m/min and resolution $\geq 1,000$ dpi; used for variable data: printing speed ≥ 100 m/min and resolution ≥ 300 dpi); computer-to-plate (CTP) (imaging speed ≥ 15 sheets/hour, plate width ≥ 750 mm, repeatability of 0.025 mm, and resolution of $3,000$ dpi); and shaftless numerically-controlled platen hot stamping machines (stamping speed $\geq 10,000$ sheets/hour and machining precision of 0.05 mm)

39. Two- or four-wheel drive wheeled tractors and crawler tractors of 100 horsepower or above and equipped with a power shift transmission or fully-synchronized shift transmission, a bus control system, a safety cab, a power output shaft with two or more rotate speed, and hydraulic output points of not less than three groups

40. Supporting farm machinery of tractors of 100 horsepower or above: subsoilers, combined soil preparation machines, and combined machines for soil preparation and sowing, among others, required for conservation tillage and moldboard plows with a width of share ≥ 40 cm, round disc harrows, grain drills, precision planters for cultivated crops, cultivators, non-tillage planters, and large sprayers (dusters), among others, required for conventional agricultural operations

备等; 大型输油管线配套的 3000 立方米/小时及以上的输油泵等关键设备

38、单张纸多色胶印机(幅宽 ≥ 750 毫米,印刷速度:单面多色 ≥ 16000 张/小时,双面多色 ≥ 13000 张/小时);商业卷筒纸胶印机(幅宽 ≥ 787 毫米,印刷速度 ≥ 7 米/秒,套印精度 ≤ 0.1 毫米);报纸卷筒纸胶印机(印刷速度:单纸路单幅机 ≥ 75000 张/小时,双纸路双幅机 ≥ 150000 张/小时,套印精度 ≤ 0.1 毫米);多色宽幅柔性版印刷机(印刷宽度 ≥ 1300 毫米,印刷速度 ≥ 350 米/分);机组式柔性版印刷机(印刷速度 ≥ 150 米/分);环保多色卷筒料凹版印刷机(印刷速度 ≥ 300 米/分,套印精度 ≤ 0.1 毫米);喷墨数字印刷机(出版用:印刷速度 ≥ 150 米/分,分辨率 ≥ 600 dpi;包装用:印刷速度 ≥ 30 米/分,分辨率 ≥ 1000 dpi;可变数据用:印刷速度 ≥ 100 米/分,分辨率 ≥ 300 dpi);CTP直接制版机(成像速度 ≥ 15 张/小时,版材幅宽 ≥ 750 毫米,重复精度 0.025 毫米,分辨率 3000 dpi);无轴数控平压平烫印机(烫印速度 ≥ 10000 张/小时,加工精度 0.05 毫米)

39、100 马力以上、配备有动力换挡变速箱或全同步器换挡变速箱、总线控制系统、安全驾驶室、动力输出轴有 2 个以上转速、液压输出点不少于 3 组的两轮或四轮驱动的轮式拖拉机、履带式拖拉机

40、100 马力以上拖拉机配套农机具:保护性耕作所需要的深松机、联合整地机和整地播种联合作业机等,常规农业作业所需要的单体幅宽 ≥ 40 厘米的铧式犁、圆盘耙、谷物条播机、中耕作物精密播种机、中耕机、免耕播种机、大型喷雾(喷粉)机等

41. Key parts and components of tractors of 100 horsepower or above: power shift transmissions; front drive axles with a differential lock used for wheeled tractors; clutches, hydraulic pumps, hydraulic cylinders, various valves and hydraulic delivery valves, and other closed hydraulic systems; closed-core and load-sensing electronically-controlled hydraulic lifters, electric control systems, rims, spokes, and hydraulic steering mechanism, among others

42. Crop transplanting machines: ride-on plate-soil motor high-speed rice transplanters (350 times or more per minute, 3 to 5 plants per hole, applicable line spacing of 20 to 30 cm, adjustable row spacing, and applicable row spacing of 12 to 22 cm); and plate-soil motor rice seedling transplanters (ride-on or walk-behind, applicable line spacing of 20 to 30 cm, adjustable row spacing, and applicable row spacing of 12 to 22 cm), among others

43. Cotton field intertillage tractors and high-clearance (minimum terrain clearance of 40 cm or more) tractors used for orchards, with matched power of 50 horsepower or above

44. Forage grass harvesting machinery: self-propelled forage grass harvesters, finger-wheel forage grass rakes, and forage grass pickup balers, among others

45. Agricultural harvesting machinery: self-propelled grain combine harvesters (feed rate of 6 kg/sec or more); self-propelled semi-feed rice combine harvesters (four lines or more and a supporting engine of 44 kilowatts or more); self-propelled corn combine harvesters (three to six lines, snapping type, and with a peeling device and a device of crushing stalks and returning them to field or a device of chopping and collecting stalks); self-propelled harvesters of silages such as barley, grass alfalfa, corn, and sorghum (with matched power of 147 kilowatts or more, a length of chopped stems of 10 to 60 mm, and a safety device to remove stone and iron); cotton picking machines (three lines or more, self-propelled or tractor backpack, cotton picking device of a mechanical or pneumatic style, an applicable height of cotton plant from 35 to 160 cm, with seed cotton containers and an automatic cotton unloading device); potato harvesters (self-propelled or tractor-drawn, two lines or more, adjustable line spacing, with a soil-removing device and a collection device, and a maximum digging depth of 35 cm); sugarcane harvesters (self-propelled or tractor knapsack, with matched power of 58 kilowatts or more, a perennial root broken rate $\leq 18\%$, and a loss rate $\leq 7\%$); and combined machines for plastic film residue recycling and stalk crushing

41、100 马力以上拖拉机关键零部件：动力换挡变速箱，轮式拖拉机用带差速锁的前驱动桥，离合器，液压泵、液压油缸、各种阀及液压输出阀等封闭式液压系统，闭心变量、负载传感的电控液压提升器，电控系统，轮辋及辐板，液压转向机构等

42、农作物移栽机械：乘坐式盘土机动高速水稻插秧机（每分钟插次 350 次以上，每穴 3~5 株，适应行距 20~30 厘米，株距可调，适应株距 12~22 厘米）；盘土式机动水稻秧机（乘坐式或手扶式，适应行距为 20~30 厘米，株距可调，适应株距为 12~22 厘米）等

43、配套动力 50 马力以上的棉田中耕型拖拉机、果园用高地隙拖拉机（最低离地高度 40 厘米以上）

44、牧草收获机械：自走式牧草收割机、指盘式牧草搂草机、牧草捡拾压捆机等

45、农业收获机械：自走式谷物联合收割机（喂入量 6 千克 / 秒以上）；自走式半喂入水稻联合收割机（4 行以上，配套发动机 44 千瓦以上）；自走式玉米联合收割机（3~6 行，摘穗型，带有剥皮装置，以及茎秆粉碎还田装置或茎秆切碎收集装置）；自走式小麦、草苜蓿、玉米、高粱等青贮饲料收获机（配套动力 147 千瓦以上，茎干切碎长度 10~60 毫米，带有去石去铁安全装置）；棉花采摘机（3 行以上，自走式或拖拉机背负式，摘花装置为机械式或气力式，适应棉株高度 35~160 厘米，装有籽棉集装箱和自动卸棉装置）；马铃薯收获机（自走式或拖拉机牵引式，2 行以上，行距可调，带有去土装置和收集装置，最大挖掘深度 35 厘米）；甘蔗收获机（自走式或拖拉机背负式，配套功率 58 千瓦以上，宿根破碎率 $\leq 18\%$ ，损失率

46. Water-saving irrigation equipment: all kinds of large and medium irrigation machines, and various types of micro-drip irrigation equipment, among others; flood control and drainage equipment (with displacement of 1,500 cubic meters/hour or more, lift of 5 to 20 meters, power of 1,500 kW or above, efficiency of 60% or above, and removable)

47. Biogas generation equipment: integration of biogas fermentation and storage (series of products with biogas storage capacity of 300 to 2,000 cubic meters) and equipment of pumping slag from biogas slurry (a pumping capacity of one cubic meter or more per minute), among others

48. Large construction machinery: hydraulic excavators of 30 tons or above, tunnel boring machines (TBM) of six meters or above, crawler dozers of 320 horsepower or above, loaders of six tons or above, bridging equipment of 600 tons or above (including bridge girder erection machines, girder transporting vehicles, and girder cranes), crawler cranes of 400 tons or above, all-terrain cranes of 100 tons or above, drill jumbos with a drill hole of 100 mm or above, concrete cold and hot recycling equipment of 400 kilowatts or above, and milling machines with a width of one meter or more; key components: power shift transmissions, wet drive axles, slewing bearings, torque converters, and supporting electric machines, electronic control, hydraulic motors with pressure of 25 MPa or more, pumps, and control valves for electric forklifts

49. Automated logistics systems and equipment; and information systems

50. Combustion engines with high reliability, low emissions and low power used for non-road mobile machinery: life indicators: 8,000 to 12,000 hours for heavy type, 5,000 to 7,000 hours for medium type, and 3,000 to 4,000 hours for light type, emission indicators: meeting the requirements of emission indicators in Europe III A and Europe III B; and the fuel system, pressurization system, and exhaust aftertreatment system (all including electronic control system) affecting the power, economic, and environmental protection performances of combustion engines used for non-road mobile machinery

51. Refrigeration and air-conditioning equipment and key components: heat pumps, composite heat source (air source and solar) heat pump water heaters, refrigeration and air-conditioning compressors with energy efficiency of level 2 or above, micro-channel and falling film heat transfer

≤7%); 残膜回收与茎秆粉碎联合作业机

46、节水灌溉设备: 各种大中型喷灌机、各种类型微滴灌设备等; 抗洪排涝设备 (排水量 1500 立方米/小时以上, 扬程 5~20 米, 功率 1500 千瓦以上, 效率 60% 以上, 可移动)

47、沼气发生设备: 沼气发酵及储气一体化 (储气容积 300~2000 立方米系列产品)、沼液抽渣设备 (抽吸量 1 立方米/分钟以上) 等

48、大型施工机械: 30 吨以上液压挖掘机、6 米及以上全断面掘进机、320 马力及以上履带推土机、6 吨及以上装载机、600 吨及以上架桥设备 (含架桥机、运梁车、提梁机)、400 吨及以上履带起重机、100 吨及以上全地面起重机、钻孔 100 毫米以上凿岩台车、400 千瓦及以上砼冷热再生设备、1 米宽及以上铣刨机; 关键零部件: 动力换挡变速箱、湿式驱动桥、回转支承、液力变矩器、为电动叉车配套的电机、电控、压力 25 兆帕以上液压马达、泵、控制阀

49、自动化物流系统装备、信息系统

50、非道路移动机械用高可靠性、低排放、低能耗的内燃机: 寿命指标 (重型 8000~12000 小时, 中型 5000~7000 小时, 轻型 3000~4000 小时)、排放指标 (符合欧 IIIA、欧 IIIB 排放指标要求); 影响非道路移动机械用内燃机动力性、经济性、环保性的燃油系统、增压系统、排气后处理系统 (均包括电子控制系统)

51、制冷空调设备及关键零部件: 热泵、复合热源 (空气源与太阳能) 热泵热水机、二级能效及以上制冷空调压缩机、微通道和降膜换热技术与设备、电

technologies and equipment, electronic expansion valves, and two-phase flow ejectors; and refrigeration and air-conditioning compressors using environment-friendly refrigerants (ODP is 0 and GWP value is lower)

52. Complete drilling machines such as deep drilling rigs with a depth of 12,000 m or more, polar drilling rigs, high displacement deep-well and desert drilling rigs, drilling rigs used in swamp areas difficult to enter, offshore rigs, truck-mounted drilling rigs, and drilling rigs used for special drilling techniques

53. Centralized processing equipment for hazardous waste (including medical waste)

54. Large efficient two-plate injection molding machines (with a mold clamping force of 1,000 tons or more), all-electric plastic injection molding machines (with an injection volume of less than 1,000 g), energy-saving plastics and rubber injection molding machines (with energy consumption of less than 0.4 kwh/kg), high-speed energy-saving plastic extrusion units (production capacity: 30 to 3,000 kg/hour, and energy consumption: less than 0.35 kwh/kg), microcellular foam plastic injection molding machines (mold clamping force: 60 to 1,000 tons, injection volume: 30 to 5,000 g, and energy consumption of less than 0.4 kwh/kg), large twin-screw extrusion granulation units (production capacity: 300,000 to 600,000 tons/year), large para-aramid reactive extrusion units (production capacity of 14,000 tons/year or above), and carbon fiber pre-impregnated units (a production capacity of 600,000 m/year or above; and a width of 1.2 m or more)

55. Nano-filtration and reverse osmosis pure water equipment used for coating

56. Safe drinking water equipment: combined-type integrated water purifiers (with a processing capacity of 100 to 2,500 tons/hour)

57. Air pollution control equipment: selective catalytic reduction (SCR) technical equipment for denitration of fumes from coal-fired power plants of 300 megawatts or more (nitrogen removal efficiency of 90% or above and the catalyst with a service life of 16,000 hours or more); circulating fluidized bed dry desulphurization and dedusting outfits for steel sintering fumes (calcium sulfur ratio: 1.2 to 1.3); supporting electrostatic precipitation technical equipment for ultra-supercritical units of 1,000 megawatts; electric-bag composite dust removal technical equipment (dust emission concentration < 30 mg/cubic meter); ultra-supercritical

子膨胀阀和两相流喷射器; 使用环保制冷剂 (ODP 为 0、GWP 值较低) 的制冷空调压缩机

52、12000 米及以上深井钻机、极地钻机、高位移性深井沙漠钻机、沼泽难进入区域用钻机、海洋钻机、车装钻机、特种钻井工艺用钻机等钻机成套设备

53、危险废物 (含医疗废物) 集中处理设备

54、大型高效二板注塑机 (合模力 1000 吨以上)、全电动塑料注射成型机 (注射量 1000 克以下)、节能型塑料橡胶注射成型机 (能耗 0.4 千瓦时/千克以下)、高速节能塑料挤出机组 (生产能力: 30~3000 公斤/小时, 能耗 0.35 千瓦时/千克以下)、微孔发泡塑料注射成型机 (合模力: 60~1000 吨, 注射量: 30~5000 克, 能耗 0.4 千瓦时/千克以下)、大型双螺杆挤出造粒机组 (生产能力: 30~60 万吨/年)、大型对位芳纶反应挤出机组 (生产能力 1.4 万吨/年以上)、碳纤维预浸胶机组 (生产能力 60 万米/年以上; 幅宽 1.2 米以上)

55、涂装用纳米过滤和反向渗透纯水装备

56、安全饮水设备: 组合式一体化净水器 (处理量 100~2500 吨/小时)

57、大气污染治理装备: 300 兆瓦以上燃煤电站烟气 SCR 脱硝技术装备 (脱氮效率 90% 以上, 催化剂使用寿命 16000 小时以上); 钢铁烧结烟气循环流化床干法脱硫除尘成套装备 (钙硫比: 1.2~1.3); 1000 兆瓦超超临界机组配套电除尘技术装备; 电袋复合除尘技术装备 (烟尘排放浓度 < 30 毫克/立方米); 1000 兆瓦超超临界以上机组脱硫氧化多

oxidative desulfurization multistage centrifugal blower units of 1,000 megawatts or above (air volume ≥ 450 cubic meters/min and boost $\geq 14,000$ millimeter of water); and plasma exhaust gas purifiers (exhaust removal rate $> 95\%$)

58. Sewage prevention and control technical equipment: urban sewage treatment outfits of 200,000 tons/day (phosphorus and nitrogen removal); sludge drying and incineration technical equipment (slag removal quantity of 90% or above); immersed membrane bioreactors (COD removal efficiency of 90 % or more); ceramic vacuum filters (vacuum degree: 0.09 to 0.098 MPa, and porosity: 0.2 microns to 20 microns); integrated wastewater treatment technical outfits for small- and medium-sized towns; and technical equipment for the treatment of high concentration organic wastewater by ultrasonic coupling and biofilm processes

59. Solid waste prevention and control technical equipment: domestic garbage clean incineration technical equipment (with the amount of combustion-supporting coal of less than 20%); technical equipment for concentrated decontamination of kitchen waste (with a utilization rate of 95%); technical equipment for landfill leachate and odor treatment (with a handling capacity of 50 tons/day or above); technical equipment for domestic garbage automated sorting (with a sorting rate of 80% or more); construction waste treatment and recycling technical equipment (with a handling capacity of 100 tons/hour or more); technical equipment for industrial hazardous waste disposal and treatment (with a treatment rate of 90% or more); technologies and outfits for oilfield drilling waste disposal and treatment (with a volume reduction of 50% or more and a treatment rate of 70% or more); and technical equipment for medical waste clean incineration and thermophilic digestion decontamination (with a handling capacity of 150 kg/hour or more and combustion efficiency of 70% or more)

60. Soil remediation technical equipment

XV. Urban Rail Transit Equipment

1. Application of urban rail transit damping and noise reduction technologies
2. Automatic fare collection systems (AFC) and systems of vehicle doors, platform screen doors, and vehicle couplers
3. Fire alarm and automatic fire extinguishing systems for urban rail transit

级离心鼓风机（风量 ≥ 450 立方米/分钟、升压 ≥ 14000 毫米水柱）；等离子体废气净化机（废气去除率 $> 95\%$ ）

58、污水防治技术设备：20 万吨/日城市污水处理成套装备（除磷脱氮）；污泥干燥焚烧技术装备（减渣量 90%以上）；浸没式膜生物反应器（COD 去除率 90%以上）；陶瓷真空过滤机（真空度：0.09~0.098 兆帕，孔隙：0.2 微米~20 微米）；中小城镇一体化污水处理成套技术装备；超生耦合法和生物膜法处理高浓度有机废水技术装备

59、固体废物防治技术设备：生活垃圾清洁焚烧技术装备（助燃煤量 20%以下）；厨余垃圾集中无害化处理技术装备（利用率 95%以上）；垃圾填埋渗滤液和臭气处理技术装备（处理量 50 吨/天以上）；生活垃圾自动化分选技术装备（分选率 80%以上）；建筑垃圾处理和再利用工艺技术装备（处理量 100 吨/小时以上）；工业危险废弃物处置处理技术装备（处理率 90%以上）；油田钻井废弃物处理处置技术与成套装备（减容 50%以上，处理率 70%以上）；医疗废物清洁焚烧、高温蒸煮无害化处理技术装备（处理量 150 千克/小时以上，燃烧效率 70%以上）

60、土壤修复技术装备

十五、城市轨道交通装备

- 1、城市轨道交通减震、降噪技术应用
- 2、自动售检票系统（AFC），车门、站台屏蔽门、车钩系统
- 3、城市轨道交通火灾报警和自动灭火系

4. Digital track circuits and wireless communication-based signaling systems [including automatic train supervision system (ATS), automatic train protection (ATP) devices, and automatic train operation (ATO) devices]

5. Key components of outfits of power supply systems for direct current speed-sensitive switches and gas insulated switchgears (GIS)

6. Railway vehicle alternating current traction drive systems, brake systems, and core components (including IGCT and IGBT components)

7. Urban rail train network control systems and operation control systems

8. Lightweight application of vehicle body, bogie, gearbox, and interior decoration materials

9. Urban rail train regenerative braking absorption devices

XVI. Automobiles

1. Key components of automobiles: gasoline engine turbochargers, eddy current retarders, tire pressure monitoring systems (TPMS), servo headlamp systems, LED headlamps, digital instrumentation, solenoid valves used for electrical control system actuators, axles exclusively used for large low-floor buses, air suspension, energy-absorbing steering systems, inverter air conditioners for large and medium-sized passenger cars, high-strength steel wheels, and rear disc brakes for trucks

2. Dual-clutch transmissions (DCT) and automatic mechanical transmissions (AMT)

3. Application of lightweight materials: high-strength steels, aluminum-magnesium alloys, composite plastics, powder metallurgy, and high-strength composite fibers, among others; application of advanced forming technologies: expanded application of laser tailor-welded blanks, hydroforming, ultra high strength steel hot forming, and flexible roll forming, among others; and application of environment-friendly materials: water-based paints and lead-free solders, among others

统

4、数字轨道电路及以无线通信为基础的
信号系统[含自动列车监控系统
(ATS)、列车自动保护装置
(ATP)、自动列车运行装置(ATO)]

5、直流高速开关、真空断路器(GIS)
供电系统成套设备关键部件

6、轨道车辆交流牵引传动系统、制动系
统及核心元器件(含IGCT、IGBT元器
件)

7、城轨列车网络控制系统及运行控制系
统

8、车体、转向架、齿轮箱及车内装饰材
料轻量化应用

9、城轨列车再生制动吸收装置

十六、汽车

1、汽车关键零部件:汽油机增压器、电
涡流缓速器、轮胎气压监测系统
(TPMS)、随动前照灯系统、LED前
照灯、数字化仪表、电控系统执行机构
用电磁阀、低地板大型客车专用车桥、
空气悬架、吸能式转向系统、大中型客
车变频空调、高强度钢车轮、载重车后
盘式制动器

2、双离合变速器(DCT)、电控机械
变速器(AMT)

3、轻量化材料应用:高强度钢、铝镁合
金、复合塑料、粉末冶金、高强度复合
纤维等;先进成形技术应用:激光拼焊
板的扩大应用、内高压成形、超高强度
钢板热成形、柔性滚压成形等;环保材
料应用:水性涂料、无铅焊料等

4. Efficient diesel engines (the power per liter for those with displacement of less than 3L is ≥ 50 kW/L, and the power per liter for those with displacement of 3L or more is ≥ 40 kW/L); post-processing systems (including particulate traps, oxidized-form catalytic converters, and reduced-form catalytic converters); electrically-controlled in-line injection pumps, electronically-controlled high pressure common rail injection systems, electronically-controlled high pressure monoblock pumps, injectors, and fuel spray nozzles

5. Efficient gasoline engines (the power per liter of naturally-aspirated gasoline engines is ≥ 60 kW/L, and the power per liter of turbocharged gasoline engines is ≥ 70 kW/L)

6. Key parts and components of new energy vehicles: energy-type drive battery packs (energy density ≥ 110 Wh/kg and cycle life $\geq 2,000$ times), battery cathode materials (specific capacity ≥ 150 mAh/g and a cycle life of 2,000 times without lowering than 80% of the initial discharge capacity), battery separators (thickness of 15 to 40 μ m and porosity of 40% to 60%); battery management systems, motor management systems, and electronic control integration of electric vehicles; driving motors of electric vehicles (peak power density ≥ 2.5 kW/kg, high-efficiency area: 65%, efficiency in working area $\geq 80\%$), vehicle DC/DC (input voltage of 100V to 400V), high-power electronic devices (IGBT, voltage class ≥ 600 V, and current ≥ 300 A); and plug-in hybrid electromechanical coupling drive systems

7. On-board chargers and off-board charging equipment

8. Electric air conditioners, electric brakes, and electric power steering; and idle start-stop systems

9. Automotive electronic control systems: the engine control unit (ECU), transmission control unit (TCU), anti-lock braking system (ABS), acceleration slip regulation (ASR), electronic stability program (ESP), network bus control, on-board diagnostics (OBD), electronically-controlled intelligent suspensions, electronic parking system, automatic collision avoidance system, and electronic throttle, among others

10. Automotive product development, experiment and testing equipment and facility construction

4、高效柴油发动机（3L 以下升功率 ≥ 50 kW/L，3L 以上升功率 ≥ 40 kW/L）；后处理系统（包括颗粒捕捉器、氧化型催化器、还原型催化器）；电控直列式喷油泵、电控高压共轨喷射系统、电控高压单体泵以及喷油器、喷油嘴

5、高效汽油发动机（自然吸气汽油机升功率 ≥ 60 kW/L，涡轮增压汽油机升功率 ≥ 70 kW/L）

6、新能源汽车关键零部件：能量型动力电池组（能量密度 ≥ 110 Wh/kg，循环寿命 ≥ 2000 次），电池正极材料（比容量 ≥ 150 mAh/g，循环寿命 2000 次不低于初始放电容量的 80%），电池隔膜（厚度 15~40 μ m，孔隙率 40%~60%）；电池管理系统，电机管理系统，电动汽车电控集成；电动汽车驱动电机（峰值功率密度 ≥ 2.5 kW/kg，高效区：65%工作区效率 $\geq 80\%$ ），车用 DC/DC（输入电压 100V~400V），大功率电子器件（IGBT，电压等级 ≥ 600 V，电流 ≥ 300 A）；插电式混合动力机电耦合驱动系统

7、车载充电机、非车载充电设备

8、电动空调、电制动、电动转向；怠速起停系统

9、汽车电子控制系统：发动机控制系统（ECU）、变速箱控制系统（TCU）、制动防抱死系统（ABS）、牵引力控制（ASR）、电子稳定控制（ESP）、网络总线控制、车载故障诊断仪（OBD）、电控智能悬架、电子驻车系统、自动避撞系统、电子油门等

10、汽车产品开发、试验、检测设备及设施建设

XVII. Vessels

1. Optimization and upgrading of bulk carriers, oil tankers, and container ships to meet the requirements of environmental protection and safety; and development and construction of ships of types meeting the new international shipbuilding specifications and standards
2. Liquefied natural gas carriers with a capacity of 100,000 cubic meters or more, liquefied petroleum gas vessels with a capacity of 15,000 cubic meters or more, container ships with 10,000 containers or more, car carriers with 5,000 parking spaces or more, luxury ro-ro passenger ships, chemical tankers of IMO Tier II or above, luxury cruise ships, and other high-tech and high value-added ships
3. Large distant fishing and processing vessels, trailing suction hopper dredgers with a capacity of 10,000 cubic meters or more, train ferries, scientific research ships, icebreakers, oceanographic research ships, marine supervision vessels, and other special ships as well as their dedicated equipment
4. Small waterplane area twin-hull ships, hydrofoils, ground effect ships, hovercrafts, wave-piercing ships, and other high-performance vessels
5. Self-elevating drilling platforms for a water depth of 120 meters or more, deep drilling ships for a water depth of 1,500 meters or more, semi-submersible drilling platforms for a water depth of 1,500 meters or more, and other mainstream mobile marine drilling platforms (vessels); floating production storage and offloading (FPSO) of 150,000 tons or above, 1,500-meter semi-submersible production platforms, spar platforms (SPAR), tension leg platforms (TLP), LNG-FPSO, marginal field floating production storage units, and other floating production systems; deep-water anchor handling towing supply vessels with horsepower of 10,000, 1,500-meter large lifting pipe-laying vessels, 1,500-meter surveying vessels, high-performance seismic vessels, semi-submersible transport ships of 50,000 tons or above, offshore wind turbine installation vessels, and other marine engineering workboats and auxiliary vessels
6. Dynamic positioning systems, FPSO single-point mooring systems, large-scale offshore platform power plants integrated systems, active power and transmission systems, drilling platform lifting systems, oil production systems, and other general and special marine engineering support equipment

十七、船舶

- 1、散货船、油船、集装箱船适应绿色、环保、安全要求的优化升级，以及满足国际造船新规范、新标准的船型开发建造
- 2、10 万立方米以上液化天然气船、1.5 万立方米以上液化石油气船、万箱以上集装箱船、5000 车位及以上汽车运输船、豪华客滚船、IMO II 型以上化学品船、豪华邮轮等高技术、高附加值船舶
- 3、大型远洋捕捞加工渔船、1 万立方米以上耙吸式挖泥船、火车渡轮、科学考察船、破冰船、海洋调查船、海洋监管船等特种船舶及其专用设备
- 4、小水线面双体船、水翼船、地效应船、气垫船、穿浪船等高性能船舶
- 5、120 米及以上水深自升式钻井平台、1500 米及以上深钻井船、1500 米及以上水深半潜式钻井平台等主流海洋移动钻井平台（船舶）；15 万吨及以上浮式生产储卸装置（FPSO）、1500 米水深半潜式生产平台、立柱式生产平台（SPAR）、张力腿平台（TLP）、LNG-FPSO、边际油田型浮式生产储油装置等浮式生产系统；万马力水级深水三用工作船、1500 米水深大型起重铺管船、1500 米水深工程勘察船、高性能物探船、5 万吨及以上半潜运输船、海上风车安装船等海洋工程作业船和辅助船
- 6、动力定位系统、FPSO 单点系泊系统、大型海洋平台电站集成系统、主动力及传动系统、钻井平台升降系统、采油系统等通用和专用海洋工程配套设备

7. Development and manufacturing of luxury yachts and supporting industries

8. Intelligent environment-friendly low- and medium-speed marine diesel engines and their key parts and components, large deck machinery, marine boilers, oil-water separators, desalination plants, ballast water treatment systems, shore power technologies and equipment used for vessels, liquefied natural gas marine dual fuel engines, pod propulsions, large efficient jet propulsion units, high-power medium- and high-voltage generators, marine communication, navigation and automation systems, and other key supporting marine equipment

9. Underwater vehicles, robots, and detection and observation equipment

10. Application of precision management control, digital shipbuilding, unit assembly, advanced outfitting and modularization, advanced coating, and efficient welding technologies

11. Repair and modification of high-tech and high value-added vessels and marine engineering equipment

XVIII. Aviation and Aerospace

1. Development and manufacturing of aircrafts for trunk lines, regional aircrafts, and utility aircrafts and their parts and components

2. Development and manufacturing of aircraft engines

3. Development and manufacturing of airborne equipment, mission equipment, air traffic control equipment, and ground support equipment systems

4. Development and manufacturing of helicopters, rotor systems, and drive systems

5. Development and production of new materials for aviation and aerospace use

6. Manufacturing of gas turbines for aviation and aerospace use

7. Manufacturing of satellites and launch vehicles and their parts and components

8. Application of aviation and aerospace technologies and development and production of system software and hardware products and terminal

7、豪华游艇开发制造及配套产业

8、智能环保型船用中低速柴油机及其关键零部件、大型甲板机械、船用锅炉、油水分离机、海水淡化装置、压载水处理系统、船舶使用岸电技术及设备、液化天然气船用双燃料发动机、吊舱推进器、大型高效喷水推进装置、大功率中高压发电机、船舶通讯导航及自动化系统等关键船用配套设备

9、水下潜器、机器人及探测观测设备

10、精度管理控制、数字化造船、单元组装、预舾装和模块化、先进涂装、高效焊接技术应用

11、高技术高附加值船舶、海洋工程装备的修理与改装

十八、航空航天

1、干线、支线、通用飞机及零部件开发制造

2、航空发动机开发制造

3、机载设备、任务设备、空管设备和地面保障设备系统开发制造

4、直升机总体、旋翼系统、传动系统开发制造

5、航空航天用新型材料开发生产

6、航空航天用燃气轮机制造

7、卫星、运载火箭及零部件制造

8、航空、航天技术应用及系统软硬件产品、终端产品开发生产

products

9. Development and manufacturing of aircraft ground-based simulation training systems

10. Development and manufacturing of aircraft ground repair, maintenance, and testing equipment

11. Satellite ground and application system construction and equipment manufacturing

12. Development and application of emergency rescue equipment exclusively used for aircrafts

13. Repair of aircrafts, equipment, and parts

14. Development and production of advanced satellite payloads

XIX. Light Industry

1. Construction of forest-paper integration production lines each with an annual production capacity of 300,000 tons or more of chemical wood pulp, an annual production capacity of 100,000 tons or more of chemical-mechanical wood pulp, or an annual production capacity of 100,000 tons or more of chemical bamboo pulp, and corresponding paper and paperboard production lines (excluding newsprint and art paper); and construction of paper pulp production lines adopting cleaner production techniques and using non-wood fiber as raw materials each with an annual production capacity of 100,000 tons or more

2. Development and manufacturing of advanced pulping and papermaking equipment

3. Development and application of techniques of elemental chlorine free (ECF) and totally chlorine free (TCF) bleaching of chemical pulp

4. Design and manufacturing of precision moulds for metalloid products

5. Development, production, and application of biodegradable plastics and their series products

6. Development and production of agricultural plastic water-saving equipment and functional agricultural films with a long life (three years or more)

9、航空器地面模拟训练系统开发制造

10、航空器地面维修、维护、检测设备开发制造

11、卫星地面和应用系统建设及设备制造

12、航空器专用应急救援装备开发与应用

13、航空器、设备及零件维修

14、先进卫星载荷研制及生产

十九、轻工

1、单条化学木浆 30 万吨/年及以上、化学机械木浆 10 万吨/年及以上、化学竹浆 10 万吨/年及以上的林纸一体化生产线及相应配套的纸及纸板生产线（新闻纸、铜版纸除外）建设；采用清洁生产工艺、以非木纤维为原料、单条 10 万吨/年及以上的纸浆生产线建设

2、先进制浆、造纸设备开发与制造

3、无元素氯（ECF）和全无氯（TCF）化学纸浆漂白工艺开发及应用

4、非金属制品精密模具设计、制造

5、生物可降解塑料及其系列产品开发、生产与应用

6、农用塑料节水器材和长寿命（三年及以上）功能性农用薄膜的开发、生产

7. Production of new plastic building materials (highly airtight and energy-saving plastic windows, large-diameter drainage and sewage pipes, impact-resistant modified PVC pipes, polyethylene pipes used for ground-source heat pump systems, trenchless plastic pipes, composite plastic pipes, and plastic inspection wells); impermeable geomembrane; wood plastic composites and ultra-high molecular weight polyethylene pipes and sheets with molecular weight $\geq 2,000,000$
8. Dynamic plasticizing and plastic extensional rheology plasticizing technology application and equipment manufacturing; and plastics processing equipment adopting electromagnetic induction heating and servo drive systems
9. Production of special ceramics used in industry, medical science, electronics, aviation and aerospace and other fields and the development of relevant technologies and equipment; and development of ceramics cleaner production and comprehensive utilization technologies
10. Development and manufacturing of energy efficient sewing machinery (adopting embedded digital control, oil-free or micro-oil lubrication, and other advanced technologies) and their key parts and components
11. Research, development, and manufacturing of multiple station modular machine tools used in industries such as manufacturing of writing instruments and clocks and watches
12. Development and application of high-tech digital printing technologies and high-definition platemaking systems
13. Manufacturing of supplies specially for ethnic minorities
14. Vacuum aluminizing, spraying silicon oxide, and polyvinyl alcohol (PVA) coating-type films, functional polyester (PET) film, oriented polystyrene (OPS) film, paper-based multi-layer co-extruded or composite packaging materials, and other new packaging materials
15. Manufacturing of equipment of metal plate printing in two or more colors, matching UV curing equipment, laminating equipment, and high-speed food and beverage cans processing equipment, as well as their ancillary equipment
16. Lithium iron disulfide, lithium thionyl chloride, and other new lithium primary batteries; lithium-ion batteries, nickel hydrogen batteries, new-7. 新型塑料建材（高气密性节能塑料窗、大口径排水排污管道、抗冲击改性聚氯乙烯管、地源热泵系统用聚乙烯管、非开挖用塑料管材、复合塑料管材、塑料检查井）；防渗土工膜；塑木复合材料和分子量 ≥ 200 万的超高分子量聚乙烯管材及板材生产
- 8、动态塑化和塑料拉伸流变塑化的技术应用及装备制造；应用电磁感应加热和伺服驱动系统的塑料加工装备
- 9、应用于工业、医学、电子、航空航天等领域的特种陶瓷生产及技术、装备开发；陶瓷清洁生产及综合利用技术开发
- 10、高效节能缝制机械（采用嵌入式数字控制、无油或微油润滑等先进技术）及关键零部件开发制造
- 11、用于制笔、钟表等行业的多工位组合机床研发与制造
- 12、高新、数字印刷技术及高清晰度制版系统开发与应用
- 13、少数民族特需用品制造
- 14、真空镀铝、喷镀氧化硅、聚乙烯醇（PVA）涂布型薄膜、功能性聚酯（PET）薄膜、定向聚苯乙烯（OPS）薄膜及纸塑基多层共挤或复合等新型包装材料
- 15、二色及二色以上金属板印刷、配套光固化（UV）、薄板覆膜和高速食品饮料罐加工及配套设备制造
- 16、锂二硫化铁、锂亚硫酰氯等新型锂原电池；锂离子电池、氢镍电池、新型

structure (coiled and tubular, among others) sealed lead-acid batteries and other power batteries; lithium-ion batteries for energy storage, and new large-capacity sealed lead-acid batteries; and super batteries and super capacitors

17. Lithium iron phosphate and other cathode materials used for lithium-ion batteries, mesocarbon microbeads (MCMB), lithium titanate and other anode materials, single-layer and three-layer composite lithium-ion battery separators, fluorinated ethylene carbonate (FEC), and other electrolytes and additives; harmless recycling of used lead-acid batteries, and manufacturing of secondary lead process equipment system with annual recycling capacity of 50,000 tons or more

18. Various types of advanced solar photovoltaic cell materials and high-purity crystalline silicon materials (conversion efficiency of monocrystalline silicon photovoltaic cells is greater than 17%, conversion efficiency of polycrystalline silicon cells is greater than 16%, conversion efficiency of silicon-based thin-film cells is greater than 7%, conversion efficiency of cadmium telluride cells is greater than 9%, and conversion efficiency of copper indium gallium selenide cells is greater than 12%)

19. Manufacturing of automated production outfits of lithium-ion batteries; and manufacturing of automated production outfits of alkaline zinc-manganese batteries with a production capacity of 600 batteries/min or more

20. Tanning and fur processing cleaner production, development of new technologies of leather post-finishing, manufacturing of key equipment, and comprehensive utilization of leather waste; recycling of leather chrome tanning liquid waste and comprehensive utilization of trivalent chromium sludge; development, production, and application of functional chemical products such as ashless expansion (assistant) agents, ammonia-free deliming (assistant) agents, salt-free pickling (assistant) agents, high-exhaustion chrome tanning (assistant) agents, natural vegetable tanning agents, and water-based finishing (assistant) agents used for top grade leather

21. Development of technologies of energy-efficient electric light sources (high and low-pressure discharge lamps and solid state lighting products), production of relevant products, and application of solid mercury production techniques; and recycling and reusing of waste and used lamps

结构（卷绕式、管式等）密封铅蓄电池等动力电池；储能用锂离子电池和新型大容量密封铅蓄电池；超级电池和超级电容器

17、锂离子电池用磷酸铁锂等正极材料、中间相炭微球和钛酸锂等负极材料、单层与三层复合锂离子电池隔膜、氟代碳酸乙烯酯（FEC）等电解质与添加剂；废旧铅酸蓄电池资源化无害化回收，年回收能力 5 万吨以上再生铅工艺装备系统制造

18、先进的各类太阳能光伏电池及高纯晶体硅材料（单晶硅光伏电池的转化效率大于 17%，多晶硅电池的转化效率大于 16%，硅基薄膜电池转化效率大于 7%，碲化镉电池的转化效率大于 9%，铜铟镓硒电池转化效率大于 12%）

19、锂离子电池自动化生产成套装备制造；碱性锌锰电池 600 只/分钟以上自动化生产成套装备制造

20、制革及毛皮加工清洁生产、皮革后整饰新技术开发及关键设备制造、皮革废弃物综合利用；皮革铬鞣废液的循环利用，三价铬污泥综合利用；无灰膨胀（助）剂、无氨脱灰（助）剂、无盐浸酸（助）剂、高吸收铬鞣（助）剂、天然植物鞣剂、水性涂饰（助）剂等高档皮革用功能性化工产品开发、生产与应用

21、高效节能电光源（高、低气压放电灯和固态照明产品）技术开发、产品生产及固汞生产工艺应用；废旧灯管回收再利用

22. Development and production of energy-efficient household appliances
23. Development and production of multiple-effect, energy-saving, water-saving, and environment-friendly surfactants and concentrated synthetic detergents
24. Development and manufacturing of air conditioners using new refrigerants to replace hydrochlorofluorocarbon-22 (HCFC-22 or R22), production of household appliances using new blowing agents to replace hydrochlorofluorocarbon-141b (HCFC-141b), and production and application of rigid polyurethane foam using new blowing agents to replace hydrochlorofluorocarbon-141b (HCFC-141b)
25. Design and application of energy-saving and environment-friendly glass furnaces (including all-electric melting, electric boosting, and oxygen-fuel combustion technologies); and recycling of waste (broken) glass
26. Development of techniques and technologies and production of lightweight glass containers (disposable small-diameter glass bottles with a lightweight degree $L \leq 1.0$) and development and production of key equipment
27. Production of water-based inks, UV-curable inks, vegetable oil inks, and other energy-saving and environment-friendly inks
28. Development of new technologies and production of natural food additives and natural flavors
29. Research, development, and manufacturing of advanced food production equipment; and research, development, and production of food quality and safety monitoring (testing) instruments and equipment
30. Development and production of tropical fruit juice, berry juice, cereal beverages, herbal drinks, tea concentrates, tea powder, vegetable protein drinks, and other high value-added botanical beverages and construction of raw material processing bases; and comprehensive development and utilization of pomace and tea leaves, among others
31. Development and production of nutritional and healthy rice, wheat flour (tailored food rice, germinated brown rice, rice with remained germ, tailored food flour, whole wheat flour, and nutrient fortified products, among others) and their products; industrialized production of traditional staple food; and development and production of special equipment for
- 22、高效节能家电开发与生产
- 23、多效、节能、节水、环保型表面活性剂和浓缩型合成洗涤剂的开发与生产
- 24、采用新型制冷剂替代氢氯氟烃-22 (HCFC-22 或 R22) 的空调器开发、制造, 采用新型发泡剂替代氢氯氟烃-141b (HCFC-141b) 的家用电器生产, 采用新型发泡剂替代氢氯氟烃-141b (HCFC-141b) 的硬质聚氨酯泡沫的生产与应用
- 25、节能环保型玻璃窑炉(含全电熔、电助熔、全氧燃烧技术)的设计、应用; 废(碎)玻璃回收再利用
- 26、轻量化玻璃瓶罐(轻量化度 $L \leq 1.0$ 的一次性使用小口径玻璃瓶)工艺技术和关键装备的开发与生产
- 27、水性油墨、紫外光固化油墨、植物油油墨等节能环保型油墨生产
- 28、天然食品添加剂、天然香料新技术开发与生产
- 29、先进的食品生产设备研发与制造; 食品质量与安全监测(检测)仪器、设备的研发与生产
- 30、热带果汁、浆果果汁、谷物饮料、本草饮料、茶浓缩液、茶粉、植物蛋白饮料等高附加值植物饮料的开发生产与加工原料基地建设; 果渣、茶渣等的综合开发与利用
- 31、营养健康型大米、小麦粉(食品专用米、发芽糙米、留胚米、食品专用粉、全麦粉及营养强化产品等)及制品的开发生产; 传统主食工业化生产; 杂粮加工专用设备开发与生产

grain processing

32. Development and application of key technologies for the comprehensive utilization of by-products of grain and oil processing (rice husks, rice bran, wheat bran, germs, and dregs, among others)

33. Rapeseed oil production lines: adopting puffing, vacuum evaporation, thermal self-balancing utilization, low-consumption steam vacuum systems and other technologies, with a daily rapeseed processing capacity in the main rapeseed producing areas being 400 tons or more and with solvent consumption of less than 1.5 kg per ton (in particular, the daily rapeseed processing capacity in middle and western China is 200 tons or more, with solvent consumption of less than 2 kg per ton); peanut oil production lines: with a daily peanut processing capacity in the main peanut producing areas being 200 tons or more and with solvent consumption of less than 2 kg per ton; cottonseed oil production lines: with a daily cottonseed processing capacity in the cottonseed producing areas being 300 tons or more and with solvent consumption of less than 2 kg per ton; rice bran oil production lines: adopting decentralized rapid expansion and centralized oil making and refining technologies; corn germ oil production lines; and processing and production lines of camellia seed, walnut, and other woody oil plants and flax, sesame, sunflower seed, and other small species of oil plants

34. Production of small species of amino acids (excluding lysine and glutamic acid) by the fermentation process and production of new enzyme preparations (excluding glucoamylase and amylase), polyhydric alcohols, and functional fermented products (functional sugars, fungal polysaccharides, functional red yeast, antioxidant and composite functional ingredients produced by the fermentation process, active peptides, and probiotics), among others

35. Potato modified starch

36. Comprehensive utilization and decontamination of bones, blood and offal of livestock and poultry and other by-products

37. Production of high-quality low-temperature meat products using bio-fermentation technologies

38. Development and production of enamel electrostatic powder, pre-milled powder, and other new high-tech and new-type porcelain enamel; key equipment of electrostatic enamel; and sheet steel plate enamel of

32、粮油加工副产物（稻壳、米糠、麸皮、胚芽、饼粕等）综合利用关键技术开发应用

33、菜籽油生产线：采用膨化、负压蒸发、热能自平衡利用、低消耗蒸汽真空系统等技术，油菜籽主产区日处理油菜籽 400 吨及以上、吨料溶剂消耗 1.5 公斤以下（其中西部地区日处理油菜籽 200 吨及以上、吨料溶剂消耗 2 公斤）以下；花生油生产线：花生主产区日处理花生 200 吨及以上，吨料溶剂消耗 2 公斤以下；棉籽油生产线：棉籽产区日处理棉籽 300 吨及以上，吨料溶剂消耗 2 公斤以下；米糠油生产线：采用分散快速膨化，集中制油、精炼技术；玉米胚芽油生产线；油茶籽、核桃等木本油料和胡麻、芝麻、葵花籽等小品种油料加工生产线

34、发酵法工艺生产小品种氨基酸（赖氨酸、谷氨酸除外），新型酶制剂（糖化酶、淀粉酶除外）、多元醇、功能性发酵制品（功能性糖类、真菌多糖、功能性红曲、发酵法抗氧化和复合功能配料、活性肽、微生态制剂）等生产

35、薯类变性淀粉

36、畜禽骨、血及内脏等副产物综合利用与无害化处理

37、采用生物发酵技术生产优质低温肉制品

38、搪瓷静电粉和预磨粉等高科技新型搪瓷瓷釉、静电搪瓷关键装备、0.3 毫米及以下的薄钢板平板搪瓷的开发与生产

0.3 mm or less

39. Development and manufacturing of condensing gas water heaters, gas cookers using energy-gathered combustion technologies, and other energy-efficient and environment-friendly gas equipment

XX. Textile

1. Continuous copolymerization modification of differentiated and functional polyester (PET) [cationic dyeable polyester (CDP, ECDP), alkali-soluble polyester (COPET), high-shrinkage polyester (HSPET), flame-retardant polyester, and low-melting-point polyester, among others]; production of differentiated and functional fibers (anti-static, anti-UV, and colored fiber, among others) by continuous processes such as direct melt spinning with online addition; and intelligent and ultra-simulation production (limited to technical improvement in eastern China) of differentiated and functional polyester (PET) and fibers

Production of the differentiated and functional modified fibers of acrylic fiber, nylon, spandex, viscose fiber, and other chemical fiber varieties

2. Development, production, and application of polyethylene terephthalate (PTT), polyethylene naphthalene (PEN), polybutylene terephthalate (PBT), poly butylenes succinate (PBS), polyethylene terephthalate cyclohexane (PCT), and other new-type polyester and fibers

3. With green and environment-friendly techniques and equipment, production of new solvent-spun cellulose (Lyocell) fiber, bacterial cellulose fiber, regenerated cellulose fibers using bamboo, hemp, and other new-type renewable resources as raw materials, polylactic acid (PLA) fiber, alginate fiber, chitosan fiber, polyhydroxyalkanoates (PHA) fiber, animal and plant protein fibers, and other biomass fibers

4. Development and production of organic and inorganic high-performance fibers and products (carbon fiber (CF) (tensile strength $\geq 4,200$ MPa, elasticity modulus ≥ 240 GPa), aramid (AF), polysulfonamide (PSA), high-strength and high-modulus polyethylene (UHMWPE) fiber (with single thread output capacity of spinning production equipment ≥ 300 tons/year), polyphenylene sulfide (PPS) fiber, polyimide (PI) fiber,

39、冷凝式燃气热水器、使用聚能燃烧技术的燃气灶具等高效节能环保型燃气具的开发与制造

二十、纺织

1、差别化、功能性聚酯（PET）的连续共聚改性[阳离子染料可染聚酯（CDP、ECDP）、碱溶性聚酯（COPET）、高收缩聚酯（HSPET）、阻燃聚酯、低熔点聚酯等]；熔体直纺在线添加等连续化工艺生产差别化、功能性纤维（抗静电、抗紫外、有色纤维等）；智能化、超仿真等差别化、功能性聚酯（PET）及纤维生产（东部地区限于技术改造）

腈纶、锦纶、氨纶、粘胶纤维等其他化学纤维品种的差别化、功能性改性纤维生产

2、聚对苯二甲酸丙二醇酯（PTT）、聚萘二甲酸乙二醇酯（PEN）、聚对苯二甲酸丁二醇酯（PBT）、聚丁二酸丁二酯（PBS）、聚对苯二甲酸环己烷二甲醇酯（PCT）等新型聚酯和纤维的开发、生产与应用

3、采用绿色、环保工艺与装备生产新溶剂法纤维素纤维（Lyocell）、细菌纤维素纤维、以竹、麻等新型可再生资源为原料的再生纤维素纤维、聚乳酸纤维（PLA）、海藻纤维、甲壳素纤维、聚羟基脂肪酸酯纤维（PHA）、动植物蛋白纤维等生物质纤维

4、有机和无机高性能纤维及制品的开发与生产（碳纤维（CF）（拉伸强度 $\geq 4,200$ MPa，弹性模量 ≥ 240 GPa）、芳纶（AF）、芳砜纶（PSA）、高强高模聚乙烯（超高分子量聚乙烯）纤维（UHMWPE）（纺丝生产装置单线能力

polytetrafluoroethylene (PTFE) fiber, polybenzobisoxazole (PBO) fibers, polyarylate oxadiazole (POD) fibers, basalt fibers (BF), silicon carbide fibers (SiCF), and high-strength glass fiber (HT-AR), among others)

5. Processing technologies and products of special animal fibers, hemp fiber, natural bamboo fiber, mulberry and oak cocoon silk, colored cotton, colored mulberry silk, and other kinds of natural fibers which satisfy the ecological, comprehensive resource utilization, and environmental protection requirements

6. Production of multispecies fiber blended yarns by using compact spinning, low-torque spinning, siro spinning, embedded spinning, and other high-speed and new-type spinning technologies and production of high-quality yarns by using automatic winding, fine winder, collective doffing, and other automation equipment (limited to technical improvement in eastern China, excluding new construction and expansion)

7. Production of high-count, high-density, jacquard weave, and other top grade weaved and knitted textiles by using high-speed mechanical and electronic-integrated shuttleless looms, fine-needle-pitch circular knitting machines, and other advanced techniques and equipment

8. Production of high-grade textile fabrics by using enzyme treatment, efficient short-process pretreatment, cold pad batch pretreatment and dyeing, short-process wet steaming pad dyeing, airflow dyeing, mall bath-ratio dyeing, pigment dyeing, digital inkjet printing, foam finishing, and other dyeing and finishing and clearer production technologies and water and oil proofing, antifouling, inflaming retarding, anti-static, multi-function composite, and other functional finishing technologies

9. Production of industry textiles which meet the demand of national economy in various fields by using woven, nonwoven composite, multi-layer online composite, long-lasting multi-functional finishing, and other high-tech technologies.

10. Development and manufacture of new-type high-tech textile machinery, key special basic parts, and metrical, detection, and testing instruments

≥300 吨/年)、聚苯硫醚纤维 (PPS)、聚酰亚胺纤维 (PI)、聚四氟乙烯纤维 (PTFE)、聚苯并双噁唑纤维 (PBO)、聚芳噁二唑纤维 (POD)、玄武岩纤维 (BF)、碳化硅纤维 (SiCF)、高强型玻璃纤维 (HT-AR) 等)

5、符合生态、资源综合利用与环保要求的特种动物纤维、麻纤维、竹原纤维、桑柞茧丝、彩色棉花、彩色桑茧丝类天然纤维的加工技术与产品

6、采用紧密纺、低扭矩纺、赛络纺、嵌入式纺纱等高速、新型纺纱技术生产多品种纤维混纺纱线及采用自动络筒、细络联、集体落纱等自动化设备生产高品质纱线 (东部地区限于技术改造, 新建和扩建除外)

7、采用高速机电一体化无梭织机、细针距大园机等先进工艺和装备生产高支、高密、提花等高档机织、针织纺织品

8、采用酶处理、高效短流程前处理、冷轧堆前处理及染色、短流程湿蒸轧染、气流染色、小浴比染色、涂料印染、数码喷墨印花、泡沫整理等染整清洁生产技术和防水防油防污、阻燃、抗静电及多功能复合等功能性整理技术生产高档纺织面料

9、采用编织、非织造布复合、多层在线复合、长效多功能整理等高新技术, 生产满足国民经济各领域需求的产业用纺织品

10、新型高技术纺织机械、关键专用基础件和计量、检测、试验仪器的开发与制造

11. Production of top grade carpets, drawnwork, and embroidery products

12. Computer integrated manufacturing for clothing enterprises and application of digitization, information, and automation technologies and equipment

13. Popularization and application of technologies in the textile industry for biological degumming, sizing of agent without polyvinyl alcohol (PVA), less-water or no-water and energy-saving dyeing and processing, and efficient control of "three wastes" (waste water, waste gas and waste residues) and resource recycling

14. Recycling technologies of waste textile products, product production, and production of polyester industrial yarns, differential and functional polyester filament yarns, and other high value-added products by using recycled polyester materials

XXI. Architecture

1. Research, development, and popularization of building shock insulation and absorption structural systems and products

2. Production and manufacture of intelligent construction products and equipment and research of integration technologies

3. Research, development, and popularization of central heating system metering and control technologies and products

4. Application of high-strength and high-performance structural materials and systems

5. Buildings integrating solar thermal utilization and photovoltaic power generation applications

6. Research, development, and popularization of advanced and applicable packaged technologies, products and housing parts of buildings

7. Research, development, and popularization of steel housing integration systems and technologies

8. Development and popularization of prefabricated integrated bathroom and kitchen standardization and modulization technologies

9. Popularization of factory-like full decoration technologies

11.高档地毯、抽纱、刺绣产品生产

12、服装企业计算机集成制造及数字化、信息化、自动化技术和装备的应用

13、纺织行业生物脱胶、无聚乙烯醇（PVA）浆料上浆、少水无水节能印染加工、“三废”高效治理与资源回收再利用技术的推广与应用

14、废旧纺织品回收再利用技术与产品生产，聚酯回收材料生产涤纶工业丝、差别化和功能性涤纶长丝等高附加价值产品

二十一、建筑

1、建筑隔震减震结构体系及产品研发与推广

2、智能建筑产品与设备的生产制造与集成技术研究

3、集中供热系统计量与调控技术、产品的研发与推广

4、高强、高性能结构材料与体系的应用

5、太阳能热利用及光伏发电应用一体化建筑

6、先进适用的建筑成套技术、产品和住宅部品研发与推广

7、钢结构住宅集成体系及技术研发与推广

8、预制装配式整体卫生间和厨房标准化、模数化技术开发与推广

9、工厂化全装修技术推广

10. Development and application of mobile emergency domestic water supply systems

10、移动式应急生活供水系统开发与应用

XXII. Urban Infrastructure

二十二、城市基础设施

1. Production of urban basic spatial information data and development of key technologies

1、城市基础空间信息数据生产及关键技术开发

2. Urban three-dimensional management information systems based on the fundamental geographic information resources

2、依托基础地理信息资源的城市立体管理信息系统

3. Construction of urban public transport

3、城市公共交通建设

4. Construction of urban road and intelligent transportation systems

4、城市道路及智能交通体系建设

5. Technological development and equipment manufacture of urban traffic control systems

5、城市交通管制系统技术开发及设备制造

6. Construction of rail transit new lines in cities and city territories

6、城市及市域轨道交通新线建设

7. Drinking water safety projects in cities and towns

7、城镇安全饮水工程

8. Construction of common ditches of urban underground tunnels

8、城镇地下管道共同沟建设

9. Water supply and discharge pipe network projects and water supply source and water treatment plant projects in cities and towns

9、城镇供排水管网工程、供水水源及净水厂工程

10. Urban gas engineering

10、城市燃气工程

11. Central heating supply construction and reconstruction projects in cities and towns

11、城镇集中供热建设和改造工程

12. Urban rainwater collection and utilization projects

12、城市雨水收集利用工程

13. Landscaping and ecological community construction in cities and towns

13、城镇园林绿化及生态小区建设

14. Construction of urban multistory parking garages

14、城市立体停车场建设

15. Application of urban construction management information technologies

15、城市建设管理信息化技术应用

16. Application of key urban ecological system technologies

16、城市生态系统关键技术应用

17. Development and application of urban water-saving technologies

17、城市节水技术开发与应用

18. Development and application of technologies for urban intelligent and green illumination products and systems

18、城市照明智能化、绿色照明产品及系统技术开发与应用

19. Recycled water utilization technologies and projects

19、再生水利用技术与工程

20. Development and application of urban sewer line trenchless construction technologies

20、城市下水管线非开挖施工技术开发与应用

21. Urban water supply, drainage, and gas plastic pipelines application projects

21、城市供水、排水、燃气塑料管道应用工程

22. Urban emergency and back-up water source construction projects

22、城市应急与后备水源建设工程

23. Seawater supply network and seawater treatment plant projects in coastal cities and towns

23、沿海城镇海水供水管网及海水净水厂工程

24. Development and application of urban waterlogging early warning technologies

24、城市积涝预警技术开发与应用

XXIII. Railway

二十三、铁路

1. Construction of new railway lines

1、铁路新线建设

2. Reconstruction or expansion of existing railways

2、既有铁路改扩建

3. Technological development and construction of passenger dedicated line (PDL) and high-speed railway systems

3、客运专线、高速铁路系统技术开发与建设

4. Technologies and equipment for railway operations and passenger and freight transportation safety protection systems and development and construction of railway train operation control and vehicle control systems

4、铁路行车及客运、货运安全保障系统技术与装备，铁路列车运行控制与车辆控制系统开发建设

5. Development and construction of railway transportation information systems

5、铁路运输信息系统开发与建设

6. AC drive electric locomotives with 7,200 kW or more, AC drive internal combustion locomotives with 6,000 kW or more, China Railway High-Speed (CRH) trains with a speed of 200 kilometers per hour or more, plateau locomotives three kilometers or more above sea level, large dedicated trucks, and special rescue equipment for locomotives

6、7200 千瓦及以上交流传动电力机车、6000 马力及以上交流传动内燃机车、时速 200 公里以上动车组、海拔 3000 米以上高原机车、大型专用货车、机车车辆特种救援设备

7. AC traction drive systems, brake systems, and core components (including IGCT and IGBT components) of trunk railway vehicles

7、干线轨道车辆交流牵引传动系统、制动系统及核心元器件（含 IGCT、IGBT 元器件）

8. Railway contact nets, turnouts and switches, fastenings and fittings, and traction power supply equipment for trains with a speed of 200 kilometers per hour or more	8、时速 200 公里及以上铁路接触网、道岔、扣配件、牵引供电设备
9. Application of power factor compensation technologies for electrified railway traction power supply	9、电气化铁路牵引供电功率因数补偿技术应用
10. Large road maintenance machinery, railway engineering construction machinery, and line, bridge, and tunnel inspection equipment	10、大型养路机械、铁路工程建设机械装备、线桥隧检测设备
11. Development of automated railway traffic control technologies	11、行车调度指挥自动化技术开发
12. Development of technologies and materials for mending and improving durability of concrete structures	12、混凝土结构物修补和提高耐久性技术、材料开发
13. Railway passenger train toilet wastewater collectors and ground receiving and treatment projects	13、铁路旅客列车集便器及污物地面接收、处理工程
14. Railway GSM-R communication signal systems	14、铁路 GSM-R 通信信号系统
15. Development and construction of railway broadband communication systems	15、铁路宽带通信系统开发与建设
16. Development and construction of digital railway and intelligent transportation	16、数字铁路与智能运输开发与建设
17. Application of shock absorption and noise reduction technologies for high-speed railway or passenger dedicated lines (PDL) with a speed of 300 kilometers per hour or more	17、时速在 300 公里及以上高速铁路或客运专线减震降噪技术应用
18. Inter-city rail transit construction	18、城际轨道交通建设
XXIV. Highway and Road Transport (including Urban Passenger Transport)	二十四、公路及道路运输（含城市客运）
1. Construction of western China development trunk highways and national expressway network projects	1、西部开发公路干线、国家高速公路网项目建设
2. Improvement and upgrading of national and provincial trunk highways	2、国省干线改造升级
3. Passenger and freight coach stations and urban bus stations	3、汽车客货客运站、城市公交站
4. Development and application of technologies related to electronic toll collection systems for expressway	4、高速公路不停车收费系统相关技术开发与应用

5. Development and construction of highway intelligent transport, speedy passenger and freight transport, and highway drop and pull transport systems	5、公路智能运输、快速客货运输、公路甩挂运输系统开发与建设
6. Development and construction of highway management service and emergency security systems	6、公路管理服务、应急保障系统开发与建设
7. Development and production of new materials for highway engineering	7、公路工程新材料开发与生产
8. Highway container transport and van transport	8、公路集装箱和厢式运输
9. Application of extra-long-span bridge construction and maintenance technologies	9、特大跨径桥梁修筑和养护维修技术应用
10. Application of long and large tunnel construction and maintenance technologies	10、长大隧道修筑和维护技术应用
11. Development and construction of rural passenger and freight transport networks	11、农村客货运输网络开发与建设
12. Rural highway construction	12、农村公路建设
13. Development and construction of inter-city speedy transit systems	13、城际快速系统开发与建设
14. Development and construction of taxi service scheduling information systems	14、出租汽车服务调度信息系统开发与建设
15. Construction of emergency evacuation passages for expressway vehicles	15、高速公路车辆应急疏散通道建设
16. Development of low noise road surface technologies	16、低噪音路面技术开发
17. Development and application of technologies and materials for the rapid construction and maintenance of expressway	17、高速公路快速修筑与维护技术和材料开发与应用
18. Urban public transport	18、城市公交
19. Development and application of safety monitoring and recording systems for operating vehicles	19、运营车辆安全监控记录系统开发与应用
XXV. Water Transport	二十五、水运
1. Construction of deep-water berths (ten thousand tons for coastal areas or a thousand tons for inland rivers and above)	1、深水泊位（沿海万吨级、内河千吨级及以上）建设

2. Construction of coastal deep-water channels, inland river high-level waterways, and navigation structures	2、沿海深水航道和内河高等级航道及通航建筑物建设
3. Construction of coastal mainland-island traffic wharfs	3、沿海陆岛交通运输码头建设
4. Large-scale port loading and unloading automation projects	4、大型港口装卸自动化工程
5. Application of electronic data interchange (EDI) systems for ocean shipping	5、海运电子数据交换系统应用
6. Construction of water traffic safety supervision and rescue systems	6、水上交通安全监管和救助系统建设
7. Inland ship type standardization	7、内河船型标准化
8. Old port area technical improvement projects	8、老港区技术改造工程
9. Construction of emergency facilities for hazardous chemicals and oil at ports and equipment manufacturing	9、港口危险化学品、油品应急设施建设及设备制造
10. Inland river self-discharging container ship transport systems	10、内河自卸式集装箱船运输系统
11. Waterway high-speed passenger transport	11、水上高速客运
12. Port gantry crane oil-to-electricity conversion fuel-efficient reconstruction projects	12、港口龙门吊油改电节油改造工程
13. Water roll-roll shipment multimodal transport	13、水上滚装多式联运
14. Construction of water transport information systems	14、水运行业信息系统建设
15. International cruise transport and cruise home port construction	15、国际邮轮运输及邮轮母港建设
XXVI. Air Transport	二十六、航空运输
1. Airport construction	1、机场建设
2. Public air transport	2、公共航空运输
3. General aviation	3、通用航空
4. Construction of air traffic control, communication and navigation systems	4、空中交通管制和通讯导航系统建设
5. Development and construction of aviation computer management and network systems	5、航空计算机管理及其网络系统开发与建设

6. Construction of aviation fuel facilities

7. Construction of marine air supervision and patrol as well as salvage facilities

8. Construction of small aircraft emergency taking-off and landing sites

XXVII. Integrated Transportation

1. Construction and improvement of integrated transportation hubs

2. Construction of convenient passenger transfer and speedy baggage transport systems of integrated transportation hubs

3. Construction and application of operation management information systems of integrated transportation hubs

4. Construction of guidance systems of integrated transportation hubs

5. Construction of integrated service facilities of integrated transportation hubs

6. Disaster prevention and relief and emergency evacuation systems of integrated transportation hubs

7. Construction of convenient freight transshipment systems of integrated transportation hubs

8. Construction of container multimodal transport systems

XXVIII. Information Industry

1. Construction of optical synchronized transmission systems with a speed of 2.5GB/S or more

2. Manufacture of digital microwave synchronized transmission equipment with a speed of 155MB/S or more and system construction

3. Equipment manufacture and construction of satellite communication systems and earth stations

4. Construction of webmaster monitoring, synchronous clock, billing, and other communication support networks

5. Equipment manufacture and construction of data communication

6、航空油料设施建设

7、海上空中监督巡逻和搜救设施建设

8、小型航空器应急起降场地建设

二十七、综合交通运输

1、综合交通枢纽建设与改造

2、综合交通枢纽便捷换乘及行李捷运系统建设

3、综合交通枢纽运营管理信息系统建设与应用

4、综合交通枢纽诱导系统建设

5、综合交通枢纽一体化服务设施建设

6、综合交通枢纽防灾救灾及应急疏散系统

7、综合交通枢纽便捷货运换装系统建设

8、集装箱多式联运系统建设

二十八、信息产业

1、2.5GB/S 及以上光同步传输系统建设

2、155MB/S 及以上数字微波同步传输设备制造及系统建设

3、卫星通信系统、地球站设备制造及建设

4、网管监控、时钟同步、计费等通信支撑网建设

5、数据通信网设备制造及建设

networks

6. Equipment manufacture and construction of Internet of Things (sensor network), intelligent network, and other new business networks

7. Equipment manufacture and construction of broadband networks

8. Construction of digital cellular mobile communication networks

9. IP service network construction

10. Research, development, and production of next-generation Internet network equipment, chips, systems, and relevant testing equipment

11. Construction of digital satellite TV broadcasting systems

12. Construction of value-added telecommunication service platforms

13. Equipment manufacture of wavelength division multiplexing (WDM) optical fiber transmission systems with a speed of 32 waves or more

14. Equipment manufacture of digital synchronization series optical fiber communication systems with a speed of 10GB/S or more

15. Router, switch, base station, and other equipment of communication support networks

16. Equipment manufacture of stratosphere communication systems

17. Equipment manufacture of digital mobile communication and access network systems and digital cluster communication systems, as well as manufacture of network equipment such as router and gateway

18. Manufacture of large- and medium-sized electronic computers, high-performance computers with a computing capacity of 100 trillion calculations per second, portable microcomputers, high-class servers executing a trillion or more instructions per second, large-scale analog simulation systems, and large-scale industrial computers and controllers

19. Design of integrated circuits; manufacture of integrated circuits with a line width of 0.8 microns or less; and ball grid array (BGA) package, pin grid array (PGA) package, chip scale package (CSP), multi-chip package (MCM), and other advanced packaging and testing

6、物联网（传感网）、智能网等新业务网设备制造与建设

7、宽带网络设备制造与建设

8、数字蜂窝移动通信网建设

9、IP 业务网络建设

10、下一代互联网网络设备、芯片、系统以及相关测试设备的研发和生产

11、卫星数字电视广播系统建设

12、增值电信业务平台建设

13、32 波及以上光纤波分复用传输系统设备制造

14、10GB/S 及以上数字同步系列光纤通信系统设备制造

15、支撑通信网的路由器、交换机、基站等设备

16、同温层通信系统设备制造

17、数字移动通信、接入网系统、数字集群通信系统及路由器、网关等网络设备制造

18、大中型电子计算机、百万亿次高性能计算机、便携式微型计算机、每秒一万亿次及以上高档服务器、大型模拟仿真系统、大型工业控制机及控制器制造

19、集成电路设计，线宽 0.8 微米以下集成电路制造，及球栅阵列封装（BGA）、插针网格阵列封装（PGA）、芯片规模封装（CSP）、多芯片封装（MCM）等先进封装与测试

20. Manufacture of integrated circuit equipment

21. Manufacture of new-type electronic components (including chip components, frequency components, hybrid integrated circuits, power electronic devices, optoelectronic devices, sensitive components and sensors, new-type electromechanical components, high-density printed circuit boards, and flexible circuit boards, among others)

22. Materials used for semiconductors, optoelectronic devices, new-type electronic components, and other electronic products

23. Software development and production (including research, popularization, and application of ethnic language information technology standards)

24. Development and production of computer-aided design (CAD), computer-aided test (CAT), computer-aided manufacturing (CAM), and computer-aided engineering (CAE) systems

25. Semiconductor lighting equipment, photovoltaic solar equipment, chip components equipment, new power battery devices, and surface mounted devices (including steel mesh printing presses, automatic chip mounters, lead-free reflow soldering, and automatic photoelectric inspection instruments), among others

26. Printers (including high-speed barcode printers), mass memories, and other computer peripheral equipment

27. Thin film transistor LCD (TFT-LCD), plasma display panels (PDP), organic light-emitting diode (OLED), laser display, 3D display, and other new-type panel display devices and key components

28. Manufacture of new (non-dispersive) single-mode fiber and optical fiber preforms

29. Manufacture of high-density digital laser optical player discs

30. Reproduction of CD-ROMs and recordable CDs

31. Audio/video encoding and decoding equipment, audio/video broadcasting transmission equipment, digital TV studio equipment, digital TV system equipment, digital TV broadcast single frequency network

20、集成电路装备制造

21、新型电子元器件（片式元器件、频率元器件、混合集成电路、电力电子器件、光电子器件、敏感元器件及传感器、新型机电元件、高密度印刷电路板和柔性电路板等）制造

22、半导体、光电子器件、新型电子元器件等电子产品用材料

23、软件开发生产（含民族语言信息化标准研究与推广应用）

24、计算机辅助设计（CAD）、辅助测试（CAT）、辅助制造（CAM）、辅助工程（CAE）系统开发生产

25、半导体照明设备，光伏太阳能设备，片式元器件设备，新型动力电池设备，表面贴装设备（含钢网印刷机、自动贴片机、无铅回流焊、光电自动检测仪）等

26、打印机（含高速条码打印机）和海量存储器等计算机外部设备

27、薄膜场效应晶体管 LCD（TFT-LCD）、等离子显示屏（PDP）、有机发光二极管（OLED）、激光显示、3D 显示等新型平板显示器件及关键部件

28、新型（非色散）单模光纤及光纤预制棒制造

29、高密度数字激光视盘播放机盘片制造

30、只读光盘和可记录光盘复制生产

31、音视频编解码设备、音视频广播发射设备、数字电视演播室设备、数字电视系统设备、数字电视广播单频网设

equipment, digital TV receivers, digital camcorders, digital video recorders, and digital TV products	备、数字电视接收设备、数字摄录机、数字录放机、数字电视产品
32. Development and manufacture of information security products and dedicated network monitoring equipment	32、信息安全产品、网络监察专用设备开发制造
33. Manufacture of digital multi-function telephones	33、数字多功能电话机制造
34. Doppler radar technology and its equipment manufacture	34、多普勒雷达技术及设备制造
35. Manufacture of medical electronic, financial electronic, aerospace and aviation instrument and meter electronic, and sensor electronic products, among others	35、医疗电子、金融电子、航空航天仪器仪表电子、传感器电子等产品制造
36. Technological development and equipment manufacture for wireless local area networks	36、无线局域网技术开发、设备制造
37. Development and application services for E-commerce and e-government systems	37、电子商务和电子政务系统开发与应用服务
38. Technological development and equipment manufacture for satellite navigation systems	38、卫星导航系统技术开发与设备制造
39. Construction of emergency radio and television systems	39、应急广播电视系统建设
40. Quantum communication equipment	40、量子通信设备
41. Special equipment for the production of TFT-LCD, PDP, OLED, laser display, 3D display, and other new-type panel display devices	41、TFT-LCD、PDP、OLED、激光显示、3D 显示等新型平板显示器件生产专用设备
42. Semiconductor lighting substrate, epitaxy, chip, packaging, and materials, among others	42、半导体照明衬底、外延、芯片、封装及材料等
43. Development systems for digital music, mobile media, animations, games, and other digital content products	43、数字音乐、手机媒体、动漫游戏等数字内容产品的开发系统
44. Development and application of anti-counterfeiting technologies	44、防伪技术开发与运用
XXIX. Modern Logistics Industry	二十九、现代物流业
1. Construction of modern logistic facilities for important commodities such as grain, cotton, edible oil, sugar, fertilizer, and petroleum	1、粮食、棉花、食用油、食糖、化肥、石油等重要商品现代化物流设施建设
2. Construction of agricultural products logistics distribution (including cold	2、农产品物流配送（含冷链）设施建

chain) facilities and food logistics quality and safety control technologies and services

3. Medicine logistics distribution (including cold chain) technology application and facility construction and medicine logistics quality and safety control technical services

4. Publications and other cultural products supply chain management technical services

5. Construction and operation of logistics node facilities to achieve port-railway, railway-highway, civil aviation-ground, and other multimodal transport

6. Construction of third-party logistics service facilities

7. Standardization transformation of warehousing and transshipment facilities and equipment, means of transportation, and logistics appliances

8. Research, development, and application of automatic identification and labeling technologies, electronic data interchange (EDI) technologies, visualization technologies, freight tracking and fast sorting technologies, mobile logistics information service technologies, security technologies for global positioning systems, geographic information systems, road traffic information and communication systems, intelligent transportation systems, and logistics information systems, and stereoscopic warehouse technologies

9. Construction of emergency logistics facilities

10. Construction of logistics public information platforms

11. Construction of logistics centers in seaports and airports, industry cluster areas, and commerce and trade distribution sites

XXX. Financial Service Industry

1. Construction of credit guarantee service systems

2. Construction of rural financial service systems

3. Construction of bond issuance and trading service systems

4. Agricultural insurance, liability insurance, and credit insurance

设, 食品物流质量安全控制技术服务

3、药品物流配送(含冷链)技术应用和设施建设, 药品物流质量安全控制技术服务

4、出版物等文化产品供应链管理技术服务

5、实现港口与铁路、铁路与公路、民用航空与地面交通等多式联运物流节点设施建设与经营

6、第三方物流服务设施建设

7、仓储和转运设施设备、运输工具、物流器具的标准化改造

8、自动识别和标识技术、电子数据交换技术、可视化技术、货物跟踪和快速分拣技术、移动物流信息服务技术、全球定位系统、地理信息系统、道路交通信息通讯系统、智能交通系统、物流信息系统安全技术及立体仓库技术的研发与应用

9、应急物流设施建设

10、物流公共信息平台建设

11、海港空港、产业聚集区、商贸集散地的物流中心建设

三十、金融服务业

1、信用担保服务体系建设

2、农村金融服务体系建设

3、债券发行、交易服务体系建设

4、农业保险、责任保险、信用保险

5. Research, development, and application of financial products
6. Development of loan business with pledge of intellectual property, right to receive income, and other intangible assets
7. Credit card and network services
8. Construction of RMB cross-border settlement and clearing systems
9. Construction of credit, insurance, and securities statistics information systems
10. Development and application of financial supervision technologies
11. Venture capital investment

XXXI. Science and Technology Service Industry

1. Professional science and technology services for industrial design, meteorology, biology, new materials, new energy, energy conservation, environmental protection, mapping, and ocean, commodity quality certification and quality testing services, and popularization of science and technology
2. Online data and transaction processing, IT facilities management, and data center services; mobile Internet services; Internet video conference and image; and other telecommunications value-added services
3. Development of industry (enterprise) management and information technology solutions, web-based software service platforms, software development and testing services, information system integration, consulting, operation and maintenance, and data mining, and other services
4. Digital music, mobile media, web publishing, and other digital content services; and information resources development services in geography, international trade, and other fields
5. Development of digital technology, high-fidelity simulation technology, high-speed computing technology, and other emerging cultural and technological support technologies and services
6. Analysis, experiment, testing, and relevant technical consultation, research, and development services; and overall intelligent product plans, ergonomic design, system simulation, and other design services

- 5、金融产品研发和应用
- 6、知识产权、收益权等无形资产贷款质押业务开发
- 7、信用卡及网络服务
- 8、人民币跨境结算、清算体系建设
- 9、信贷、保险、证券统计数据信息系统建设
- 10、金融监管技术开发与应用
- 11、创业投资

三十一、科技服务业

- 1、工业设计、气象、生物、新材料、新能源、节能、环保、测绘、海洋等专业科技服务，商品质量认证和质量检测服务、科技普及
- 2、在线数据与交易处理、IT 设施管理和数据中心服务，移动互联网服务，因特网会议电视及图像等电信增值服务
- 3、行业（企业）管理和信息化解决方案开发、基于网络的软件服务平台、软件开发和测试服务、信息系统集成、咨询、运营维护和数据挖掘等服务业务
- 4、数字音乐、手机媒体、网络出版等数字内容服务，地理、国际贸易等领域信息资源开发服务
- 5、数字化技术、高拟真技术、高速计算技术等新兴文化科技支撑技术建设及服务
- 6、分析、试验、测试以及相关技术咨询与研发服务，智能产品整体方案、人机工程设计、系统仿真等设计服务

7. Data recovery and disaster recovery services, information security protection and network security emergency support services, cloud computing security services, information security risk assessment and consultation services, information equipment and software security evaluation services, password technical product testing services, and security solution design services for the classified protection of information systems

8. Science and technology information exchange, documental information retrieval, technical consultation, technology incubation, technology achievements assessment, science and technology attestation, and other services

9. Intellectual property agency, transfer, registration, identification, retrieval, evaluation, certification, consulting, and relevant investment and financing services

10. Construction of national engineering (technology) research centers, national engineering laboratories, state-accredited enterprise technology centers, key laboratories, high-tech innovation service centers, new product development and design centers, scientific research pilot test bases, and experimental bases

11. Information technology outsourcing, business process outsourcing, knowledge process outsourcing, and other advanced technology services

XXXII. Commercial Service Industry

1. Leasing services

2. Economy, management, information, accounting, taxation, assurance (including audit services), legal, energy conservation, environmental protection, and other consultation and services

3. Engineering consulting services (including but not limited to plan preparation and consultation, investment opportunity research, feasibility study, appraisal and consultation, engineering survey design, bidding agency, engineering and equipment supervision, and engineering project management)

4. Construction of credit investigation and rating and other credit service systems

5. Asset appraisal, calibration, testing, inspection, and other services

7、数据恢复和灾备服务，信息安全防护、网络安全应急支援服务，云计算安全服务、信息安全风险评估与咨询服务，信息装备和软件安全评测服务，密码技术产品测试服务，信息系统等级保护安全方案设计服务

8、科技信息交流、文献信息检索、技术咨询、技术孵化、科技成果评估和科技鉴证等服务

9、知识产权代理、转让、登记、鉴定、检索、评估、认证、咨询和相关投融资服务

10、国家级工程（技术）研究中心、国家工程实验室、国家认定的企业技术中心、重点实验室、高新技术创业服务中心、新产品开发设计中心、科研中试基地、实验基地建设

11、信息技术外包、业务流程外包、知识流程外包等技术先进型服务

三十二、商务服务业

1、租赁服务

2、经济、管理、信息、会计、税务、鉴证（含审计服务）、法律、节能、环保等咨询与服务

3、工程咨询服务（包括规划编制与咨询、投资机会研究、可行性研究、评估咨询、工程勘察设计、招标代理、工程和设备监理、工程项目管理等）

4、资信调查与评级等信用服务体系建设

5、资产评估、校准、检测、检验等服务

6. Property right transaction service platforms

7. Advertisement creativity, planning, design, and production

8. Employment and business start-up guidance, online recruitment, training, personnel dispatch, senior personnel recruitment, personnel evaluation, human resource management consultation, human resources outsourcing services, and other human resource service sectors

9. Construction of human resources markets and supporting service facilities

10. Construction of movement and employment service platforms for rural labor forces

11. Exhibition services (excluding construction of exhibition venues)

XXXIII. Commerce and Trade Service Industry

1. Construction of modern market circulation facilities for agricultural products and production materials

2. Chain operations of agricultural materials, such as seeds, seedlings, breeding livestock and poultry, fish fries (species), fertilizers, pesticides, farm machinery, and agricultural films

3. Chain operations of rural-orientated daily supplies, such as daily necessities, medicines, and publications

4. Agricultural product auction services

5. Construction of uniform allocation and distribution networks for commercial and trade enterprises

6. Transformation and improvement of traditional commodity trading markets by using information technologies

7. Flea market construction

8. Construction of modern used car trading service systems

XXXIV. Tourism Industry

1. Development of and marketing services for leisure, mountain climbing,

6、产权交易服务平台

7、广告创意、广告策划、广告设计、广告制作

8、就业和创业指导、网络招聘、培训、人员派遣、高级人才访聘、人员测评、人力资源管理咨询、人力资源服务外包等人力资源服务业

9、人力资源市场及配套服务设施建设

10、农村劳动力转移就业服务平台建设

11、会展服务（不含会展场馆建设）

三十三、商贸服务业

1、现代化的农产品、生产资料市场流通设施建设

2、种子、种苗、种畜禽和鱼苗（种）、化肥、农药、农机具、农膜等农资连锁经营

3、面向农村的日用品、药品、出版物等生活用品连锁经营

4、农产品拍卖服务

5、商贸企业的统一配送和分销网络建设

6、利用信息技术改造提升传统商品交易市场

7、旧货市场建设

8、现代化二手车交易服务体系建设

三十四、旅游业

1、休闲、登山、滑雪、潜水、探险等各

skiing, scuba diving, expedition, and other outdoor activity supplies

2. Comprehensive development services for rural tourism, eco-tourism, forest tourism, industrial tourism, sports tourism, historic revolution site tourism, ethnic customs, and other tourism resources

3. Tourism infrastructure construction and tourism information services

4. Development and marketing of tourist commodities and souvenirs

XXXV. Postal Industry

1. Postal savings network construction

2. Integrated postal service network construction

3. Mail processing automation engineering

4. Construction of postal public service information platforms including universal postal service infrastructure accounts, recordation and licensing of express companies, ordinary (express) mail time limit monitoring, consumer complaints, satisfaction survey and publicity, zip code and postage inquiry, and other public services and market regulatory functions

5. Construction of urban and rural express delivery service outlets and stores and other express service outlets

6. Construction of express mail sorting centers, transfer centers, collecting and distributing centers, processing hubs, and other express mail processing facilities in cities, within regions, and between regions.

7. Development and application of express mail tracking and inquiry, automatic sorting, delivery scheduling, express delivery customer service call centers, and other express delivery information systems

8. Development and application of express mail sorting and processing, data collection, container, and other express delivery technologies and equipment

9. Development of technologies for integration of mail and express delivery transportation and transportation networks

XXXVI. Education, Culture, Health, and Sports Service Industries

类户外活动用品开发与营销服务

2、乡村旅游、生态旅游、森林旅游、工业旅游、体育旅游、红色旅游、民族风情游及其他旅游资源综合开发服务

3、旅游基础设施建设及旅游信息服务

4、旅游商品、旅游纪念品开发及营销

三十五、邮政业

1、邮政储蓄网络建设

2、邮政综合业务网建设

3、邮件处理自动化工程

4、邮政普遍服务基础设施台帐、快递企业备案许可、邮（快）件时限监测、消费者申诉、满意度调查与公示、邮编及行业资费查询等公共服务和市场监管功能等邮政业公共服务信息平台建设

5、城乡快递营业网点、门店等快递服务网点建设

6、城市、区域内和区域间的快件分拣中心、转运中心、集散中心、处理枢纽等快递处理设施建设

7、快件跟踪查询、自动分拣、运递调度、快递客服呼叫中心等快递信息系统开发与应用

8、快件分拣处理、数据采集、集装箱等快递技术、装备开发与应用

9、邮件、快件运输与交通运输网络融合技术开发

三十六、教育、文化、卫生、体育服务业

1. Preschool education	1、学前教育
2. Special education	2、特殊教育
3. Vocational education	3、职业教育
4. Remote education	4、远程教育
5. Construction of culture and art, press and publication, radio, film and television, mass culture, and science popularization facilities	5、文化艺术、新闻出版、广播影视、大众文化、科普设施建设
6. Cultural relic protection and facility construction	6、文物保护及设施建设
7. Cultural creativity and design services	7、文化创意设计服务
8. Cultural information resources sharing projects	8、文化信息资源共享工程
9. Production, distribution, trading, broadcasting, publication, and development of derivatives of radio and television programs and films	9、广播影视制作、发行、交易、播映、出版、衍生品开发
10. Creation, production, dissemination, publication, and development of derivatives of animation	10、动漫创作、制作、传播、出版、衍生产品开发
11. Mobile multimedia radio and television, radio and film and television digitization, and digital film service supervision technologies and the application thereof	11、移动多媒体广播电视、广播影视数字化、数字电影服务 监管技术及应用
12. Technical services and development for network audio-visual programs	12、网络视听节目技术服务、开发
13. Radio and television access projects for all villages and rural film projection projects	13、广播电视村村通工程、农村电影放映工程
14. Construction of community bookstores, bookstores for farmers, newspaper boards, and other basic press and publication service facilities	14、社区书屋、农家书屋、阅报栏等基本新闻出版服务设施建设
15. Development and application of press and publication content supervision technologies, copyright protection technologies, publication production technologies, and publication distribution technologies	15、新闻出版内容监管技术、版权保护技术、出版物的生产技术、出版物发行技术开发与应用
16. Technical development and application and industrialization of e-paper and readers and other new press and publication carriers	16、电子纸、阅读器等新闻出版新载体的技术开发、应用和产业化
17. Development and application of spoken and written language technologies	17、语言文字技术开发与应用

18. Construction of basic-level public cultural facilities	18、基层公共文化设施建设
19. Protection and development of intangible cultural heritages	19、非物质文化遗产保护与开发
20. Protection and development of ethnic and folk arts and traditional arts and crafts	20、民族和民间艺术、传统工艺美术保护与发展
21. Protection of famous national historical and cultural cities (towns and villages) and cultural blocks	21、国家历史文化名城（镇、村）和文化街区保护
22. Performing arts sector	22、演艺业
23. International marketing and popularization of top-notch Chinese cultural and artistic products	23、民族文化艺术精品的国际营销与推广
24. Construction of prevention and healthcare, health emergency response, and health surveillance service facilities	24、预防保健、卫生应急、卫生监督服务设施建设
25. Family planning, prenatal and postnatal care, and reproductive health consultation and services	25、计划生育、优生优育、生殖健康咨询与服务
26. General medical practice services	26、全科医疗服务
27. Distance medical services	27、远程医疗服务
28. Health consultation, health management, medical knowledge, and other medical information services	28、卫生咨询、健康管理、医疗知识等医疗信息服务
29. Construction of medical and health service facilities	29、医疗卫生服务设施建设
30. Facility construction and services of specialized hospitals and nursing homes (stations) for infectious diseases, children, and mental health	30、传染病、儿童、精神卫生专科医院和护理院（站）设施建设与服务
31. Psychological counseling services	31、心理咨询服务
32. Socialization and specialized rehabilitation services and nursing services for the disabled	32、残疾人社会化、专业化康复服务和托养服务
33. Sports competition and performance, sports facility construction and operation, and mass sports fitness and recreation services	33、体育竞赛表演、体育场馆设施建设及运营、大众体育健身休闲服务
34. Sports brokerage, training, and information consulting services	34、体育经纪、培训、信息咨询服务
35. Protection and development of China's time-honored brands	35、中华老字号的保护与发展
XXXVII. Other Service Industries	三十七、其他服务业

1. Construction and management of indemnificatory housing	1、保障性住房建设与管理
2. Property management services	2、物业服务
3. Activity places for the elderly and minors	3、老年人、未成年人活动场所
4. Construction of basic service facilities and integrated service networks for urban and rural communities	4、城乡社区基础服务设施及综合服务网点建设
5. Construction of social welfare institutions engaging in children welfare, special care and adoption and relevant supporting service facilities	5、儿童福利、优抚收养性社会福利机构及相关配套服务设施建设
6. Construction of relief management stations and relevant supporting facilities	6、救助管理站及相关配套设施建设
7. Construction of public funeral service facilities	7、公共殡葬服务设施建设
8. Construction and services of supporting public service platforms for development zones and industry cluster districts	8、开发区、产业集聚区配套公共服务平台建设与服务
9. Housekeeping services	9、家政服务
10. Services for the elderly	10、养老服务
11. Community care services	11、社区照料服务
12. Caretaker services for patients	12、病患陪护服务
13. Construction of reclaimed resources recycling network systems	13、再生资源回收利用网络体系建设
14. Wedding celebration services	14、婚庆服务业
15. Construction of basic-level employment and social security service facilities	15、基层就业和社会保障服务设施建设
16. Construction of service facilities for unattended dependents of rural migrant workers	16、农民工留守家属服务设施建设
17. Social security "all-in-one-card" projects	17、社会保障一卡通工程
18. Construction of work-related injury rehabilitation centers	18、工伤康复中心建设
XXXVIII. Environmental Protection and Energy-Saving Comprehensive Utilization	三十八、环境保护与资源节约综合利用
1. Ecological restoration projects for mines	1、矿山生态环境恢复工程

2. Marine environmental protection and scientific development	2、海洋环境保护及科学开发
3. Development and utilization of brackish water, alkaline water, inferior water, and seawater; and seawater desalination projects	3、微咸水、苦咸水、劣质水、海水的开发利用及海水淡化工程
4. Development and utilization of substitutes for ozone depleting substances (ODS)	4、消耗臭氧层物质替代品开发与利用
5. Construction of regional resources recycling bases for scrapped and used cars, waste and used electrical and electronic products, scrapped vessels, scrapped steel, and scrapped wood, among others	5、区域性废旧汽车、废旧电器电子产品、废旧船舶、废钢铁、废旧木材等资源循环利用基地建设
6. Effluent radiation environment monitoring technology projects	6、流出物辐射环境监测技术工程
7. Environmental monitoring system projects	7、环境监测体系工程
8. Development and manufacture of hazardous waste (radioactive waste, nuclear facilities decommissioning projects, medical waste, and waste containing heavy metals) safe disposal technologies and construction of disposal centers	8、危险废弃物（放射性废物、核设施退役工程、医疗废物、含重金属废弃物）安全处置技术设备开发制造及处置中心建设
9. Mobile pollution source (locomotives, ships, and cars, among others) monitoring, prevention, and control technologies	9、流动污染源（机车、船舶、汽车等）监测与防治技术
10. Application of urban traffic noise and vibration control technologies	10、城市交通噪声与振动控制技术应用
11. Development and application of power grid and information system electromagnetic radiation control technologies	11、电网、信息系统电磁辐射控制技术开发与应用
12. Development and application of dioxin emission reduction and control technologies	12、削减和控制二恶英排放的技术开发与应用
13. Development and application of substitutes for persistent organic pollutant products	13、持久性有机污染物类产品的替代品开发与利用
14. Development and application of disposal technologies for abandoned persistent organic pollutant products	14、废弃持久性有机污染物类产品处置技术开发与应用
15. Comprehensive utilization and control projects for "three wastes" (waste water, waste gas, and waste residues)	15、“三废”综合利用及治理工程
16. Development and production of biological bacteria and additives for the treatment of "three wastes" (waste water, waste gas, and waste residues)	16、“三废”处理用生物菌种和添加剂开发与生产

17. Development and application of mercury recycling and treatment technologies for mercury-containing waste and of substitutes for mercury-containing products	17、含汞废物的汞回收处理技术、含汞产品的替代品开发与应用
18. Application of water recycling technologies	18、重复用水技术应用
19. Development of efficient and low-energy sewage treatment and recycling technologies	19、高效、低能耗污水处理与再生技术开发
20. Reduction, recycling, harmless treatment, and comprehensive utilization projects for urban garbage and other solid waste	20、城镇垃圾及其他固体废弃物减量化、资源化、无害化处理和综合利用工程
21. Anti-seepage technologies and materials for waste landfill	21、废物填埋防渗技术与材料
22. Development and production of new-type water treatment agents	22、新型水处理药剂开发与生产
23. Development and application of energy-saving, water-saving, and material-saving technologies for environmental protection and comprehensive utilization of resources; and equipment manufacture	23、节能、节水、节材环保及资源综合利用等技术开发、应用及设备制造
24. Efficient and energy-saving mining and ore dressing technologies (agents)	24、高效、节能采矿、选矿技术（药剂）
25. Encouragement and popularization of technologies for the separation and comprehensive utilization of valuable elements in co-existing and associated mineral resources	25、鼓励推广共生、伴生矿产资源中有价元素的分离及综合利用技术
26. Development and comprehensive utilization of low-grade, complicated, and intractable mines	26、低品位、复杂、难处理矿开发及综合利用
27. Comprehensive utilization of tailings, waste residues, and other resources	27、尾矿、废渣等资源综合利用
28. Industrialization of reclaimed resources recycling	28、再生资源回收利用产业化
29. Development of reclaimed resources recycling technologies and equipment for waste and used electrical and electronic products, waste printed circuit boards, used batteries, scrapped ships, scrapped agricultural machinery, waste plastics, waste rubber, and waste oil and fat, among others	29、废旧电器电子产品、废印刷电路板、废旧电池、废旧船舶、废旧农机、废塑料、废橡胶、废弃油脂等再生资源循环利用技术与设备开发
30. Recycling and remanufacture of scraped vehicles, engineering machinery, mining machinery, machine tool products, agricultural machinery, and ships and other waste and used mechanical and electrical	30、废旧汽车、工程机械、矿山机械、机床产品、农业机械、船舶等废旧机电产品及零部件再利用、再制造，墨盒、

products and their components and parts; and remanufacture (refill) of ink cartridges and organic photoconductive drums

31. Comprehensive utilization technologies and equipment: steel scrap crushing production lines with 4,000 Hp or more; waste plastic composite material recovery and processing outfits (with a recovery rate of 95% or more); technical equipment for the comprehensive utilization of light hydrocarbon petrochemical byproducts; biomass energy technical equipment (power generation, oil manufacture, and biogas); and sulfur recovery equipment (Cryogenic Claus process)

32. Research, development, and application of remediation technologies for soil containing persistent organic pollutants

33. Development and application of heavy metal emission reduction and control technologies

34. Industrial degradation-resistant organic wastewater treatment technologies

35. Toxic and organic waste gas and foul odor treatment technologies

36. Efficient, energy-saving, and environment-friendly mining and ore dressing technologies

37. Providing users with energy auditing, design, financing, renovation, operation management, and other services

38. Development of kitchen waste resources utilization technologies and infrastructure construction

39. Carbon capture, storage, and utilization technical equipment

40. Ice storage technology and outfit manufacture

XXXIX. Public Safety and Emergency Response Products

1. Development and application of earthquake, tsunami, and geological disaster monitoring and early warning technologies

2. Development and application of biological disaster and animal epidemic monitoring and early warning technologies

3. Development and application of automatic safety monitoring and alarm technologies for dams and tailing ponds

有机光导鼓的再制造（再填充）

31、综合利用技术设备：4000 马力以上废钢破碎生产线；废塑料复合材料回收处理成套装备（回收率 95%以上）；轻烃类石化副产物综合利用技术装备；生物质能技术装备（发电、制油、沼气）；硫回收装备（低温克劳斯法）

32、含持久性有机污染物土壤修复技术的研发与应用

33、削减和控制重金属排放的技术开发与应用

34、工业难降解有机废水处理技术

35、有毒、有机废气、恶臭处理技术

36、高效、节能、环保采选矿技术

37、为用户提供节能诊断、设计、融资、改造、运行管理等服务

38、餐厨废弃物资源化利用技术开发及设施建设

39、碳捕获、存储及利用技术装备

40、冰蓄冷技术及其成套设备制造

三十九、公共安全与应急产品

1、地震、海啸、地质灾害监测预警技术开发与应用

2、生物灾害、动物疫情监测预警技术开发与应用

3、堤坝、尾矿库安全自动监测报警技术开发与应用

4. Development and application of coal, mine, and other work safety monitoring and alarm technologies	4、煤炭、矿山等安全生产监测报警技术开发与应用
5. Development and application of accident early warning technologies for means of public transport	5、公共交通工具事故预警技术开发与应用
6. Technologies and products for the rapid detection of water, soil, and air pollutants	6、水、土壤、空气污染物快速监测技术与产品
7. Rapid detection instruments for food and drug safety	7、食品药品安全快速检测仪器
8. Testing reagents and instruments for newly-discovered infectious diseases	8、新发传染病检测试剂和仪器
9. Rapid screening equipment for persons with abnormal body temperatures in public places	9、公共场所体温异常人员快速筛查设备
10. Urban public security monitoring and early warning platform technologies	10、城市公共安全监测预警平台技术
11. Detection technologies and products for narcotics and other contraband, as well as nuclear, biological, and chemical terrorism sources	11、毒品等违禁品、核生化恐怖源探测技术与产品
12. Rapid detection technologies and products for inflammable, explosive, strongly corrosive, radioactive, and other hazardous substances	12、易燃、易爆、强腐蚀性、放射性等危险物品快速检测技术与产品
13. Development and application of protective equipment for emergency rescue personnel	13、应急救援人员防护用品开发与应用
14. Development and application of personal protection products for social groups	14、社会群体个人防护用品开发与应用
15. Development and application of new-type lightning disaster protection technologies	15、雷电灾害新型防护技术开发与应用
16. Emergency risk avoidance facilities for mines and other special workplaces	16、矿井等特殊作业场所应急避险设施
17. Technologies and products for detection and rapid obtainment of emergency site information	17、突发事件现场信息探测与快速获取技术及产品
18. Life detection instruments	18、生命探测仪器
19. Fire fighting and rescue technologies and products for large-scale public buildings, high-rise buildings, petrochemical facilities, forests,	19、大型公共建筑、高层建筑、石油化工设施、森林、山岳、水域和地下设施

mountains, water areas, and underground facilities

20. Lifting, excavating, drilling, and other special engineering machinery for emergency rescue

21. Communication command, power recovery, logistical support, and other special vehicles for emergency rescue

22. Detection, dismantling, life-saving, lighting, smoke exhaust, leakage-blocking, transmission, decontamination, lifting, delivery, and other efficient rescue products

23. Parachutes and tray equipment for dropping emergency supplies

24. Development and application of equipment and instruments for emergency restoration of transportation facilities destroyed by disasters

25. Development and application of ice and snow removal machinery and environment-friendly snowmelt agents for public transport facilities

26. Manufacture of emergency salvage and cleanup equipment for port floating debris

27. Construction of emergency facilities and equipment manufacture for hazardous chemicals and oil products at ports

28. Vessel marine oil spilling emergency disposal equipment

29. Emergency environmental protection technical equipment for sudden environmental disasters: hot-wall bituminous pavement geothermal energy recycling equipment (recycling depth: 0-60 mm); radiation-free expressway fog and snow blockers; rapid absorption and handling technical equipment for noxious and harmful liquids; rapid disposal devices for mobile medical waste; mobile small garbage cleaning equipment; rapid harmless treatment devices for human and animal excrement; rapid harmless treatment devices for poultry pathogens; and special instrument for identification of properties of hazardous waste

30. Emergency power generation equipment

31. Emergency lighting fixtures and lamps

32. First-aid and evacuation platforms integrating life support, treatment, and care

消防灭火救援技术与产品

20、起重、挖掘、钻凿等应急救援特种工程机械

21、通信指挥、电力恢复、后勤保障等应急救援特种车辆

22、侦检、破拆、救生、照明、排烟、堵漏、输转、洗消、提升、投送等高效救援产品

23、应急物资投放伞具和托盘器材

24、因灾损毁交通设施应急抢通装备及器材开发与应用

25、公共交通设施除冰雪机械及环保型除雪剂开发与应用

26、港口漂浮物应急打捞清理装备制造

27、港口危险化学品、油品应急设施建设及设备制造

28、船舶海上溢油应急处置装备

29、突发环境灾难应急环保技术装备：热墙式沥青路面地热再生设备（再生深度：0~60 毫米）；无辐射高速公路雾雪屏蔽器；有毒有害液体快速吸纳处理技术装备；移动式医疗垃圾快速处理装置；移动式小型垃圾清洁处理装备；人畜粪便无害化快速处理装置；禽类病原体无害化快速处理装置；危险废物特性鉴别专用仪器

30、应急发电设备

31、应急照明器材及灯具

32、生命支持、治疗、监护一体化急救与后送平台

33. Mobile medical assistance systems	33、机动医疗救护系统
34. Vaccines and medicines for the prevention and control of public health and biological emergencies	34、防控突发公共卫生和生物事件疫苗和药品
35. Rapid purification devices for drinking water	35、饮用水快速净化装置
36. Emergency communication technologies and products	36、应急通信技术与产品
37. Technological development and application of emergency decision-making and commanding platforms	37、应急决策指挥平台技术开发与应用
38. Anti-terrorism technologies and equipment	38、反恐技术与装备
39. Traffic, community, and other socialized emergency rescue services	39、交通、社区等应急救援社会化服务
40. Emergency logistics facilities and services	40、应急物流设施及服务
41. Emergency consultation, training, leasing, and insurance services	41、应急咨询、培训、租赁和保险服务
42. Emergency supplies reserve infrastructure construction	42、应急物资储备基础设施建设
43. Construction of emergency rescue bases and public emergency experience infrastructure	43、应急救援基地、公众应急体验基础设施建设
44. Elevating platform fire trucks, water tower fire trucks, airport fire trucks, forest fire trucks, and special fire trucks for urban rail transit	44、登高平台消防车、举高喷射消防车、机场消防车、森林消防车、城市轨道交通专用消防车
45. Fire-fighting robots with fire extinguishing, detection, smoke exhaust, salvation, and other functions	45、具有灭火、侦查、排烟、救助等功能的消防机器人
46. Fire hoses with a nominal diameter of 150 mm or more and fire hoses with synthetic rubber linings	46、公称直径 $\geq 150\text{mm}$ 的消防水带、人工合成橡胶衬里消防水带
47. Water-based fire-retardant coating for steel structures and fire-retardant components for prefabricated modular steel structures	47、水性钢结构防火涂料、预制组合式钢结构防火构件
48. Non-combustible external thermal insulation materials and fire-retardant products	48、不燃外保温材料、阻燃制品
49. Synthetic gas fire extinguishing agents used as a substitute for halon, substitutes for fluorinated surfactants of foam extinguishing agents, efficient fire extinguishing agents for building external thermal insulation materials, non-phosphorus fire retardants, efficient fire extinguishing	49、用于哈龙替代的合成类气体灭火剂、泡沫灭火剂氟表面活性剂替代物、建筑外保温材料高效灭火剂、无磷类阻燃剂、塑胶及合成类纺织品高效灭火

agents for plastics and synthetic textiles, and special extinguishing agents for metal fires

50. Clean agent fire suppression systems, fire detection tube fire extinguishing equipment, and special fire extinguishing systems for wind power generation devices

51. Fire protection emergency lighting and evacuation direction products which use new energy-saving and environment-friendly light sources

XL. Industrial Explosive Products

1. On-site explosive mixed loading operation mode and low-sensitivity bulk explosives

2. Electronic delay detonators

3. Rigid fusehead detonators

4. High-penetration oil perforating charges

5. High-resolution seismic explosive columns

6. Composite shock-conducting tubes

7. A series of detonating cords applicable for different uses

8. High-performance safe industrial explosives

9. Continuous and automated industrial explosive detonator production lines and automated powder filling and packaging technologies and equipment

10. Advanced blasting equipment for weather modification operations

Category II Restriction

I. Agriculture and Forestry

1. Overgrazing in natural grassland

2. Production equipment of ordinary particleboard and high- or medium-density fiberboard, with a single-line annual output of less than 50,000 cubic meters

3. Production equipment of wood particleboard with a single-line annual

剂、金属火灾专用灭火剂

50、洁净气体灭火系统、探火管灭火装置、风力发电装置专用灭火系统

51、使用节能环保新型光源的消防应急照明和疏散指示产品

四十、民爆产品

1、炸药现场混装作业方式和低感度散装炸药

2、电子延期雷管

3、刚性药头雷管

4、高穿深石油射孔弹

5、具有高分辨率的震源药柱

6、复合型导爆管

7、适用于不同使用需要的系列导爆索

8、高性能安全型工业炸药

9、连续化、自动化工业炸药雷管生产线、自动化装药、包装技术与设备

10、先进的人工影响天气用燃爆器材

第二类 限制类

一、农林业

1、天然草场超载放牧

2、单线 5 万立方米/年以下的普通刨花板、高中密度纤维板生产装置

3、单线 3 万立方米/年以下的木质刨花

output of less than 30,000 cubic meters

4. Rosin production projects with an annual output of less than 1,000 tons

5. Veterinary powder/pulvis/premix production line projects (excluding varieties with a new veterinary drug certificate and automated, closed and efficient mixture production techniques)

6. Veterinary cell vaccine production line projects in the production mode of roller bottle (excluding varieties with a new veterinary drug certificate and projects using new technology)

7. Preliminary processing projects of turpentine

8. Production and use of disposable wood products and wood packaging with high-quality wood as raw materials, as well as wood and bamboo processing projects with a low comprehensive utilization rate in wood and bamboo processing

9. Plywood and block board production lines with an annual output of less than 10,000 cubic meters

10. Root carving manufacture with rare plants

11. Processing of rare and endangered wild animals and plants with wild resources as raw materials

12. Feeding cage culture in lakes or reservoirs

13. Agricultural development projects in wastelands adverse to ecological protection

14. Construction of pulpwood forest bases in water-stressed areas or national ecologically-vulnerable areas

15 Projects of conversion of grain into ethanol and edible vegetable oil into bio-fuel.

16. Industrial and real estate development projects on forest lands

II. Coal

1. Coal mine projects with a single well scale of less than: 1.2 million tons per year in Shanxi, Inner Mongolia, and Shaanxi; 150,000 tons per year in

板生产装置

4、1000 吨/年以下的松香生产项目

5、兽用粉剂 / 散剂 / 预混剂生产线项目
(持有新兽药证书的品种和自动化密闭式高效率混合生产工艺除外)

6、转瓶培养生产方式的兽用细胞苗生产线项目 (持有新兽药证书的品种和采用新技术的除外)

7、松脂初加工项目

8、以优质林木为原料的一次性木制品与木制包装的生产和使用以及木竹加工综合利用率偏低的木竹加工项目

9、1 万立方米/年以下的胶合板和细木工板生产线

10、珍稀植物的根雕制造业

11、以野外资源为原料的珍贵濒危野生动植物加工

12、湖泊、水库投饵网箱养殖

13、不利于生态环境保护的开荒性农业开发项目

14、缺水地区、国家生态脆弱区纸浆原料林基地建设

15、粮食转化乙醇、食用植物油料转化生物燃料项目

16、在林地上从事工业和房地产开发的项目

二、煤炭

1、单井井型低于以下规模的煤矿项目：
山西、内蒙古、陕西 120 万吨/年；重

Chongqing, Sichuan, Guizhou, and Yunnan; 90,000 tons per year in Fujian, Jiangxi, Hubei, Hunan, and Guangxi; and 300,000 tons per year in other regions.

2. Coal mine projects using non-mechanical mining techniques

3. Coal mine projects with the designed recovery rate of coal resources failing to meet the requirements of the state

4. Coal mine projects failing to undergo the reporting procedure for approval of overall mining area plans as required by the state

5. New coal mine projects with more than two underground stopes

III. Electric Power

1. Conventional coal-fired thermal power generating sets with a unit capacity of less than 300,000 kW, except for small-scale power grids

2. Water-cooled generating sets with coal consumption of over 300g standard coal per kWh, and air-cooled generating sets with coal consumption of over 305g standard coal per kWh, except for small-scale power grids

3. Diversion-type hydropower generation without let-down ecological flow

IV. Petrochemistry

1. New construction of atmospheric and vacuum distillation units with an annual output of less than 10 million tons, catalytic cracking units with an annual output of less than 1.5 million tons, continuous reforming units (including aromatics extraction) with an annual output of less than 1 million tons, and hydrocracking units with an annual output of 1.5 less than million tons

2. New construction of production units (excluding comprehensive utilization) of ethylene by naphtha cracking with an annual output of less than 800,000 tons, acrylonitrile with an annual output of less than 130,000 tons, purified terephthalic acid with an annual output of less than 1 million tons, ethylene with an annual output of less than 200,000 tons, styrene (excluding ethylbenzene by dry gas process) with an annual output of less than 200,000 tons, caprolactam or ethylene acetic acid with an annual output of less than 100,000 tons, acetic acid by oxo synthesis or methanol

庆、四川、贵州、云南 15 万吨/年；福建、江西、湖北、湖南、广西 9 万吨/年；其他地区 30 万吨/年

2、采用非机械化开采工艺的煤矿项目

3、设计的煤炭资源回收率达不到国家规定要求的煤矿项目

4、未按规定程序报批矿区总体规划的煤矿项目

5、井下回采工作面超过 2 个的新建煤矿项目

三、电力

1、小电网外，单机容量 30 万千瓦及以下的常规燃煤火电机组

2、小电网外，发电煤耗高于 300 克标准煤/千瓦时的湿冷发电机组，发电煤耗高于 305 克标准煤/千瓦时的空冷发电机组

3、无下泄生态流量的引水式水力发电

四、石化化工

1、新建 1000 万吨/年以下常减压、150 万吨/年以下催化裂化、100 万吨/年以下连续重整（含芳烃抽提）、150 万吨/年以下加氢裂化生产装置

2、新建 80 万吨/年以下石脑油裂解制乙烯、13 万吨/年以下丙烯腈、100 万吨/年以下精对苯二甲酸、20 万吨/年以下乙二醇、20 万吨/年以下苯乙烯（干气制乙苯工艺除外）、10 万吨/年以下己内酰胺、乙烯法醋酸、30 万吨/年以下羰基合成法醋酸、天然气制甲醇、100 万吨/年以下煤制甲醇生产装置（综合利用除

by natural gas with an annual output of less than 300,000 tons, and coal methanol with an annual output of less than 1 million tons; production units of acrylic by acetone cyanohydrin process, acetone/butanol by food process, epichlorohydrin by chlorohydrin process, and epichlorohydrin by saponification process; and production units of saponin (including hydrolyzate but excluding comprehensive utilization) with an annual output of less than 300 tons

3. New construction of production units of polypropylene with an annual output of less than 70,000 tons (by continuous process and batch process), polyethylene or polyvinyl chloride by acetylene process with an annual output of less than 200,000 tons, polyvinyl chloride by ethylene oxychlorination process with an initial scale of less than 300,000 tons, polystyrene with an annual output of less than 100,000 tons, acrylonitrile/butadiene/styrene copolymer (ABS, excluding noumenon continuous process) with an annual output of less than 200,000 tons, and ordinary synthetic latex-carboxy butadiene-styrene rubber (containing styrene-butadiene latex) with an annual output of less than 30,000 tons; and new construction, reconstruction or expansion of production units of general-purpose adhesives, such as solvent-based neoprene rubber, styrene-butadiene thermoplastic rubber, polyurethane, and polyacrylate

4. New construction of production units of soda ash, caustic soda, sulfuric acid with an annual output of less than 300,000 tons, acid with an annual output of less than 200,000 tons made from iron pyrite, nitric acid by atmospheric process and comprehensive process, calcium carbide (except using large advanced process equipment for equivalent replacement), and potassium hydroxide with a single-line production capacity of less than 50,000 tons per year

5. New construction of production units of sodium tripolyphosphate, sodium hexametaphosphate, phosphorus trichloride, phosphorus pentasulfide, dicalcium phosphate as feed, sodium chlorate, sodium dichromate with low calcium through roasting process, electrolytic manganese dioxide, calcium carbonate at the common level, anhydrous sodium sulfate (excluding salt co-production and by-products), barium carbonate, barium sulfate, barium hydroxide, barium chloride, barium nitrate, strontium carbonate, white carbon black (excluding fumed silica), and choline chloride

6. New construction of production units of yellow phosphorus, sodium cyanide (100%) with an initial scale of less than 30,000 tons per year and with a single-line capacity of less than 10,000 tons per year, lithium

外), 丙酮氰醇法丙烯酸、粮食法丙酮/丁醇、氯醇法环氧丙烷和皂化法环氧氯丙烷生产装置, 300 吨/年以下皂素(含水解物, 综合利用除外)生产装置

3、新建 7 万吨/年以下聚丙烯(连续法及间歇法)、20 万吨/年以下聚乙烯、乙炔法聚氯乙烯、起始规模小于 30 万吨/年的乙烯氧氯化法聚氯乙烯、10 万吨/年以下聚苯乙烯、20 万吨/年以下丙烯腈/丁二烯/苯乙烯共聚物(ABS, 本体连续法除外)、3 万吨/年以下普通合成胶乳-羧基丁苯胶(含丁苯胶乳)生产装置, 新建、改扩建溶剂型氯丁橡胶类、丁苯热塑性橡胶类、聚氨酯类和聚丙烯酸酯类等通用型胶粘剂生产装置

4、新建纯碱、烧碱、30 万吨/年以下硫酸、20 万吨/年以下硫铁矿制酸、常压法及综合法硝酸、电石(以大型先进工艺设备进行等量替换的除外)、单线产能 5 万吨/年以下氢氧化钾生产装置

5、新建三聚磷酸钠、六偏磷酸钠、三氯化磷、五硫化二磷、饲料磷酸氢钙、氯酸钠、少钙焙烧工艺重铬酸钠、电解二氧化锰、普通级碳酸钙、无水硫酸钠(盐业联产及副产除外)、碳酸钡、硫酸钡、氢氧化钡、氯化钡、硝酸钡、碳酸锶、白炭黑(气相法除外)、氯化胆碱生产装置

6、新建黄磷, 起始规模小于 3 万吨/年、单线产能小于 1 万吨/年氰化钠(折 100%), 单线产能 5 千吨/年以下碳酸

carbonate or lithium hydroxide with a single-line production capacity of less than 5,000 tons per year, and anhydrous aluminum fluoride or cryolite at a medium or low molecular ratio with a single-line production capacity of less than 20,000 tons per year

7. New construction of production units of nitrogen fertilizer with petroleum (excluding sulfur petroleum coke) or natural gas as raw material, ammonia synthesized by fixed layer intermittent gasification technology, and ammonium phosphate; and the purification process of feed gas from synthetic ammonia by copper washing process

8. New construction of production units of pesticides with high toxicity, high residues or a significant impact on environment (including but not limited to omethoate isocarbophos, isofenphos methyl, phorate, terbufos, methidathion, methyl bromide, methomyl, aldicarb, carbofuran, diphacinone sodium, diphacinone ketones, warfarin, coumatetralyl, bromadiolone, brodifacoum, botulinum toxin, bisultap, ethoprophos, endosulfan, phosphate aluminum, dicofol, organochlorine or organotin insecticides, thiram fungicides, and compound sodium nitrophenolate (potassium))

9. New construction of production units of glyphosate, chlorpyrifos (except for aqueous phase method), triazophos, paraquat, chlorothalonil, avermectin, imidacloprid, and acetochlor (except for the methylene method)

10. New construction of production units of titanium dioxide by sulfuric acid process, lead chromate yellow, iron oxide pigments with an annual output of less than 10,000 tons, solvent coating (excluding coating varieties and production processes in the Encouragement Category), and powder coating containing triglycidyl isocyanurate (TGIC)

11. New construction of production units of dyes, dye intermediates, organic pigments, and printing and dyeing auxiliaries (excluding dye products and production processes in the Encouragement Category)

12. New construction of production units of hydrogen fluoride (HF) (excluding those in support of phosphoric acid at the electronic grade or by wet process); and new construction of production units of methyl chlorosilane monomer with an initial scale of less than 200,000 tons per year and a single-set scale of less than 100,000 tons per year, production units of methane chloride with an annual output of less than 100,000 tons

锂、氢氧化锂，单线产能 2 万吨/年以下
无水氟化铝或中低分子比冰晶石生产装置

7、新建以石油（高硫石油焦除外）、天然气为原料的氮肥，采用固定层间歇气化技术合成氨，磷铵生产装置，铜洗法氨合成原料气净化工艺

8、新建高毒、高残留以及对环境影响大的农药原药（包括氧乐果、水胺硫磷、甲基异柳磷、甲拌磷、特丁磷、杀扑磷、溴甲烷、灭多威、涕灭威、克百威、敌鼠钠、敌鼠酮、杀鼠灵、杀鼠醚、溴敌隆、溴鼠灵、肉毒素、杀虫双、灭线磷、硫丹、磷化铝、三氯杀螨醇，有机氯类、有机锡类杀虫剂，福美类杀菌剂，复硝酚钠（钾）等）生产装置

9、新建草甘膦、毒死蜱（水相法工艺除外）、三唑磷、百草枯、百菌清、阿维菌素、吡虫啉、乙草胺（甲叉法工艺除外）生产装置

10、新建硫酸法钛白粉、铅铬黄、1 万吨/年以下氧化铁系颜料、溶剂型涂料（不包括鼓励类的涂料品种和生产工艺）、含异氰脲酸三缩水甘油酯（TGIC）的粉末涂料生产装置

11、新建染料、染料中间体、有机颜料、印染助剂生产装置（不包括鼓励类的染料产品和生产工艺）

12、新建氟化氢（HF）（电子级及湿法磷酸配套除外），新建初始规模小于 20 万吨/年、单套规模小于 10 万吨/年的甲基氯硅烷单体生产装置，10 万吨/年以下（有机硅配套除外）和 10 万吨/年及以上、没有副产四氯化碳配套处置设施的

(excluding those in support of organosilicone) or with an annual output of 100,000 tons or more but without supporting disposal facilities for by-product carbon tetrachloride, and production units of perfluorooctane sulfonyl compounds (PFOS), perfluorooctanoic acid (PFOA), and sulfur hexafluoride (SF6) (except for the high-purity grade)

13. New construction of production units of diagonal tires and hard cart tires (barrow tires), nylon cord, steel cord with an annual output of less than 30,000 tons, reclaimed rubber by conventional process (except dynamic continuous desulfurization process), pentachlorothiophenol in rubber peptizer, and tetramethylthiuram disulfide (TMTD) in rubber accelerator

V. Information industry

1. Laser disc player production lines (a series of VCD player assembled products)

2. Analog CRT monochrome and color TV projects

VI. Iron and Steel

1. Coking projects without synchronized construction of supporting units for dry quenching coke, coaling, coke pushing, and dust collection

2. Sintering machine (excluding ferroalloy sintering machine) of less than 180 square meters

3. Ironmaking blast furnaces with an effective volume of more than 400 cubic meters but less than 1,200 cubic meters; and ironmaking blast furnaces with an effective volume of 1,200 cubic meters or more but without synchronized construction of supporting pulverized coal injection, dust collection and residual pressure power generating devices, with energy consumption of more than 430kg standard coal per ton, with new water consumption of more than 2.4 cubic meters per ton, or otherwise failing to meet standards

4. Steelmaking converters with a nominal capacity of more than 30 tons but less than 100 tons; and steelmaking converters with a nominal capacity of 100 tons or more but without synchronized construction of supporting gas recovery and dust collection devices, with new water consumption of more than 3 cubic meters per ton, or otherwise failing to meet standards

甲烷氯化物生产装置, 全氟辛基磺酰化合物 (PFOS) 和全氟辛酸 (PFOA), 六氟化硫 (SF6) (高纯级除外) 生产装置

13、新建斜交轮胎和力车胎 (手推车胎)、锦纶帘线、3 万吨/年以下钢丝帘线、常规法再生胶 (动态连续脱硫工艺除外)、橡胶塑解剂五氯硫酚、橡胶促进剂二硫化四甲基秋兰姆 (TMTD) 生产装置

五、信息产业

1、激光视盘机生产线 (VCD 系列整机产品)

2、模拟 CRT 黑白及彩色电视机项目

六、钢铁

1、未同步配套建设干熄焦、装煤、推焦除尘装置的炼焦项目

2、180 平方米以下烧结机 (铁合金烧结机除外)

3、有效容积 400 立方米以上 1200 立方米以下炼铁高炉; 1200 立方米及以上但未同步配套煤粉喷吹装置、除尘装置、余压发电装置, 能源消耗大于 430 公斤标煤/吨、新水耗量大于 2.4 立方米/吨等达不到标准的炼铁高炉

4、公称容量 30 吨以上 100 吨以下炼钢转炉; 公称容量 100 吨及以上但未同步配套煤气回收、除尘装置, 新水耗量大于 3 立方米/吨等达不到标准的炼钢转炉

5. Electric furnaces with a nominal capacity of 30 tons or more but less than 100 tons (50 tons for alloy steel); and electric furnaces with a nominal capacity of 100 tons (50 tons for alloy steel) or more but without synchronized construction of supporting soot recovery devices, with energy consumption of more than 98kg standard coal per ton, with new water consumption of more than 3.2 cubic meters per ton, or otherwise failing to meet standards	5、公称容量 30 吨以上 100 吨（合金钢 50 吨）以下电炉；公称容量 100 吨（合金钢 50 吨）及以上但未同步配套烟尘回收装置，能源消耗大于 98 公斤标煤/吨、新水耗量大于 3.2 立方米/吨等达不到标准的电炉
6. Hot rolling strip steel projects (excluding special steel) of less than 1,450 mm	6、1450 毫米以下热轧带钢（不含特殊钢）项目
7. Hot-galvanized coil projects with an annual output of 300,000 tons or less	7、30 万吨/年及以下热镀锌板卷项目
8. Color coated coil projects with an annual output of 200,000 tons or less	8、20 万吨/年及以下彩色涂层板卷项目
9. Chromite-containing refractories	9、含铬质耐火材料
10. Tamping equipment and baking equipment of common-power and high-power graphite electrodes as well as production lines	10、普通功率和高功率石墨电极压型设备、焙烧设备和生产线
11. Ultra-high power graphite electrode production lines with a diameter of less than 600 mm or with an annual output of less than 20,000 tons	11、直径 600 毫米以下或 2 万吨/年以下的超高功率石墨电极生产线
12. Production lines of prebaked anode (carbon blocks) with an annual output of less than 80,000 tons, ordinary cathode blocks with an annual output of less than 20,000 tons, and carbon electrodes with an annual output of less than 40,000 tons	12、8 万吨/年以下预焙阳极（炭块）、2 万吨/年以下普通阴极炭块、4 万吨/年以下炭电极生产线
13. Pelletizing equipment with an annual unit output of less than 1.2 million tons (excluding ferroalloy pellets)	13、单机 120 万吨/年以下的球团设备（铁合金球团除外）
14. Coking projects with the height of a top-loading coke carbonization chamber lower than 6.0 meters, the height of tamping coke carbonization chamber lower than 5.5 meters, and an annual output of less than 1 million tons; heat recovery coke oven projects; and semicoke (ferroalloy coke) projects with a single-furnace annual output of less than 75,000 tons, a single-set annual output of less than 300,000 tons, and a total annual output of less than 600,000 tons	14、顶装焦炉炭化室高度<6.0 米、捣固焦炉炭化室高度<5.5 米，100 万吨/年以下焦化项目，热回收焦炉的项目，单炉 7.5 万吨/年以下、每组 30 万吨/年以下、总年产 60 万吨以下的半焦（兰炭）项目
15. Refining furnaces of medium- or low-carbon ferromanganese, electric manganese metal, and medium-, low- or micro-carbon ferrochrome of 3,000 kva or above not by hot charging and hot exchange processes	15、3000 千伏安及以上，未采用热装热兑工艺的中低碳锰铁、电炉金属锰和中低碳铬铁精炼电炉

16. Ferromanganese blast furnaces of less than 300 cubic meters; ferromanganese blast furnaces of 300 cubic meters or more with a coke ratio higher than 1,320kg per ton; ferromanganese blast furnace enterprises with a scale of less than 100,000 tons per year

17. Ore-smelting electric furnaces of calcium alloys and calcium-barium-aluminum alloys of less than 12,500 kva; and ore-smelting electric furnaces of 12,500 kva or more with calcium-silicon alloy power consumption higher than 11,000 kWh per ton

18. Silumin smelting electric furnaces of less than 16,500 kva; and ore-smelting electric furnaces of 16,500 kva or more with silumin power consumption higher than 9,000 kWh per ton

19. Ordinary ferroalloy smelting electric furnaces of less than $2 \times 25,000$ kva (capacity of smelting electric furnace $< 2 \times 12,500$ kva in key poverty-stricken areas of central and western China as determined by the state, where small-scale hydropower stations operate independently and mineral resources are rich); and ordinary ferroalloy smelting electric furnaces of $2 \times 25,000$ kva or more but with transformers not using motor-driven, multi-stage regulating three-phase or three single-phase energy-saving equipment, without mechanized process operation and automated process control, or with ferrosilicon power consumption higher than 8,500 kWh per ton, industrial silicon power consumption higher than 12,000 kWh per ton, electric furnace ferromanganese power consumption higher than 2,600 kWh per ton, manganese alloy power consumption higher than 4,200 kWh per ton, high-carbon ferrochrome power consumption higher than 3,200 kWh per ton, or silicochromium power consumption higher than 4,800 kWh per ton

20. Electric manganese metal leaching process with intermittent leaching and intermittent liquid feeding; enterprises with a single-line (transformer) annual output of less than 10,000 tons and with the total annual electric manganese metal output of less than 30,000 tons

VII. Nonferrous Metals

1. New construction or expansion projects of exploitation or smelting of tungsten, molybdenum, tin, or antimony; rare earth mining, processing, smelting, and separation projects; and antimony oxide and tin-lead solder production projects

2. Blister copper smelting projects with a single-series annual output of

16、300 立方米以下锰铁高炉；300 立方米及以上，但焦比高于 1320 千克/吨的锰铁高炉；规模小于 10 万吨/年的高炉锰铁企业

17、1.25 万千伏安以下的硅钙合金和硅钙钡铝合金矿热电炉；1.25 万千伏安及以上，但硅钙合金电耗高于 11000 千瓦时/吨的矿热电炉

18、1.65 万千伏安以下硅铝合金矿热电炉；1.65 万千伏安及以上，但硅铝合金电耗高于 9000 千瓦时/吨的矿热电炉

19、 2×2.5 万千伏安以下普通铁合金矿热电炉（中西部具有独立运行的小水电及矿产资源优势的国家确定的重点贫困地区，矿热电炉容量 $< 2 \times 1.25$ 万千伏安）； 2×2.5 万千伏安及以上，但变压器未选用有载电动多级调压的三相或三个单相节能型设备，未实现工艺操作机械化和控制自动化，硅铁电耗高于 8500 千瓦时/吨，工业硅电耗高于 12000 千瓦时/吨，电炉锰铁电耗高于 2600 千瓦时/吨，硅锰合金电耗高于 4200 千瓦时/吨，高碳铬铁电耗高于 3200 千瓦时/吨，硅铬合金电耗高于 4800 千瓦时/吨的普通铁合金矿热电炉

20、间断浸出、间断送液的电解金属锰浸出工艺；10000 吨/年以下电解金属锰单条生产线（一台变压器），电解金属锰生产总规模为 30000 吨/年以下的企业

七、有色金属

1、新建、扩建钨、钼、锡、锑开采、冶炼项目，稀土开采、选矿、冶炼、分离项目以及氧化锑、铅锡焊料生产项目

2、单系列 10 万吨/年规模以下粗铜冶炼

less than 100,000 tons

3. Electrolytic aluminum projects (excluding replacement projects for eliminating outdated production capacity and projects for optimization of industry layout)
4. Lead smelting projects (with a single-series annual output of 50,000 tons or more, excluding technical improvement and environmental protection transformation projects without increase in production capacity)
5. Zinc smelting projects with a single-series annual output of less than 100,000 tons (excluding direct leaching)
6. Magnesium smelting projects (excluding comprehensive utilization projects)
7. Independent aluminum carbon projects with an annual output of less than 100,000 tons
8. New construction of secondary lead projects with a single-series production capacity of less than 50,000 tons per year, reconstruction or expansion of secondary lead projects with a single-series production capacity of less than 20,000 tons per year, and secondary lead projects failing to meet the industry access conditions in indicators such as resource use, energy consumption, and environmental protection

VIII. Gold

1. Independent cyanidation projects with a daily gold concentrate processing capacity of less than 100 tons and a raw material self-supply ability of less than 50%
2. Independent gold concentration plant projects with a daily ore processing capacity of less than 200 tons and without a supporting mining system
3. Pyrometallurgical process projects with a daily gold concentrate processing capacity of less than 100 tons
4. Independent heap leaching projects with an annual ore processing capacity of less than 100,000 tons (in northeastern China, northern China and northwestern China) and independent heap leaching projects with an annual ore processing capacity of less than 200,000 tons (in eastern China, southern China, and southwestern China)

项目

- 3、电解铝项目（淘汰落后生产能力置换项目及优化产业布局项目除外）
- 4、铅冶炼项目（单系列 5 万吨/年规模及以上，不新增产能的技改和环保改造项目除外）
- 5、单系列 10 万吨/年规模以下锌冶炼项目（直接浸出除外）
- 6、镁冶炼项目（综合利用项目除外）
- 7、10 万吨/年以下的独立铝用炭素项目
- 8、新建单系列生产能力 5 万吨/年及以下、改扩建单系列生产能力 2 万吨/年及以下、以及资源利用、能源消耗、环境保护等指标达不到行业准入条件要求的再生铅项目

八、黄金

- 1、日处理金精矿 100 吨以下，原料自供能力不足 50%的独立氰化项目
- 2、日处理矿石 200 吨以下，无配套采矿系统的独立黄金选矿厂项目
- 3、日处理金精矿 100 吨以下的火法冶炼项目
- 4、年处理矿石 10 万吨以下的独立堆浸场项目（东北、华北、西北）、年处理矿石 20 万吨以下的独立堆浸场项目（华东、中南、西南）

5. Mining and dressing projects with a daily rock gold ore processing capacity of less than 100 tons
6. Gulch gold mining projects with an annual gulch gold ore processing capacity of less than 300,000 cubic meters
7. Gulch gold mining projects in forests, basic farmland, and river courses

IX. Building Materials

1. New-type clinker cement production lines by dry process with a daily output of less than 2,000 tons and cement grinding stations with an annual output of less than 600,000 tons
2. Ordinary float glass production lines
3. Architectural ceramics production lines with an annual output of 1.5 million square meters or less
4. Tunnel kiln sanitary ceramics production lines with an annual output of less than 600,000 pieces
5. Paper-faced gypsum board production lines with an annual output of less than 30 million square meters
6. Medium-alkali glass ball production lines and platinum crucible pot glass fiber production lines
7. Hollow clay brick production lines (excluding Shaanxi, Qinghai, Gansu, Xinjiang, Tibet, and Ningxia)
8. Gypsum (hollow) building block production lines with an annual output of less than 150,000 square meters, fixed production lines of small concrete hollow bricks with a single-shift annual output of less than 25,000 cubic meters and concrete floor bricks with a single-shift annual output of less than 150,000 square meters, and artificial lightweight aggregate (ceramic aggregate) production lines with an annual output of less than 50,000 cubic meters
9. Aerated concrete production lines with an annual output of less than 100,000 cubic meters
10. Coal gangue or shale sintered solid brick production lines with an annual output of less than 30 million standard bricks

5、日处理岩金矿石 100 吨以下的采选项目

6、年处理砂金矿砂 30 万立方米以下的砂金开采项目

7、在林区、基本农田、河道中开采砂金项目

九、建材

1、2000 吨/日以下熟料新型干法水泥生产线，60 万吨/年以下水泥粉磨站

2、普通浮法玻璃生产线

3、150 万平方米/年及以下的建筑陶瓷生产线

4、60 万件/年以下的隧道窑卫生陶瓷生产线

5、3000 万平方米/年以下的纸面石膏板生产线

6、中碱玻璃球生产线、铂金坩埚球法拉丝玻璃纤维生产线

7、粘土空心砖生产线（陕西、青海、甘肃、新疆、西藏、宁夏除外）

8、15 万平方米/年以下的石膏（空心）砌块生产线、单班 2.5 万立方米/年以下的混凝土小型空心砌块以及单班 15 万平方米/年以下的混凝土铺地砖固定式生产线、5 万立方米/年以下的人造轻集料（陶粒）生产线

9、10 万立方米/年以下的加气混凝土生产线

10、3000 万标砖/年以下的煤矸石、页岩烧结实心砖生产线

11. Rock (mineral) wool production lines with an annual output of less than 10,000 tons and glass wool product production lines with an annual output of less than 8,000 tons

12. Production lines of prestressed high-strength concrete centrifugal piles with an annual output of 1 million meters or less

13. Production lines of prestressed concrete cylinder pipe (PCCP): PCCP-L type: annual designed production capacity ≤ 50 kilometers, PCCP-E-type: annual designed production capacity ≤ 30 kilometers

X. Medicine

1. New construction or expansion of production units of gulonic acid and vitamin C powder (for drug, food, feed, and cosmetic uses) and new construction of raw material production units of vitamin B1, vitamin B2, vitamin B12 (excluding those for comprehensive utilization) and vitamin E for drug, food, feed, cosmetic and other uses

2. New construction of production units of penicillin industrial salt, 6-aminopenicillanic acid (6-APA), 7-aminocephalosporanic acid (7-ACA) produced by chemical method, 7-amino-3-desacetoxycephalos cephalosporin acid (7-ADCA), penicillin V, ampicillin, amoxicillin, cephalosporins C fermentation, oxytetracycline, tetracycline, chloramphenicol, dipyrone, paracetamol, lincomycin, gentamicin, dihydrostreptomycin, amikacin, midecamycin, leucomycin, ciprofloxacin, norfloxacin, ofloxacin, rifampin, caffeine, and theobromine

3. New construction of production units of paclitaxel (excluding ancillary taxus chinensis planting) and berberine by phytoextraction method (excluding ancillary berberine planting)

4. New construction, reconstruction, and expansion of production units of medicinal butyl rubber stoppers and plastic bottles for transfusion by two-step method

5. Establishment of new pharmaceutical manufacturing enterprises without a new drug certificate

11、10000 吨/年以下岩（矿）棉制品生产线和 8000 吨/年以下玻璃棉制品生产线

12、100 万米/年及以下预应力高强混凝土离心桩生产线

13、预应力钢筒混凝土管（简称 PCCP 管）生产线：PCCP-L 型：年设计生产能力 ≤ 50 千米，PCCP-E 型：年设计生产能力 ≤ 30 千米

十、医药

1、新建、扩建古龙酸和维生素 C 原粉（包括药用、食品用和饲料用、化妆品用）生产装置，新建药品、食品、饲料、化妆品等用途的维生素 B1、维生素 B2、维生素 B12（综合利用除外）、维生素 E 原料生产装置

2、新建青霉素工业盐、6-氨基青霉烷酸（6-APA）、化学法生产 7-氨基头孢烷酸（7-ACA）、7-氨基-3-去乙酰氧基头孢烷酸（7-ADCA）、青霉素 V、氨苄青霉素、羟氨苄青霉素、头孢菌素 c 发酵、土霉素、四环素、氯霉素、安乃近、扑热息痛、林可霉素、庆大霉素、双氢链霉素、丁胺卡那霉素、麦迪霉素、柱晶白霉素、环丙氟哌酸、氟哌酸、氟嗪酸、利福平、咖啡因、柯柯豆碱生产装置

3、新建紫杉醇（配套红豆杉种植除外）、植物提取法黄连素（配套黄连种植除外）生产装置

4、新建、改扩建药用丁基橡胶塞、二步法生产输液用塑料瓶生产装置

5、新开办无新药证书的药品生产企业

6. New construction, reconstruction, and expansion of production units of products containing endangered animals or plants as medicinal materials which have not been bred or planted on a large scale

7. New construction, reconstruction, and expansion of production units of mercury-filled glass thermometers, sphygmomanometers and silver amalgam dental materials; and new construction of production units of disposable syringes, blood transfusion apparatus, or infusion apparatus with an annual output of less than 200 million pieces

XI. Machinery

1. Manufacturing projects of drill jumbos with two arms or less

2. Manufacturing projects of rock loaders (excluding vertical claw rock loaders)

3. Manufacturing projects of small mining cars of 3 cubic meters or less

4. Manufacturing projects of winches with a diameter of 2.5 meters or less

5. Manufacturing projects of mine hoisters with a diameter of 3.5 meters or less

6. Manufacturing projects of screening machines of 40 square meters or less

7. Manufacturing projects of hydrocyclones with a diameter of 700 mm or less

8. Manufacturing projects of coal cutters of 800 kW or less

9. Manufacturing projects of mining excavators with a bucket capacity of 3.5 cubic meters or less

10. Manufacturing projects of mining agitation, concentration and filtration equipment (excluding pressurization type)

11. Low-speed vehicles (three-wheeled vehicles and low-speed trucks) (to which energy conservation and emission standards for light trucks will apply since 2015)

12. Manufacturing projects of single cylinder diesels

13. Small belt-driven four-wheel tractors with single-cylinder diesels,

6、新建及改扩建原料含有尚未规模化种植或养殖的濒危动植物药材的产品生产装置

7、新建、改扩建充汞式玻璃体温计、血压计生产装置、银汞齐齿科材料、新建 2 亿支/年以下一次性注射器、输血器、输液器生产装置

十一、机械

1、2 臂及以下凿岩台车制造项目

2、装岩机（立爪装岩机除外）制造项目

3、3 立方米及以下小矿车制造项目

4、直径 2.5 米及以下绞车制造项目

5、直径 3.5 米及以下矿井提升机制造项目

6、40 平方米及以下筛分机制造项目

7、直径 700 毫米及以下旋流器制造项目

8、800 千瓦及以下采煤机制造项目

9、斗容 3.5 立方米及以下矿用挖掘机制造项目

10、矿用搅拌、浓缩、过滤设备（加压式除外）制造项目

11、低速汽车（三轮汽车、低速货车）（自 2015 年起执行与轻型卡车同等的节能与排放标准）

12.单缸柴油机制造项目

13、配套单缸柴油机的皮带传动小四轮

walking tractors with single-cylinder diesels, and wheeled tractors of less than 50 hp with sliding gear transmission and failing to meet emission requirements	拖拉机，配套单缸柴油机的手扶拖拉机，滑动齿轮换挡、排放达不到要求的50 马力以下轮式拖拉机
14. Manufacturing projects of conventional coal-fired thermal power equipment of 300,000 kW or less (except comprehensive utilization and cogeneration units)	14、30 万千瓦及以下常规燃煤火力发电设备制造项目（综合利用、热电联产机组除外）
15. Manufacturing projects of crosslinking power cables by dry method of 6 kV or more (for land use)	15、6 千伏及以上（陆上用）干法交联电力电缆制造项目
16. Manufacturing projects of non-CNC metal-cutting machine tools	16、非数控金属切削机床制造项目
17. Manufacturing projects of standard mechanical presses of 6,300 kn or less	17、6300 千牛及以下普通机械压力机制造项目
18. Manufacturing projects of non-CNC shearing machines, bending machines, and tube bending machines	18、非数控剪板机、折弯机、弯管机制造项目
19. Projects of ordinary high-speed steel drills, milling cutters, saw blades, screw taps, and screw dies	19、普通高速钢钻头、铣刀、锯片、丝锥、板牙项目
20. Manufacturing projects of brown corundum, green silicon carbide, black silicon carbide, and other agglomerate blocks and milling materials	20、棕刚玉、绿碳化硅、黑碳化硅等烧结块及磨料制造项目
21. Various bonded grinding wheels with a diameter of less than 450 mm (excluding rail grinding wheels)	21、直径 450 毫米以下的各种结合剂砂轮（钢轨打磨砂轮除外）
22. Manufacturing projects of synthetic diamond cutting blades with a diameter of 400 mm or less	22、直径 400 毫米及以下人造金刚石切割锯片制造项目
23. Manufacturing projects of ordinary microminiature bearings at the P0 level and with a diameter of less than 60 mm	23、P0 级、直径 60 毫米以下普通微小轴承制造项目
24. Power transformers of 220 kV or less (excluding amorphous alloy, wound core, and other energy-saving distribution transformers)	24、220 千伏及以下电力变压器（非晶合金、卷铁芯等节能配电变压器除外）
25. Manufacturing projects of high-, medium- and low-voltage switchgears of 220 kV or less (excluding disconnect switchgears using environment-friendly medium voltage gas and explosion-proof switchgears for use in an explosive environment)	25、220 千伏及以下高、中、低压开关柜制造项目（使用环保型中压气体的绝缘开关柜以及用于爆炸性环境的防爆型开关柜除外）
26. Manufacturing projects of acidic carbon steel electrodes	26、酸性碳钢焊条制造项目
27. Manufacturing projects of civil ordinary watt hour meters	27、民用普通电度表制造项目

28. Manufacturing projects of ordinary low-grade standard fasteners lower than grade 8.8	28、8.8 级以下普通低档标准紧固件制造项目
29. Manufacturing projects of air compressors generally using a fixed reciprocating piston, with a drive motor power of 560 kW or less and a rated discharge pressure of 1.25 MPa or less	29、驱动电动机功率 560 千瓦及以下、额定排气压力 1.25 兆帕及以下，一般用固定的往复式空气压缩机制造项目
30. General transport dry container projects	30、普通运输集装箱项目
31. Manufacturing projects of single-stage axially split pumps of 56 inches or less	31、56 英寸及以下单级中开泵制造项目
32. Manufacturing projects of universal middle- and low-pressure carbon steel valves of 10 MPa or less	32、通用类 10 兆帕及以下中低压碳钢阀门制造项目
33. Cupolas of 5 tons per hour or less with a short furnace life	33、5 吨/小时及以下短炉龄冲天炉
34. Hexachloroethane refining of nonferrous alloys and SF6 protection of magnesium alloys	34、有色合金六氯乙烷精炼、镁合金 SF6 保护
35. Cupola melting using metallurgical coke	35、冲天炉熔化采用冶金焦
36. Coremaking technology by non-renewable sodium silicate-bonded sand molding	36、无再生的水玻璃砂造型制芯工艺
37. Salt bath nitrocarburizing or sulphonitrocarburizing furnaces and salt	37、盐浴氮碳、硫氮碳共渗炉及盐
38. Electronic-tube high-frequency induction heating equipment	38、电子管高频感应加热设备
39. Nitrite corrosion inhibitors and preservatives	39、亚硝酸盐缓蚀、防腐剂
40. Oil-fired heating furnaces for casting/forging	40、铸/锻造用燃油加热炉
41. Coal-fired heating furnace for forging	41、锻造用燃煤加热炉
42. Manual gas forging furnaces	42、手动燃气锻造炉
43. Steam hammers	43、蒸汽锤
44. Arc welding transformers	44、弧焊变压器
45. Brazing filler metal containing lead or cadmium	45、含铅和含镉钎料
46. New construction of assembly projects of tunnel boring machines	46、新建全断面掘进机整机组装项目
47. New construction of free forging hydraulic machine projects of 10,000	47、新建万吨级以上自由锻造液压机项

tons or more

48. New construction of ordinary casting and forging projects

49. Moving-coil and tapped manual electrode welding machines

50. Y series (IP44) of three-phase asynchronous motors (frame size: 80 through 355) and its derivative series; and Y2 series (IP54) three-phase asynchronous motors (frame size 63 through 355)

51. Backpack-type manual compression sprayers

52. Backpack-type mobile sprayer-dusters

53. Manual transplanters

54. Tea processing machines made of bronze

55. Double-disc friction screw presses

56. Powder metallurgy components containing lead

57. Segmented construction projects of exported ships

XII Light Industry

1. Production lines of PVC common artificial leather

2. Production lines with an annual raw hide processing capacity of less than 200,000 standard cowhide pieces and production lines with an annual wet blue hide processing capacity of less than 100,000 standard cowhide pieces

3. Production of ultra-thin plastic bags (thinner than 0.015 mm)

4. New construction of polyurethane foam production lines with hydrochlorofluorocarbon (HCFCs) as foaming agent and extruded polystyrene foam (XPS) production lines

5. Polyvinyl chloride (PVC) food packaging films

6. General lighting incandescent lamps and high-pressure mercury lamps

7. Sewing machines with a maximum speed of less than 4,000

目

48、新建普通铸锻件项目

49、动圈式和抽头式手工焊条弧焊机

50、Y 系列（IP44）三相异步电动机（机座号 80~355）及其派生系列，Y2 系列（IP54）三相异步电动机（机座号 63~355）

51、背负式手动压缩式喷雾器

52、背负式机动喷雾喷粉机

53、手动插秧机

54、青铜制品的茶叶加工机械

55、双盘摩擦压力机

56、含铅粉末冶金件

57、出口船舶分段建造项目

十二、轻工

1、聚氯乙烯普通人造革生产线

2、年加工生皮能力 20 万标张牛皮以下的生产线，年加工蓝湿皮能力 10 万标张牛皮以下的生产线

3、超薄型（厚度低于 0.015 毫米）塑料袋生产

4、新建以含氢氯氟烃（HCFCs）为发泡剂的聚氨酯泡沫塑料生产线、连续挤出聚苯乙烯泡沫塑料（XPS）生产线

5、聚氯乙烯（PVC）食品保鲜包装膜

6、普通照明白炽灯、高压汞灯

7、最高转速低于 4000 针/分的平缝机

stitches/min (excluding thick material sewing machine) and overlock machines with a maximum speed of less than 5,000 stitches/min

8. Electronic price computing scales (with accuracy less than 1/3,000 of the maximum weight and with a weighing range not more than 15kg), electronic belt conveyor scales (with accuracy less than 5/1,000 of the maximum weight), electronic crane scales (with accuracy less than 1/1,000 of the maximum weight and with a weighing range not more than 50 tons), and spring scales (with accuracy less than 1/400 of the maximum weight and with a weighing range not more than 8kg)

9. Electronic motor truck scales (with accuracy less than 1/3,000 of the maximum weight and with a weighing range not more than 300 tons), electronic static rail weighbridges (with accuracy less than 1/3,000 of the maximum weight and with a weighing range not more than 150 tons), and electronic dynamic rail weighbridges (with accuracy less than 1/500 of the maximum weight and with a weighing range not more than 150 tons)

10. Glass vacuum flask production lines

11. Glass container production lines with an annual output of 30,000 tons or less

12. Preparation and weighing of glass batch in manual mode

13. Glass furnaces failing the indications set out in the cleaner production evaluation index system for daily use glass industry

14. Beer filling production lines with a production capacity of less than 18,000 bottles per hour

15. Fatty alcohol products produced by oxo synthesis and Ziegler process

16. Sodium tripolyphosphate production lines by hot method

17. Production techniques and equipment of monolayer spray gun detergents and sulfonation units with a scale of less than 1.6 tons/hour

18. Pasted zinc-manganese batteries and nickel-cadmium batteries

19. Toothpaste production lines

20. Northern seasalt projects with an annual output of less than 1 million

(不含厚料平缝机) 和最高转速低于 5000 针/分的包缝机

8、电子计价秤(准确度低于最大称量的 1/3000, 称量 ≤ 15 千克)、电子皮带秤(准确度低于最大称量的 5/1000)、电子吊秤(准确度低于最大称量的 1/1000, 称量 ≤ 50 吨)、弹簧度盘秤(准确度低于最大称量的 1/400, 称量 ≤ 8 千克)

9、电子汽车衡(准确度低于最大称量的 1/3000, 称量 ≤ 300 吨)、电子静态轨道衡(准确度低于最大称量的 1/3000, 称量 ≤ 150 吨)、电子动态轨道衡(准确度低于最大称量的 1/500, 称量 ≤ 150 吨)

10、玻璃保温瓶胆生产线

11、3 万吨/年及以下的玻璃瓶罐生产线

12、以人工操作方式制备玻璃配合料及称量

13、未达到日用玻璃行业清洁生产评价指标体系规定指标的玻璃窑炉

14、生产能力小于 18000 瓶/时的啤酒灌装生产线

15、羰基合成法及齐格勒法生产的脂肪醇产品

16、热法生产三聚磷酸钠生产线

17、单层喷枪洗衣粉生产工艺及装备、1.6 吨/小时以下规模磺化装置

18、糊式锌锰电池、镉镍电池

19、牙膏生产线

20、100 万吨/年以下北方海盐项目; 新

tons; new construction of southern seasalt field projects; mine (well) salt projects with an annual output of less than 600,000 tons

21. Monochrome metal plate offset presses

22. New construction of a production line of chemical wood pulp with an annual output of less than 300,000 tons, chemi-mechanical wood pulp with an annual output of less than 100,000 tons, or chemical bamboo pulp with an annual output of less than 100,000 tons; and production lines of newsprint paper and art paper

23. Elemental chlorine bleaching pulping process

24. Raw sugar processing projects and new construction projects with a daily processing capacity of 5,000 tons of sugarcanes (3,000 tons in Yunnan) or a daily processing capacity of 3,000 tons of sugar beets

25. Liquor production lines

26. Alcohol production lines

27. Monosodium glutamate production lines with an annual output of 50,000 tons or less and by ionization cross process

28. Production lines of saccharin and other synthetic sweeteners

29. Production lines of concentrated apple juice

30. Soybean crushing and leaching projects (excluding main soybean producing areas of Heilongjiang, Jilin and Inner Mongolia); oil processing projects with a single-line daily processing capacity of less than 200 tons of rapeseed or cottonseed or less than 100 tons of peanuts in eastern and central China; and processing projects with a single-line daily processing capacity of less than 100 tons of rapeseed, cottonseed, peanuts, or any other oil plant in western regions

31. Corn starch production lines by wet process with an annual processing capacity of less than 300,000 tons and an absolute dry extraction rate of less than 98%

32. Slaughter construction projects with an annual slaughtering capacity of 150,000 pigs or less, 10,000 beef cattle or less, 150,000 meat sheep or less, or 10 million poultry or less (excluding minority areas)

建南方海盐盐场项目; 60 万吨/年以下矿(井)盐项目

21、单色金属板胶印机

22、新建单条化学木浆 30 万吨/年以下、化学机械木浆 10 万吨/年以下、化学竹浆 10 万吨/年以下的生产线; 新闻纸、铜版纸生产线

23、元素氯漂白制浆工艺

24、原糖加工项目及日处理甘蔗 5000 吨(云南地区 3000 吨)、日处理甜菜 3000 吨以下的新建项目

25、白酒生产线

26、酒精生产线

27、5 万吨/年及以下且采用等电交工艺的味精生产线

28、糖精等化学合成甜味剂生产线

29、浓缩苹果汁生产线

30、大豆压榨及浸出项目(黑龙江、吉林、内蒙古大豆主产区除外); 东、中部地区单线日处理油菜籽、棉籽 200 吨及以下, 花生 100 吨及以下的油料加工项目; 西部地区单线日处理油菜籽、棉籽、花生等油料 100 吨及以下的加工项目

31、年加工玉米 30 万吨以下、绝干收率在 98%以下玉米淀粉湿法生产线

32、年屠宰生猪 15 万头及以下、肉牛 1 万头及以下、肉羊 15 万只及以下、活禽 1000 万只及以下的屠宰建设项目(少数民族地区除外)

33. Western-style meat processing projects with an annual output of 3,000 tons or less

34. Yeast processing projects with an annual output of 2,000 tons or less

35. Production lines of frozen sea surimi

XIII. Textile

1. Continuous polymerization production units of conventional polyester (PET) with a single-line annual production capacity of less than 200,000 tons

2. Manufacturing techniques of conventional polyester by dimethyl terephthalate (DMT) process

3. Production lines of semi-continuously spinning viscose filament yarns

4. Intermittent spandex polymer production units

5. Semi-automatic winding equipment for conventional chemical fiber filaments with a spindle axial length of 1,200 mm or less

6. Viscose plate-and-frame filter separators

7. Production lines of conventional polypropylene spunbonded non-woven fabrics with a single-line annual production capacity of 1,000 tons or less and with a breadth of 2 meters or less

8. Carding machines of less than 25 kg/hour

9. Cotton combers of less than 200 nips/min

10. Automatic rotor spinning equipment of less than 50,000 rpm

11. FA502 and FA503 spinning frames

12. Rapier looms with a weft insertion rate of less than 600 meters/min, air-jet looms with a weft insertion rate of less than 700 meters/min, and water jet looms with a weft insertion rate of less than 900 meters/min

13. Sizing process and products using polyvinyl alcohol slurry (PVA) (excluding polyester cotton products and high-count and high-density pure cotton products)

33、3000 吨/年及以下的西式肉制品加工项目

34、2000 吨/年及以下的酵母加工项目

35、冷冻海水鱼糜生产线

十三、纺织

1、单线产能小于 20 万吨/年的常规聚酯（PET）连续聚合生产装置

2、常规聚酯的对苯二甲酸二甲酯（DMT）法生产工艺

3、半连续纺粘胶长丝生产线

4、间歇式氨纶聚合生产装置

5、常规化纤长丝用锭轴长 1200 毫米及以下的半自动卷绕设备

6、粘胶板框式过滤机

7、单线产能≤1000 吨/年、幅宽≤2 米的常规丙纶纺粘法非织造布生产线

8、25 公斤/小时以下梳棉机

9、200 钳次/分钟以下的棉精梳机

10、5 万转/分钟以下自排杂气流纺设备

11、FA502、FA503 细纱机

12、入纬率小于 600 米/分钟的剑杆织机，入纬率小于 700 米/分钟的喷气织机，入纬率小于 900 米/分钟的喷水织机

13、采用聚乙烯醇浆料（PVA）上浆工艺及产品（涤棉产品，纯棉的高支高密产品除外）

14. Wool scouring techniques and equipment using more than 20 tons of raw wool scouring water

15. Vertical-type silk reeling techniques and equipment of doupion silk and tussah silk

16. Skein dyeing techniques

17. Sodium chlorite bleaching equipment

XIV. Tobacco

1. Cigarette processing projects

XV. Fire Protection

1. Fire alarm control units (including automatic type, independent type, local type, central type, and combined central and local type), automatic control equipment for fire protection, point-type smoke/heat detectors (excluding self-contained type), point-type infrared/ultraviolet flame detectors (excluding self-contained type), and manual call points

2. Dry powder fire extinguishers and carbon dioxide fire extinguishers

3. Sodium bicarbonate powder extinguishing agent (BC) and ammonium phosphate powder extinguishing agent (ABC)

4. Projects of fire protection valves (including fire dampers, exhaust valves, and smoke dampers), wooden fire doors, and steel and steel-wood fire doors by phosphorous acid production process; and new construction projects of fire shutters with an initial scale of less than 60,000 square meters per year

5. Fire hoses with natural rubber lining, unlined fire hoses, fire hose reels, fire wet hoses, and fire hoses with PVC lining

6. Foundry production, processing, and assembly techniques of indoor fire hydrants, outdoor fire hydrants, and fire pump adapters

7. Water fire trucks, foam fire trucks, fire trucks with water supply, fire trucks with fluid supply, and pump-type fire trucks

8. Fire sealing material, solvent-based fire retardant coating, decorative

14、吨原毛洗毛用水超过 20 吨的洗毛工艺与设备

15、双宫丝和柞蚕丝的立式缫丝工艺与设备

16、绞纱染色工艺

17、亚氯酸钠漂白设备

十四、烟草

1. 卷烟加工项目

十五、消防

1、火灾报警控制器（包括联动型、独立型、区域型、集中型、集中区域兼容型）、消防联动控制器、点型感烟/温火灾探测器（独立式除外）、点型红外/紫外火焰探测器（独立式除外）、手动火灾报警按钮

2、干粉灭火器、二氧化碳灭火器

3、碳酸氢钠干粉灭火剂（BC）、磷酸铵盐干粉灭火剂（ABC）

4、防火阀门（包括防火阀、排烟阀、排烟防火阀）、木质防火门、采用酸洗磷化生产工艺的钢质和钢木质防火门、新建初始规模小于 6 万平方米/年的防火卷帘项目

5、天然橡胶有衬里消防水带、无衬里消防水带、消防软管卷盘、消防湿水带、PVC 衬里消防水带

6、室内消火栓、室外消火栓、消防水泵接合器的翻砂生产、加工、装配工艺

7、水罐消防车、泡沫消防车、供水消防车、供液消防车、泵浦类消防车

8、防火封堵材料、溶剂型钢结构防火涂

fire retardant coating, and fire protective cable coating

料、饰面型防火涂料、电缆防火涂料

XVI. Industrial Explosive Products

十六、民爆产品

1. Non-man-machine-separation and non-continuous and automated detonator assembly lines

1、非人机隔离的非连续化、自动化雷管装配生产线

2. Non-continuous and automated explosive production lines

2、非连续化、自动化炸药生产线

3. Initiating explosive production lines with high pollution

3、高污染的起爆药生产线

4. Industrial powder explosive production lines with high energy consumption, high pollution, and low performance

4、高能耗、高污染、低性能工业粉状炸药生产线

XVII. Miscellaneous

十七、其他

1. Urban trunk road projects with a red line width (including green belt) beyond the following standards: 40 meters for small cities and important towns, 55 meters for medium-sized cities, and 70 meters for large cities (where it is really necessary for a trunk road of a metropolis with a population of 2 million or more to exceed 70 meters, there shall be a special explanation in the overall urban zoning plan)

1、用地红线宽度（包括绿化带）超过下列标准的城市主干道路项目：小城市和重点镇 40 米，中等城市 55 米，大城市 70 米（200 万人口以上特大城市主干道路确需超过 70 米的，城市总体规划中应有专项说明）

2. Recreational and gathering square projects with land used exceeding the following standards: 1 hectare for small cities and important towns, 2 hectares for medium-sized cities, 3 hectares for large cities, and 5 hectares for a metropolis with a population of 2 million or more

2、用地面积超过下列标准的城市游憩集会广场项目：小城市和重点镇 1 公顷，中等城市 2 公顷，大城市 3 公顷，200 万人口以上特大城市 5 公顷

3. Villa-type real estate development projects

3、别墅类房地产开发项目

4. Golf course projects

4、高尔夫球场项目

5. Racecourse projects

5、赛马场项目

6. Mechanical automatic transmission (AT) of 4-speed or less for vehicles

6、4 档及以下机械式车用自动变速箱 (AT)

7. Motor vehicle engines meeting the national third class emission standard or below

7、排放标准国三及以下的机动车用发动机

Category III Elimination

第三类 淘汰类

Note: The year in the bracket in an item means the elimination time limit. For example, the elimination time limit of 2011 means elimination before the end of 2011. If there is an elimination plan, elimination shall be

注：条目后括号内年份为淘汰期限，淘汰期限为 2011 年是指应于 2011 年底前淘汰，其余类推；有淘汰计划的条目，

made as planned. In the absence of an elimination time limit or an elimination plan, elimination has been explicitly ordered or shall be immediately made in accordance with the national industry policies

I. Outdated Production Techniques and Equipment

(I) Agriculture and Forestry

1. Wet-process fiberboard manufacturing techniques
2. Water-dripping method rosin manufacturing techniques
3. Rural traditional old-fashioned stove brick beds
4. Activated carbon production techniques with wood and stumps as main raw materials and activated carbon production techniques by zinc chloride method
5. Tourism activities in excess of ecological carrying capacity and collection of medicinal herbs and other forest products
6. Construction of irrigation-type paper raw material forest bases in areas greatly short of water resources
7. Pre-planting Methyl bromide soil fumigation techniques

(II) Coal

1. Various types of small coal mines within the range of state-owned coal mine areas (the range confirmed by state-owned coal mining registration)
2. Coal mines with a single-well annual output of less than 30,000 tons
3. High-sulfur production mines (with sulfur content higher than 3%) without taking sulfur reduction measures and meeting discharge standards
4. High-ash coal production mines (with ash content higher than 40%) without local use
5. 6AM, ϕ M-2.5, and PA-3 coal flotation machines
6. PB2, PB3, and PB4 mining flameproof high-voltage switchgears

根据计划进行淘汰；未标淘汰期限或淘汰计划的条目为国家产业政策已明令淘汰或立即淘汰。

一、落后生产工艺装备

(一) 农林业

- 1、湿法纤维板生产工艺
- 2、滴水法松香生产工艺
- 3、农村传统老式炉灶炕
- 4、以木材、伐根为主要原料的活性炭生产以及氯化锌法活性炭生产工艺
- 5、超过生态承载力的旅游活动和药材等林产品采集
- 6、严重缺水地区建设灌溉型造纸原料林基地
- 7、种植前溴甲烷土壤熏蒸工艺

(二) 煤炭

- 1、国有煤矿矿区范围（国有煤矿采矿登记确认的范围）内的各类小煤矿
- 2、单井井型低于 3 万吨/年规模的矿井
- 3、既无降硫措施，又无达标排放用户的高硫煤炭（含硫高于 3%）生产矿井
- 4、不能就地使用的高灰煤炭（灰分高于 40%）生产矿井
- 5、6AM、 ϕ M-2.5、PA-3 型煤用浮选机
- 6、PB2、PB3、PB4 型矿用隔爆高压开关

7. PG-27 vacuum filters

8. X-1 recessed plate filter presses

9. ZYZ and ZY3 hydraulic supports

10. Wooden supports

11. Coal preparation technique without a closed circuit of coal washing wastewater and dry coal preparation equipment without meeting dust emission standards

(III) Electric Power

1. Conventional coal-fired thermal power generating sets with a unit capacity of less than 100,000 kW within the coverage of a large grid

2. Small conventional thermal power generating sets with a unit capacity of 50,000 kW or less

3. Oil-fired boilers mainly for power generation and generating sets

4. Conventional coal-fired thermal generating sets with a unit capacity of less than 200,000 kW at the expiration of the designed life within the coverage of a large grid

(IV) Petrochemistry

1. Atmospheric and vacuum distillation units with an annual output of 200 tons or less (2013, excluding those in Golmud, Qinghai, and Zep, Xinjiang), oil refining techniques by indigenous method from waste rubber and plastic, and production of asphalt by tar batch process

2. Production units of sulfuric acid from iron pyrite or sulphur with an annual output of less than 100,000 tons (excluding remote areas), potassium permanganate by open-hearth furnace oxidation method, and caustic soda by diaphragm method (2015); sodium alkali production techniques by open-hearth method and cauldron evaporation method; and production techniques of sodium silicate (sodium silicate) by glauber method

3. Yellow phosphorus production units with an annual unit output of less than 5,000 tons or without meeting the access conditions, chromium compound production units with calcium roasting (2013), production units of common-level barium sulfate, barium hydroxide, barium chloride, or

7、PG-27 型真空过滤机

8、X-1 型箱式压滤机

9、ZYZ、ZY3 型液压支架

10、木支架

11、不能实现洗煤废水闭路循环的选煤工艺、不能实现粉尘达标排放的干法选煤设备

(三) 电力

1、大电网覆盖范围内，单机容量在 10 万千瓦以下的常规燃煤火电机组

2、单机容量 5 万千瓦及以下的常规小火电机组

3、以发电为主的燃油锅炉及发电机组

4、大电网覆盖范围内，设计寿命期满的单机容量 20 万千瓦以下的常规燃煤火电机组

(四) 石化化工

1、200 万吨/年及以下常减压装置（2013 年，青海格尔木、新疆泽普装置除外），废旧橡胶和塑料土法炼油工艺，焦油间歇法生产沥青

2、10 万吨/年以下的硫铁矿制酸和硫磺制酸（边远地区除外），平炉氧化法高锰酸钾，隔膜法烧碱（2015 年）生产装置，平炉法和大锅蒸发法硫化碱生产工艺，芒硝法硅酸钠（泡花碱）生产工艺

3、单台产能 5000 吨/年以下和不符合准入条件的黄磷生产装置，有钙焙烧铬化合物生产装置（2013 年），单线产能 3000 吨/年以下普通级硫酸钡、氢氧化

barium nitrate with a single-line production capacity of less than 3,000 tons per year, sodium chlorate production units with an annual output of less than 10,000 tons, calcium carbide furnaces and open-type calcium carbide furnaces with a unit capacity of less than 12,500 kva, production units of high-mercury catalysts (with mercuric chloride content higher than 6.5%) and polyvinyl chloride by acetylene method using high-mercury catalysts (2015), and production techniques of sodium cyanide by ammonia sodium method or from cyanide fusant

4. Production units of sodium tripolyphosphate with a single-line production capacity of less than 10,000 tons per year, sodium hexametaphosphate with a single-line production capacity of less than 5,000 tons per year, phosphorus trichloride with a single-line production capacity of less than 5,000 tons per year, calcium hydrophosphate for feed use with a single-line production capacity of less than 30,000 tons per year, hydrofluoric acid with a single line production capacity of less than 5,000 tons per year using outdated and high-pollution techniques and technologies, and wet-process aluminum fluoride and open-type crystalline fluoride salt with a single-line production capacity of less than 5,000 tons per year

5. Production units of sodium cyanide (100% sodium cyanide) with a single-line production capacity of less than 3,000 tons per year, potassium hydroxide with a single-line production capacity of less than 10,000 tons per year, common-level white carbon black with a single-line production capacity of less than 15,000 tons per year, common-level calcium carbonate with a single-line production capacity of less than 20,000 tons per year, common-level anhydrous sodium sulfate (excluding salt co-production and by-products) with a single-line production capacity of less than 100,000 tons per year, lithium carbonate and lithium hydroxide with a single-line production capacity of less than 3,000 tons per year, common-level barium carbonate with a single-line production capacity of less than 20,000 tons per year, and common-level strontium carbonate with a single-line production capacity of less than 15,000 tons per year

6. Production techniques of synthetic ammonia by desulfurization of semi-water gas by liquid ammonia phase or natural gas atmospheric intermittent conversion process, techniques of carbon monoxide atmospheric change and whole middle temperature shift (high temperature shift), wet desulfurization techniques without supporting sulfur recovery devices, and fixed-layer intermittent coal gasification units without construction of supporting devices of waste heat recovery of blown air and comprehensive utilization of gas-making slags

钡、氯化钡、硝酸钡生产装置，产能 1 万吨/年以下氯酸钠生产装置，单台炉容量小于 12500 千伏安的电石炉及开放式电石炉，高汞催化剂（氯化汞含量 6.5% 以上）和使用高汞催化剂的乙炔法聚氯乙烯生产装置（2015 年），氨钠法及氰熔体氰化钠生产工艺

4、单线产能 1 万吨/年以下三聚磷酸钠、0.5 万吨/年以下六偏磷酸钠、0.5 万吨/年以下三氯化磷、3 万吨/年以下饲料磷酸氢钙、5000 吨/年以下工艺技术落后和污染严重的氢氟酸、5000 吨/年以下湿法氟化铝及敞开式结晶氟盐生产装置

5、单线产能 0.3 万吨/年以下氰化钠（100%氰化钠）、1 万吨/年以下氢氧化钾、1.5 万吨/年以下普通级白炭黑、2 万吨/年以下普通级碳酸钙、10 万吨/年以下普通级无水硫酸钠（盐业联产及副产除外）、0.3 万吨/年以下碳酸锂和氢氧化锂、2 万吨/年以下普通级碳酸钡、1.5 万吨/年以下普通级碳酸锶生产装置

6、半水煤气氨水液相脱硫、天然气常压间歇转化工艺制合成氨、一氧化碳常压变化及全中温变换（高温变换）工艺、没有配套硫磺回收装置的湿法脱硫工艺，没有配套建设吹风气余热回收、造气炉渣综合利用装置的固定层间歇式煤气化装置

7. Production techniques of paraquat by sodium process, production techniques of trichlorfon by alkali process, manual packaging (filling) techniques and equipment for small packages of pesticide products (1kg or below), production of pesticide powder by Ramon machine method, and production units of pentachlorophenol (Na) with hexachlorobenzene as raw material

8. Production techniques of chlorinated rubber using coating resins by direct fire heating or by carbon tetrachloride solvent method, production units of saponin (including hydrolyzate) with an annual output of less than 100 tons, production techniques of saponin by hydrochloric acid solution process and saponin production units failing pollutant emission standards, iron power reduction techniques (elimination suspended for three products: 4, 4-diamino stilbene-disulfonic acid [DSD acid]; 2-amino-4-methyl-5-chloro sulfonic acid [CLT acid]; and 1-amino-8-naphthol-3, 6-disulfonic acid [H acid])

9. Production units of diagonal tyres with an annual output of 500,000 or less and tyres with natural cotton cord fabrics as skeleton, dry granulating carbon black (excluding special carbon black and semi-reinforcing carbon black) with an annual output of 15,000 tons or less, natural rubber latex condoms with an annual output of less than 300 million, rubber vulcanization accelerator N-oxydialkylene (1, 2 - Asia ethyl) -2 - benzothiazole sulfenamide (NOBS), and rubber antioxidant D

10. Production units of chlorofluorocarbons (CFCs), hydro chlorofluorocarbons (HCFCs), 1,1,1-trichloroethane (methyl chloroform) used for cleaning, carbon tetrachloride (CTC) as main products, all products with carbon tetrachloride (CTC) as a process agent, fluoropolymer with PFOA as a process agent, DDT-containing paints, and dicofol using DDT as raw material for non-closed production (eliminated as required by the overall plan of the state to execute international conventions)

(V) Iron and Steel

1. Indigenous coking (including improved coke oven); production units of semicoke (ferroalloy coke) with an annual output of less than 50,000 tons per oven or without gas or tar recycling and not meeting the access conditions in terms of sewage treatment

2. Coke oven with the height of carbonization chamber lower than 4.3

7、钠法百草枯生产工艺，敌百虫碱法敌敌畏生产工艺，小包装（1 公斤及以下）农药产品手工包（灌）装工艺及设备，雷蒙机法生产农药粉剂，以六氯苯为原料生产五氯酚（钠）装置

8、用火直接加热的涂料用树脂、四氯化碳溶剂法制取氯化橡胶生产工艺，100 吨/年以下皂素（含水解物）生产装置，盐酸酸解法皂素生产工艺及污染物排放不能达标的皂素生产装置，铁粉还原法工艺（4，4-二氨基二苯乙烯-二磺酸 [DSD 酸]、2-氨基-4-甲基-5-氯苯磺酸 [CLT 酸]、1-氨基-8-萘酚-3，6-二磺酸[H 酸]三种产品暂缓执行）

9、50 万条/年及以下的斜交轮胎和以天然棉帘子布为骨架的轮胎、1.5 万吨/年及以下的干法造粒炭黑（特种炭黑和半补强炭黑除外）、3 亿只/年以下的天然胶乳安全套，橡胶硫化促进剂 N-氧联二（1，2-亚乙基）-2-苯并噻唑次磺酰胺（NOBS）和橡胶防老剂 D 生产装置

10、氯氟烃（CFCs）、含氢氯氟烃（HCFCs）、用于清洗的 1，1，1-三氯乙烷（甲基氯仿）、主产四氯化碳（CTC）、以四氯化碳（CTC）为加工助剂的所有产品、以 PFOA 为加工助剂的含氟聚合物、含滴滴涕的涂料、采用滴滴涕为原料非封闭生产三氯杀螨醇生产装置（根据国家履行国际公约总体计划要求进行淘汰）

（五）钢铁

1、土法炼焦（含改良焦炉）；单炉产能 5 万吨/年以下或无煤气、焦油回收利用和污水处理达不到准入条件的半焦（兰炭）生产装置

2、炭化室高度小于 4.3 米焦炉（3.8 米

meters (except tamping ovens at 3.8 meters or higher) (in western China, deadline may be extended to 2011 for tamping ovens at 3.8 meters); a single coking production facility without chemical product recovery

3. Earth sinter

4. Heat sinter

5. Sintering machine of less than 90 square meters (2013), pelletizing shaft furnace of less than 8 square meters; belt manganese ore or chrome ore sintering machine for production of ferroalloy of less than 24 square meters

6. Iron-making blast furnace of 400 cubic meters or less (except for cast iron enterprises, but a certificate of registration with the administration for industry and commerce, proof of sales for three years, project approval materials, and other documents are required), and blast furnace for production of ferroalloy or cast iron pipes of 200 cubic meters or less

7. Utility frequency and medium frequency induction furnaces for bar steel, carbon steel, or stainless steel smelting

8. Converter of 30 tons or less (excluding ferroalloy converter)

9. Electric furnace of 30 tons or less (excluding electric machine casting furnace)

10. Steelmaking through iron melting

11. Double duo wire mill

12. Open-train wire mill

13. Open-train bar and shape mill

14. Pack-rolled sheet mill

15. Common steel blooming mill and medium-sized rolling mill for cogging

16. Hot rolled narrow strip steel mill

17. Three-roll medium plate Laut rolling mill

18. Hot-rolled seamless tube unit with a diameter of less than 76 mm

及以上捣, 固焦炉除外) (西部地区 3.8 米捣固焦炉可延期至 2011 年); 无化产回收的单一炼焦生产设施

3、土烧结矿

4、热烧结矿

5、90 平方米以下烧结机 (2013 年)、8 平方米以下球团竖炉; 铁合金生产用 24 平方米以下带式锰矿、铬矿烧结机

6、400 立方米及以下炼铁高炉 (铸造铁企业除外, 但需提供企业工商局注册证明、三年销售凭证和项目核准手续等), 200 立方米及以下铁合金、铸铁管生产用高炉

7、用于地条钢、普碳钢、不锈钢冶炼的工频和中频, 感应炉

8、30 吨及以下转炉 (不含铁合金转炉)

9、30 吨及以下电炉 (不含机械铸造电炉)

10、化铁炼钢

11、复二重线材轧机

12、横列式线材轧机

13、横列式棒材及型材轧机

14、叠轧薄板轧机

15、普钢初轧机及开坯用中型轧机

16、热轧窄带钢轧机

17、三辊劳特式中板轧机

18、直径 76 毫米以下热轧无缝管机组

19. Three-roll wire mill (except for production of special steel)	19、三辊式型材轧机（不含特殊钢生产）
20. Metallurgical furnaces failing to meet environmental protection standards	20、环保不达标的冶金炉窑
21. Manual bitumen tar impregnation devices, naturally ventilated and manually operated vertical shaft earth kilns burning a mixture of ore materials and solid raw materials, and down-draft kilns directly consuming coal and failing to meet smoke purification standards	21、手工操作的土沥青焦油浸渍装置，矿石原料与固体原料混烧、自然通风、手工操作的土竖窑，以煤直接为燃料、烟尘净化不能达标的倒焰窑
22. Electric ferroalloy smelting furnace of less than 6,300 kva and semi-closed direct current electric ferroalloy furnace or electric ferroalloy refining furnace of less than 3,000 kva (except electric furnaces of ferrotungsten, ferrovanadium and other special varieties)	22、6300 千伏安以下铁合金矿热电炉，3000 千伏安以下铁合金半封闭直流电炉、铁合金精炼电炉（钨铁、钒铁等特殊品种的电炉除外）
23. Steam heating mixing down-draft roasting furnace, Acheson AC graphitization furnace, three-phase bridge rectifier Acheson DC graphitization furnace of 10,000 kva or less, and parallel units	23、蒸汽加热混捏、倒焰式焙烧炉、艾奇逊交流石墨化炉、10000 千伏安及以下三相桥式整流艾奇逊直流石墨化炉及其并联机组
24. Cold-rolled ribbed steel bar production equipment with an output of 10,000 tons or less per machine (2012, except high-ductility cold-rolled ribbed steel bar production equipment)	24、单机产能 1 万吨及以下的冷轧，带肋钢筋生产装备（2012 年，高延性冷轧带肋钢筋生产装备除外）
25. Single-tank wire drawing machine for production of prestressed steel wire	25、生产预应力钢丝的单罐拉丝机生产装备
26. Patenting technique to eliminate stress in production of prestressed steel	26、预应力钢材生产消除应力处理的铅淬火工艺
27. Single-set coarse (light) benzene refining unit with an annual output of 25,000 tons or less (acid distillation benzene processing technique and equipment)	27、2.5 万吨/年及以下的单套粗（轻）苯精制装置（酸洗蒸馏法苯加工工艺及装置）
28. Single-set coal tar processing unit with an annual output of 50,000 tons or less (2012)	28、5 万吨/年及以下的单套煤焦油加工装置（2012 年）
29. Ferroalloy ferromanganese blast furnace of 100 cubic meters or less	29、100 立方米及以下铁合金锰铁高炉
30. Calcined lime earth kilns	30、煅烧石灰土窑
31. Titanium iron smelting furnace with a unit output of less than 5 tons, ferro-molybdenum production lines using reverberatory furnace to roast	31、每炉单产 5 吨以下的钛铁熔炼炉、用反射炉焙烧钼精矿的钼铁，生产线及用

molybdenum concrete, and chromium metal production lines using reverberatory furnace to reduce and calcine sodium dichromate and chromic anhydride

32. Production lines for refractories and raw material products for coal-fired down-draft kilns

33. Cast iron pipe projects with an output of less than 200,000 tons per production line

34. Ring sintering machines

35. Single-section fixed gas generator projects (excluding pulverized coal gasification furnace)

36. Rectifier transformer of 5,000 kva or less and compound slot of less than 150 cubic meters (2011) for electrolytic manganese metal (EMM) and production equipment with a compound slot of less than 150 cubic meters in effective volume

37. Semicoke (ferroalloy coke) production units with an annual output of less than 75,000 tons per oven (2012)

38. Heat-recovery coke ovens failing to meet access conditions in the coking industry (2012)

39. Ferroalloy smelting electric furnace of 6,300 kva (2012) (2014 for independently operated hydropower stations in counties below the national poverty line)

40. Reverberatory furnaces for reduction of manganese dioxide (including but not limited to reverberatory furnaces used in manganese sulphate plants and mineral powder factories)

41. Plate and frame filter presses or chamber filter presses for EMM single filter, except high-pressure diaphragm filter presses

42. Rectifier transformer of more than 5,000 kva but not more than 6,000 kva for EMM use; dump tank of more than 150 cubic meters but not more than 170 cubic meters (2014)

43. Light burning reverberatory kiln of 18 cubic meters or less in effective volume

反射炉还原、煅烧红矾钠、铬酐生产金属铬的生产线

32、燃煤倒焰窑耐火材料及原料制品生产线

33、单条生产线规模小于 20 万吨的铸铁管项目

34、环形烧结机

35、一段式固定煤气发生炉项目（不含粉煤气化炉）

36、电解金属锰用 5000 千伏安及以下的整流变压器、150 立方米以下的化合槽（2011 年），化合槽有效容积 150 立方米以下的生产设备

37、单炉产能 7.5 万吨/年以下的半焦（兰炭）生产装置（2012 年）

38、未达到焦化行业准入条件要求的热回收焦炉（2012 年）

39、6300 千伏安铁合金矿热电炉（2012 年）（国家贫困县、利用独立运行的小水电，2014 年）

40、还原二氧化锰用反射炉（包括硫酸锰厂用反射炉、矿粉厂用反射炉等）

41、电解金属锰一次压滤用除高压隔膜压滤机以外的板框、箱式压滤机

42、电解金属锰用 5000 千伏安以上、6000 千伏安及以下的整流变压器；150 立方米以上、170 立方米及以下的倾倒槽（2014 年）

43、有效容积 18 立方米及以下轻烧反射窑

44. Shaft kiln for dead burned magnesia of 30 cubic meters or less in effective volume

(VI) Nonferrous Metals

1. Techniques and equipment for zinc smelting by outdated means such as baking with muffle furnaces, manger furnaces, horizontal tanks, or small vertical tanks and dust collection with simple condensation facilities and for zinc oxide production

2. Mercury smelting by outdated means such as using iron pots, clay stoves, distillation retorts, crucible furnaces, and simple condensation dust collection facilities

3. Arsenic trioxide or metallic arsenic refining techniques and equipment by outdated means such as using pit furnaces or crucible furnaces for baking and simple condensation facilities for dust collection

4. Aluminum Soderberg electrolytic cell; and prebake cell of 100KA or less (2011)

5. Copper smelting techniques and equipment using blast furnace, electric furnace, or reverberatory furnace (2011)

6. Dry scrubbing technology for acid making with fume and hot concentrated acid washing technology

7. Antimony smelting by outdated means such as using pit furnaces, crucible furnaces, or Hatch furnaces

8. Lead smelting techniques and equipment by outdated means such as using sintering pots, sintering plates, or simple blast furnaces

9. Recycled aluminum alloy and recycled lead smelting techniques and equipment using crucible furnaces

10. Projects of wet fluoridated salt for aluminum

11. Projects of recycled aluminum or recycled lead with an annual output of less than 10,000 tons

12. Projects of directly coal-fired reverberatory furnaces used in the production of recycled nonferrous metals

13. Production techniques of copper rods (black)

44、有效容积 30 立方米及以下重烧镁砂竖窑

(六) 有色金属

1、采用马弗炉、马槽炉、横罐、小竖罐等进行焙烧、简易冷凝设施进行收尘等落后方式炼锌或生产氧化锌工艺装备

2、采用铁锅和土灶、蒸馏罐、坩埚炉及简易冷凝收尘设施等落后方式炼汞

3、采用土坑炉或坩埚炉焙烧、简易冷凝设施收尘等落后方式炼制氧化砷或金属砷工艺装备

4、铝自焙电解槽及 100KA 及以下预焙槽（2011 年）

5、鼓风炉、电炉、反射炉炼铜工艺及设备（2011 年）

6、烟气制酸干法净化和热浓酸洗涤技术

7、采用地坑炉、坩埚炉、赫氏炉等落后方式炼锑

8、采用烧结锅、烧结盘、简易高炉等落后方式炼铅工艺及设备

9、利用坩埚炉熔炼再生铝合金、再生铅的工艺及设备

10、铝用湿法氟化盐项目

11、1 万吨/年以下的再生铝、再生铅项目

12、再生有色金属生产中采用直接燃煤的反射炉项目

13、铜线杆（黑杆）生产工艺

14. Lead smelting techniques using sintering machines without supporting acid making and exhaust gas absorption systems	14、未配套制酸及尾气吸收系统的烧结机炼铅工艺
15. Lead smelting techniques with sintering-blast furnaces	15、烧结-鼓风炉炼铅工艺
16. Recycled copper incineration techniques and equipment without smoke control measures	16、无烟气治理措施的再生铜焚烧工艺及设备
17. Recycled copper production techniques and equipment with traditional fixed reverberatory furnaces of less than 50 tons	17、50 吨以下传统固定式反射炉再生铜生产工艺及设备
18. Recycled copper production techniques and equipment with reverberatory furnaces of less than 4 tons	18、4 吨以下反射炉再生铝生产工艺及设备
19. Heap leaching and pool leaching techniques for ionic rare earth mines	19、离子型稀土矿堆浸和池浸工艺
20. Monazite single-mineral development projects	20、独居石单一矿种开发项目
21. Projects of metal production techniques of rare earth chloride electrolysis	21、稀土氯化物电解制备金属工艺项目
22. Projects of ammonia saponification rare earth extraction and separation techniques	22、氨皂化稀土萃取分离工艺项目
23. Production techniques of wet rare earth fluoride for electrolysis	23、湿法生产电解用氟化稀土生产工艺
24. Light rare earth mining project with an annual ore processing capacity of less than 500,000 tons; ionic rare earth mining development project of less than 1,500 tons (REO) per year (2013)	24、矿石处理量 50 万吨/年以下的轻稀土矿山开发项目；1500 吨（REO）/年以下的离子型稀土矿山开发项目（2013 年）
25. Rare earth separation project of less than 2,000 tons (REO) per year	25、2000 吨（REO）/年以下的稀土分离项目
26. Light rare earth metal smelting project with an annual output of less than 1,500 tons, current of electrolyzer below 5,000A, and current efficiency lower than 85%	26、1500 吨/年以下、电解槽电流小于 5000A、电流效率低于 85%的轻稀土金属冶炼项目
(VII) Gold	（七）黄金
1. Amalgamation gold extraction technique	1、混汞提金工艺
2. Small cyanide pool leaching technique and indigenous smelting technique	2、小氰化池浸工艺、土法冶炼工艺

3. Extraction of gold, silver, palladium, and other precious metals in circuit boards without environmental protection measures

4. Mining and dressing project with a daily processing capacity of less than 50 tons

(VIII) Building Materials

1. Mechanical vertical shaft cement kiln of 3 meters or more in kiln diameter (2012), dry hollow kiln (except for the production of alumina cement, sulphoaluminate cement, and other special cement), Lepol kiln, and wet-process kiln

2. Cement powder grinding equipment of less than 3 meters in diameter

3. Production lines of plastic woven cement bags without lamination

4. Sheet glass production lines by Colburn process (including Glaverbel process)

5. Architectural ceramic tile production lines with an annual output of less than 1 million cubic meters and low-end sanitary ceramic production lines with an annual output of less than 200,000 pieces

6. Earth kiln, down draft kiln, porous kiln, coal-fired open flame tunnel kiln, and muffle tunnel kiln for architectural sanitary ceramics; and sagger-loading sanitary ceramic tunnel kiln

7. Friction brick press for molding of architectural ceramic bricks

8. Clay crucible glass fiber wire drawing production techniques and equipment

9. Thistle board production line with an annual output of less than 10 million cubic meters

10. Modified asphalt waterproof coil production line with an annual output of less than 5 million cubic meters; asphalt compound base flexible waterproof coil production line with an annual output of less than 5 million cubic meters; and asphalt paper base linoleum production line with an annual output less than 1 million rolls

11. Vertical shaft lime earth kiln

12. Brick and tile annular shaft kiln, vertical shaft kiln, roofless annular

3、无环保措施提取线路板中金、银、钯等贵金属

4、日处理能力 50 吨以下采选项目

(八) 建材

1、窑径 3 米及以上水泥机立窑（2012 年）、干法中空窑（生产高铝水泥、硫铝酸盐水泥等特种水泥除外）、立波尔窑、湿法窑

2、直径 3 米以下水泥粉磨设备

3、无复膜塑编水泥包装袋生产线

4、平拉工艺平板玻璃生产线（合格法）

5、100 万平方米/年以下的建筑陶瓷砖、20 万件/年以下低档卫生陶瓷生产线

6、建筑卫生陶瓷土窑、倒焰窑、多孔窑、煤烧明焰隧道窑、隔焰隧道窑、匣钵装卫生陶瓷隧道窑

7、建筑陶瓷砖成型用的摩擦压砖机

8、陶土坩埚玻璃纤维拉丝生产工艺与装备

9、1000 万平方米/年以下的纸面石膏板生产线

10、500 万平方米/年以下的改性沥青类防水卷材生产线；500 万平方米/年以下沥青复合胎柔性防水卷材生产线；100 万卷/年以下沥青纸胎油毡生产线

11、石灰土立窑

12、砖瓦 24 门以下轮窑以及立窑、无顶

shaft kiln, horseshoe kiln, and other earth kilns of less than 24 doors (2011)

13. Common brick extruder machines

14. SJ1580-3000 double- or single-shaft brick mixer

15. SQP400500-700500 double-roll crusher

16. 1000 common splitter

17. Rotary disc brick press machine of less than 100 tons

18. Manual production lines of wallboards

19. Simple mobile concrete block molding machines and attached vibration molding stations

20. Fixed concrete block molding machine with an annual single-shift output of less than 10,000 cubic meters and concrete paving brick molding machine with an annual single-shift output of less than 100,000 square meters

21. Hand-pouring and non-machinery molding gypsum block (hollow) production techniques

22. Quartz glass production techniques and equipment by vacuum compression method or one-step gas refining method

23. 6x600-ton small hexahedron press production of synthetic diamonds

24. Hand cutting and aerating concrete production lines and non-steam autoclaving maintenance and aeration concrete production lines

25. Non-sintering and non-steam autoclaving fly ash brick production lines

26. Chamber blast mining techniques for decorative stone mines; and sling-type marble drag saws

(IX) Medicine

1. Manual capsule filling techniques

轮窑、马蹄窑等土窑（2011年）

13、普通挤砖机

14、SJ1580-3000 双轴、单轴制砖搅拌机

15、SQP400500-700500 双辊破碎机

16、1000 型普通切条机

17、100 吨以下盘转式压砖机

18、手工制作墙板生产线

19、简易移动式砌块成型机、附着式振动成型台

20、单班 1 万立方米/年以下的混凝土砌块固定式成型机、单班 10 万平方米/年以下的混凝土铺地砖固定式成型机

21、人工浇筑、非机械成型的石膏（空心）砌块生产工艺

22、真空加压法和气炼一步法石英玻璃生产工艺装备

23、6×600 吨六面顶小型压机生产人造金刚石

24、手工切割加气混凝土生产线、非蒸压养护加气混凝土生产线

25、非烧结、非蒸压粉煤灰砖生产线

26、装饰石材矿山洞室爆破开采技术、吊索式大理石土拉锯

（九）医药

1、手工胶囊填充工艺

2. Drug packaging techniques using wax to seal corks	2、软木塞烫腊包装药品工艺
3. Ampoule wire-drawing filling and sealing machines failing to meet GMP requirements	3、不符合 GMP 要求的安瓿拉丝灌封机
4. Tower-type heavy water distilling equipment	4、塔式重蒸馏水器
5. Hot air drying ovens without purification facilities	5、无净化设施的热风干燥箱
6. Active pharmaceutical ingredient (API) manufacturing units failing to meet national standards for labor protection and disposal of "three wastes," including waste gas, waste water, and industrial residues	6、劳动保护、三废治理不能达到国家标准的原料药生产装置
7. Acetaminophen (paracetamol) or caffeine units by direct-reduced iron method	7、铁粉还原法对乙酰氨基酚（扑热息痛）、咖啡因装置
8. Medical supplies production techniques using CFCs as aerosol, propellant, aerosol propellant, or dispersing agent (eliminated as required under the overall plan of the state to execute international conventions)	8、使用氯氟烃（CFCs）作为气雾剂、推进剂、抛射剂或分散剂的医药用品生产工艺（根据国家履行国际公约总体计划要求进行淘汰）
(X) Machinery	（十）机械
1. Heat treatment lead bath furnaces	1、热处理铅浴炉
2. Heat treatment bath furnace for chlorinated barium salt (elimination suspended for high temperature bath furnace for chlorinated barium salt)	2.热处理氯化钡盐浴炉（高温氯化钡盐浴炉暂缓淘汰）
3. TQ60 and TQ80 tower cranes	3、TQ60、TQ80 塔式起重机
4. QT16, QT20 and QT25 simple derrick tower cranes	4、QT16、QT20、QT25 井架简易塔式起重机
5. KJ1600/1220 single-cylinder lifting winch	5、KJ1600/1220 单筒提升绞机
6. Common corundum smelting furnace of less than 3,000 kva	6、3000 千伏安以下普通棕刚玉冶炼炉
7. Fixed corundum smelting furnace of less than 4,000 kva	7、4000 千伏安以下固定式棕刚玉冶炼炉
8. Silicon carbide smelting furnace of less than 3,000 kva	8、3000 千伏安以下碳化硅冶炼炉
9. Simple positive drive elevators	9、强制驱动式简易电梯
10. Production lines of tobacco expansion equipment using CFCs as	10、以氯氟烃（CFCs）作为膨胀剂的烟

expansion agent

11. Sand mold and mold core for clay drying in sand casting
12. Coke furnace for melting nonferrous metals
13. Oil sand core for sand casting
14. Trolley furnace with heavy brick lining
15. Induction heating power supply for medium frequency power generators
16. Coal-fired flame reverberatory heating furnaces
17. Pickling process for castings/forgings
18. Heat treatment furnace with heavy fire-resistance brick lining
19. Bit AC contactor temperature control cabinets
20. Salt bath furnaces with electrodes inserted
21. Moving coil or tapped silicon rectifier arc welding machine
22. Magnetic amplifier arc welding machine
23. Punches for which safety protection devices cannot be installed
24. Clay sand mold/core casting techniques
25. Aluminum shell medium frequency electric induction furnace without magnet yokes (≥ 0.25 ton) (2015)
26. Coreless power frequency electric induction furnace

(XI) Vessels

1. Beach dismantling techniques for retired and used ships
2. Integral ship building techniques for vessels of more than 80 meters in length

(XII) Light Industry

丝膨胀设备生产线

- 11、砂型铸造粘土烘干砂型及型芯
- 12、焦炭炉熔化有色金属
- 13、砂型铸造油砂制芯
- 14、重质砖炉衬台车炉
- 15、中频发电机感应加热电源
- 16、燃煤火焰反射加热炉
- 17、铸/锻件酸洗工艺
- 18、用重质耐火砖作为炉衬的热处理加热炉
- 19、位式交流接触器温度控制柜
- 20、插入电极式盐浴炉
- 21、动圈式和抽头式硅整流弧焊机
- 22、磁放大器式弧焊机
- 23、无法安装安全保护装置的冲床
- 24、粘土砂干型/芯铸造工艺
- 25、无磁轭 (≥ 0.25 吨) 铝壳中频感应电炉 (2015 年)
- 26、无芯工频感应电炉

(十一) 船舶

- 1、废旧船舶滩涂拆解工艺
- 2、船长大于 80 米的船舶整体建造工艺

(十二) 轻工

1. Vacuum salt production units with an annual unit output of less than 100,000 tons, lake salt production facility with an annual unit output of less than 200,000 tons, and northern sea salt production facility with an annual unit output of less than 30,000 tons	1、单套 10 万吨/年以下的真空制盐装置、20 万吨/年以下的湖盐和 30 万吨/年以下的北方海盐生产设施
2. Open pan or solar salt production techniques and units using mineral sale brine or oil-field water	2、利用矿盐卤水、油气田水且采用平锅、滩晒制盐的生产工艺与装置
3. Southern sea salt production units with an annual output of 20,000 tons or less	3、2 万吨/年及以下的南方海盐生产装置
4. Production of extra-thin (less than 0.025 mm in thickness) shopping bags	4、超薄型（厚度低于 0.025 毫米）塑料购物袋生产
5. Tanning production line with an annual raw hide processing capacity of less than 50,000 standard cowhide pieces or with an annual wet blue hide processing capacity of less than 30,000 standard cowhide pieces	5、年加工生皮能力 5 万标张牛皮、年加工蓝湿皮能力 3 万标张牛皮以下的制革生产线
6. Printing ink total production units with an annual output of less than 300 tons (except those using high and new technology or without pollution)	6、300 吨/年以下的油墨生产总装置（利用高新技术、无污染的除外）
7. Printing ink production using benzene-containing solvents	7、含苯类溶剂型油墨生产
8. Ground pool pulp manufacturing equipment using lime (except Chinese art paper)	8、石灰法地池制浆设备（宣纸除外）
9. Chemical wood pulp production line with an annual output of less than 51,000 tons	9、5.1 万吨/年以下的化学木浆生产线
10. Non-wood pulp production lines with a single-line output of less than 34,000 tons per year	10、单条 3.4 万吨/年以下的非木浆生产线
11. Pulp production lines using waste paper with a single-line output of 10,000 tons or less per year	11、单条 1 万吨/年及以下、以废纸为原料的制浆生产线
12. Cultural paper production line with a fabric width of 1.76 meters or less and a speed of less than 120 meters per minute	12、幅宽在 1.76 米及以下并且车速为 120 米/分以下的文化纸生产线
13. Whiteboard, cardboard, or corrugated paper production line with a fabric width of 2 meters or less and a speed of less than 80 meters per minute	13、幅宽在 2 米及以下并且车速为 80 米/分以下的白板纸、箱板纸及瓦楞纸生产线
14. Production lines of refrigerators, freezers, automobile air conditioners, and cold storage and refrigeration equipment using CFCs as refrigerant and foaming agent	14、以氯氟烃（CFCs）为制冷剂和发泡剂的冰箱、冰柜、汽车空调器、工业商用冷藏、制冷设备生产线

15. Polyurethane, polyethylene, or polystyrene foam plastic production using CFCs as foaming agent	15、以氯氟烃（CFCs）为发泡剂的聚氨酯、聚乙烯、聚苯乙烯泡沫塑料生产
16. Production techniques using CTC as detergent	16、四氯化碳（CTC）为清洗剂的生产工艺
17. Production techniques using CFC-113 and TCA as detergent and solvent	17、以三氟三氯乙烷（CFC-113）和甲基氯仿（TCA）为清洗剂和溶剂的生产工艺
18. Tertiary amine manufacturing technique by fatty acid method, oleum sulfonation technique, and stirred tank ethoxylation technique	18、脂肪酸法制叔胺工艺，发烟硫酸磺化工艺，搅拌釜式乙氧基化工艺
19. Salt bath welding furnace for bicycles	19、自行车盐浴焊接炉
20. Tin soldering technique in lithographed metal can-making industry	20、印铁制罐行业中的锡焊工艺
21. Coal-fired or producer gas-fired crucible glass furnace and annealing furnace with a direct vent but without hot air circulation	21、燃煤和燃发生炉煤气的坩埚玻璃窑，直火式、无热风循环的玻璃退火炉
22. Timed mechanical paratactic bottle making machines	22、机械定时行列式制瓶机
23. Bottled beer filling production line with an hourly output of less than 12,000 bottles	23、生产能力 12000 瓶/时以下的玻璃瓶啤酒灌装生产线
24. Carbonated drink production line with an output of less than 150 bottles per minute (bottle volume of 250 ml or less)	24、生产能力 150 瓶/分钟以下（瓶容在 250 毫升及以下）的碳酸饮料生产线
25. Condensation, spray drying, or other facility with a daily raw milk processing capacity of less than 20 tons (two shifts); manual or semi-automatic liquid milk filling equipment with an output of less than 200 kg per hour	25、日处理原料乳能力（两班）20 吨以下浓缩、喷雾干燥等设施；200 千克/小时以下的手动及半自动液体乳灌装设备
26. Ethyl alcohol (except ethyl alcohol made from waste molasses) production line with an annual output of 30,000 tons or less	26、3 万吨/年以下酒精生产线（废糖蜜制酒精除外）
27. Monosodium glutamate production units with an annual output of less than 30,000 tons	27、3 万吨/年以下味精生产装置
28. Citric acid production units with an annual output of 20,000 tons or less	28、2 万吨/年及以下柠檬酸生产装置
29. Corn starch wet-process production line with an annual processing capacity of less than 100,000 tons and a total absolute dry extraction rate of lower than 97%	29、年处理 10 万吨以下、总干物收率 97% 以下的湿法玉米淀粉生产线

30. Bridge-type splitting saw, non-sealed hog scalding machine, and other pig slaughtering equipment

31. Manual slaughtering techniques for pigs, cattle, sheep, and poultry

32. Techniques of adding whitening agents (benzoyl peroxide or calcium peroxide) to wheat flour

(XIII) Textile

1. Spinning and weaving equipment with model types beginning with "1," such as coiling, carding, blowing, drawing, roving, and spinning equipment with model types beginning with "1," 1332 series winding machine, 1511 shuttle loom, and warping and sizing machines with model types beginning with "1"

2. A512 and A513 series spinning machines

3. B581 and B582 worsted spinning machines, BC581 and BC582 roving spinning machines, B591 wool spinning machine, B601 and B601A wool twisting machines, BC272 and BC272B wool carding machines, B751 wool ball winding machine, B701A wool hank reel, B250, B311, B311C, B311C(CZ), and B311C(DJ) combing machines, H112 and H112A sectional wool warping machines, H212 wool loom, and other wool weaving equipment

4. Various wool spinning machines made in China before 1990 and failing to undergo technological improvement

5. Roller cotton gin of less than 1,000 mm in length of rollers, saw tooth cotton gin with less than 80 saw blades, and lint bailing press with a pressure tonnage of less than 400 tons (excluding 160-ton and 200-ton short-staple cotton baling presses)

6. ZD647 and ZD721 automatic silk reeling machines, D101A automatic silk reeling machine, ZD681 vertical reeling machine, DJ561 tough silk spinning machine, K251 and K251A silk looms, and other silk processing equipment

7. Z114 small jacquard

8. GE186 jacquard terry-looping machine

30、桥式劈半锯、敞式生猪烫毛机等生猪屠宰设备

31、猪、牛、羊、禽手工屠宰工艺

32、小麦粉增白剂（过氧化苯甲酰、过氧化钙）的添加工艺

（十三）纺织

1、“1”字头成卷、梳棉、清花、并条、粗纱、细纱设备，1332 系列络筒机，1511 型有梭织机，“1”字头整经、浆纱机等全部“1”字头的纺纱织造设备

2、A512、A513 系列细纱机

3、B581、B582 型精纺细纱机，BC581、BC582 型粗纺细纱机，B591 绒线细纱机，B601、B601A 型毛捻线机，BC272、BC272B 型粗梳毛纺梳毛机，B751 型绒线成球机，B701A 型绒线摇绞机，B250、B311、B311C、B311C（CZ）、B311C（DJ）型精梳机，H112、H112A 型毛分条整经机、H212 型毛织机等毛纺织设备

4、90 年以前生产、未经技术改造的各类国产毛纺细纱机

5、辊长 1000 毫米以下的皮辊轧花机，锯片片数在 80 以下的锯齿轧花机，压力吨位在 400 吨以下的皮棉打包机（不含 160 吨、200 吨短绒棉花打包机）

6、ZD647、ZD721 型自动缫丝机，D101A 型自动缫丝机，ZD681 型立缫机，DJ561 型绢精纺机，K251、K251A 型丝织机等丝绸加工设备

7、Z114 型小提花机

8、GE186 型提花毛圈机

- | | |
|---|--|
| 9. Z261 artificial fur machine | 9、Z261 型人造毛皮机 |
| 10. Non-improved 74 dyeing and finishing equipment | 10、未经改造的 74 型染整设备 |
| 11. Steam heated open non-sealed dip-dye flat wash tank | 11、蒸汽加热敞开无密闭的印染平洗槽 |
| 12. R531 acid viscose spinning machine | 12、R531 型酸性粘胶纺丝机 |
| 13. Viscose conventional short fiber production line with an annual output of 20,000 tons or less | 13、2 万吨/年及以下粘胶常规短纤维生产线 |
| 14. Wet-process spandex production technique | 14、湿法氨纶生产工艺 |
| 15. Spandex and acrylic fiber production techniques using DMF solvent | 15、二甲基甲酰胺（DMF）溶剂法氨纶及腈纶生产工艺 |
| 16. Common acrylic fiber production technique and device using nitric acid | 16、硝酸法腈纶常规纤维生产工艺及装置 |
| 17. Conventional PET intermittent polymerization techniques and equipment | 17、常规聚酯（PET）间歇法聚合生产工艺及设备 |
| 18. Semi-automatic winding equipment for conventional polyester filament with a spindle of 900 mm or less | 18、常规涤纶长丝锭轴长 900 毫米及以下的半自动卷绕设备 |
| 19. Pre-treatment equipment for dip dyeing, tentering and setting equipment, round screen and flat screen printing machine, and continuous dyeing machine, in use for 15 years if made in China or in use for over 20 years if imported | 19、使用年限超过 15 年的国产和使用年限超过 20 年的进口印染前处理设备、拉幅和定形设备、圆网和平网印花机、连续染色机 |
| 20. Intermittent dyeing equipment for cotton and synthetic fiber with a bath ratio greater than 1:10 in use for over 15 years | 20、使用年限超过 15 年的浴比大于 1:10 的棉及化纤间歇式染色设备 |
| 21. Dip-dyeing production line powered by a DC motor | 21、使用直流电机驱动的印染生产线 |
| 22. Cast iron steam box and washing equipment for dip dyeing, bottomless cast iron wallboard steamer, and L-shape belt steam box for scouring and bleaching with a short steaming preheating section | 22、印染用铸铁结构的蒸箱和水洗设备，铸铁墙板无底蒸化机，汽蒸预热区短的 L 型退煮漂履带汽蒸箱 |
| 23. Regenerated polyester short fiber production units with a screw extruder of not more than 90 mm in diameter and an annual output of less than 2,000 tons | 23、螺杆挤出机直径小于或等于 90mm，2000 吨/年以下的涤纶再生纺短纤维生产装置 |

(XIV) Printing

（十四）印刷

1. All lead line and letterpress printing techniques	1、全部铅排、铅印工艺
2. All letterpresses and relevant auxiliary machines	2、全部铅印机及相关辅机
3. Photo engraving machine	3、照像制版机
4. ZD201 and ZD301 monotype casters	4、ZD201、ZD301 型系列单字铸字机
5. TH1 automatic line caster and ZT102 series line caster	5、TH1 型自动铸条机、ZT102 型系列铸条机
6. ZDK101 matrix cutting machine	6、ZDK101 型字模雕刻机
7. KMD101 matrix cutter grinder	7、KMD101 型字模刻刀磨床
8. AZP502 semi-automatic hand typesetting machine for Chinese characters, ZSY101 semi-automatic typesetting machine for Chinese characters, TZP101 linotype typesetting machine for foreign languages, and ZZP101 automatic typesetting machine for Chinese characters	8、AZP502 型半自动汉文手选铸排机、ZSY101 型半自动汉文铸排机、TZP101 型外文条字铸排机、ZZP101 型汉文自动铸排机
9. QY401 and 2QY404 series electric letterpress printing proofers and QYSH401, 2QY401 and DY401 manual letterpress printing proofers	9、QY401、2QY404 型系列电动铅印打样机, QYSH401、2QY401、DY401 型手动式铅印打样机
10. YX01, YX02, and YX03 series matrix molding machines and HX01, HX02, HX03, and HX04 series matrix dryer	10、YX01、YX02、YX03 型系列压纸型机, HX01、HX02、HX03、HX04 型系列烘纸型机
11. PZB401 flat stereotype caster and YZB02, YZB03, YZB04, YZB05, YZB06, and YZB07 series stereotype casters	11、PZB401 型平铅版铸版机, YZB02、YZB03、YZB04、YZB05、YZB06、YZB07 型系列铅版铸版机
12. JB01 flat plate stereotyping machine	12、JB01 型平铅版浇版机
13. RQ02, RQ03, and RQ04 series lead pump lead melting furnaces	13、RQ02、RQ03、RQ04 型系列铅泵熔铅炉
14. BB01 planer, YGB02, YGB03, YGB04, and YGB05 round stereotype scraping machines, YTB01 round stereotype boring machine, YJB02 round stereotype sawing machine, and YXB04, YXB05, and YXB302 round stereotype retouching machines	14、BB01 型刨版机, YGB02、YGB03、YGB04、YGB05 型圆铅版刮版机, YTB01 型圆铅版镗版机, YJB02 型圆铅版锯版机, YXB04、YXB05、YXB302 型系列圆铅版修版机
15. P401 and P402 series quarto platen presses and P801, P802, P803, and P804 series octavo platen presses	15、P401、P402 型系列四开平压印刷机, P801、P802、P803、P804 型系列

八开平压印刷机

16. PE802 double hinge printing press

16、PE802 型双合页印刷机

17. TE102, TE105, and TE108 series automatic whole-sheet double rotary platform printing presses

17、TE102、TE105、TE108 型系列全张自动二回转平台印刷机

18. TY201 folio monochromatic single rotary platform printing press and TY401 quarto monochromatic single rotary platform printing press

18、TY201 型对开单色一回转平台印刷机，TY401 型四开单色一回转平台印刷机

19. TY4201 quarto double-color single rotary printing press

19、TY4201 型四开一回转双色印刷机

20. TT201, TZ201, and DT201 folio printing presses with rotary platform stopped by manually feeding paper

20、TT201、TZ201、DT201 型对开手动续纸停回转平台印刷机

21. TT202 folio printing press with rotary platform automatically stopped, TT402, TT403, TT405, and DT402 quarto printing presses with rotary platform automatically stopped, TZ202 folio printing press with rotary platform semi-automatically stopped, and TZ401, TZS401, and DT401 quarto printing presses with rotary platform semi-automatically stopped

21、TT202 型对开自动停回转平台印刷机，TT402、TT403、TT405、DT402 型四开自动停回转平台印刷机，TZ202 型对开半自动停回转平台印刷机，TZ401、TZS401、DT401 型四开半自动停回转平台印刷机

22. TR801 vertical platform printing press

22、TR801 型系列立式平台印刷机

23. LP1101 and LP1103 series whole-sheet one-sided flat paper rotary printing presses, LP1201 whole-sheet two-sided flat paper rotary printing press, and LP4201 quarto double-color flat paper rotary printing press

23、LP1101、LP1103 型系列平板纸全张单面轮转印刷机，LP1201 型平板纸全张双面轮转印刷机，LP4201 型平板纸四开双色轮转印刷机

24. LSB201 (880x1,230 mm) and LS201 and LS204 (787x1,092 mm) series web rotary printing presses for books and periodicals

24、LSB201 (880×1230 毫米) 及 LS201、LS204 (787×1092 毫米) 型系列卷筒纸书刊转轮印刷机

25. LB203, LB205, and LB403 web rotary printing presses for newspapers, LB2405 and LB4405 double-layer double-group web rotary printing presses for newspapers, and LBS201 dual-use rotary printing press for books and newspapers

25、LB203、LB205、LB403 型卷筒纸报版轮转印刷机，LB2405、LB4405 型卷筒纸双层二组报版轮转印刷机，LBS201 型卷筒纸书、报二用轮转印刷机

26. K.M.T automatic hot-metal typesetting machine and PH-5 typesetter for Chinese characters

26、K.M.T 型自动铸字排版机，PH-5 型汉字排字机

27. Cronapress proofing plate making machine (DIA PRESS cleaning machine)

27、球震打样制版机 (DIA PRESS 清刷机)

28. Manual phototypesetter made before 1985 and process camera made in China before 1985

29. Centrifugal coating machines

30. J1101 series whole-sheet monochromatic offset press (printing rate of 5,000 pages per hour or less)

31. J2101 and PZ1920 series folio monochromatic offset presses (printing rate of 4,000 pages per hour or less), PZ1615 series quarto monochromatic offset press (printing rate of 4,000 pages per hour or less), and YPS1920 series two-sided monochromatic offset press (printing rate of 4,000 pages per hour or less)

32. W1101 whole-sheet automatic gravure printing machine and AJ401 one-sided four-color web gravure printing machine

33. DJ01 paperback glue binding machine, PRD-01 and PRD-02 paperback glue binding machines, and DBT-01 paperback thread binding-packaging-ironing machine

34. Solvent-based coating and laminating machines and various laminating machines without substrate degradation or recycling

35. QZ101, QZ201, QZ301, and QZ401 paper cutters

36. MD103A grinder

(XV) Industrial Explosive Products

1. Sealed packaged emulsion explosive substrate cooling machine

2. Sealed packaged emulsion explosive low-temperature sensitization machine

3. Small diameter manual single-head explosive loading machine

4. Mixing, transporting, and other explosive equipment with bearings buried in compositions

5. Steam chamber drying technique used in initiating explosive drying process

28、1985 年前生产的手动照排机、国产制版照相机

29、离心涂布机

30、J1101 系列全张单色胶印机（印刷速度每小时 5000 张及以下）

31、J2101、PZ1920 系列对开单色胶印机（印刷速度每小时 4000 张及以下），PZ1615 系列四开单色胶印机（印刷速度每小时 4000 张及以下），YPS1920 系列双面单色胶印机（印刷速度每小时 4000 张及以下）

32、W1101 型全张自动凹版印刷机、AJ401 型卷筒纸单面四色凹版印刷机

33、DJ01 型平装胶订联动机，PRD-01、PRD-02 型平装胶订联动机，DBT-01 型平装有线订、包、烫联动机

34、溶剂型即涂覆膜机、承印物无法降解和回收的各类覆膜机

35、QZ101、QZ201、QZ301、QZ401 型切纸机

36、MD103A 型磨刀机

（十五）民爆产品

1、密闭式包装型乳化炸药基质冷却机

2、密闭式包装型乳化炸药低温敏化机

3、小直径手工单头炸药装药机

4、轴承包覆在药剂中的混药、输送等炸药设备

5、起爆药干燥工序采用蒸汽烘房干燥的工艺

6. Techniques using manual loading of explosives in the delay element manufacturing process	6、延期元件（体）制造工序采用手工装药的工艺
7. Techniques without reliable anti-sympathetic detonation measures for detonator loading process, detonator assembly process, or transmission between processes	7、雷管装填、装配工序及工序间的传输无可靠防殉爆措施的工艺
8. Production lines without reliable anti-explosion measures for explosive loading devices in the shock-conducting tube manufacturing process	8、导爆管制造工序加药装置无可靠防爆设施的生产线
9. Industrial explosive and industrial detonator production lines without remote video surveillance for hazardous workplaces	9、危险作业场所未实现远程视频监控的工业炸药和工业雷管生产线
10. Detonating cord production lines without remote video surveillance for hazardous workplaces	10、危险作业场所未实现远程视频监控的导爆索生产线
11. Explosive production techniques by traditional wheel grinding method	11、采用传统轮碾方式的炸药制药工艺
12. Production techniques with discharge of wastewater from production of initiating explosives failing to meet requirements of the Discharge Standard for Water Pollutants from Ordnance Industry – Initiating Explosive Material and Relative Composition (GB14470.2)	12、起爆药生产废水达不到《兵器工业水污染排放标准火工药剂》（GB14470.2）要求排放的生产工艺
13. Emulsion technique with an emulsifier temperature greater than 130℃	13、乳化器出药温度大于 130℃的乳化工艺
14. Explosive loading machines with a loading rate of less than 1,200 kg/h for small diameter aqueous explosives or less than 800 kg/h for small diameter powder explosives	14、小直径含水炸药装药效率低于 1200kg/h、小直径粉状炸药装药效率低于 800kg/h 的装药机
15. Explosive equipment with noise over 85 decibels in a facility with regular operators	15、有固定操作人员的场所，噪声超过 85 分贝以上的炸药设备
16. Production technologies of electric detonator (2 m in length of steel-reinforced skirting) with a total resistance greater than 1.5Ω (2013)	16、全电阻极差大于 1.5Ω 的电雷管（钢芯脚线长度 2m）生产技术（2013 年）
17. Production lines without online collection or timely transmission of production data for packaged products off lines (2013)	17、装箱产品下线未实现生产数据在线采集、及时传输的生产线（2013 年）
18. Production techniques of electric detonator (2 m in length of steel-reinforced skirting) with a total resistance greater than 1.0Ω (2015)	18、全电阻极差大于 1.0Ω 的电雷管（钢芯脚线长度 2m）生产工艺（2015 年）
19. Detonating cord production lines without reliable anti-train explosion transmission measures between different processes (2013)	19、工序间无可靠防传爆措施的导爆索生产线（2013 年）

20. Detonating cord production lines without online testing of explosive amount or automatic interlock protection devices in the cord production process (2013)

21. Production techniques of regular electric detonators with maximum non-spark current of less than 0.25A (2015)

22. Production techniques failing to achieve separation of men and machines in the detonator filling process (2015)

23. Production techniques relying on manual delivery of products in the detonator crimping and inspection processes (2015)

(XVI) Fire Protection

1. Manual plug welding production techniques of electronic components of fire detectors

(XVII) Miscellaneous

1. Electroplating process containing toxic and harmful cyanide (potassium gold cyanide electroplating and potassium aurous cyanide plating (2014); bottom process with silver- or copper-based alloys or pre-plated copper (elimination suspended))

2. Cyanide zinc precipitation process

3. Tombolo technology for dams

4. Tourist activities and collection of medicinal materials and other forest products beyond the ecological bearing capacity

5. Small incinerators failing to meet current national pollution control standards, engineering standards, and equipment standards for burning urban domestic garbage, medical waste, and industrial waste.

II. Outdated Products

(I) Petrochemistry

1. Modified starch paint, modified fiber paint, multi-color interior wall paint (O/W paint with nitrocellulose as the primary ingredient in resin and xylene as the primary ingredient in solvent), vinyl chloride-vinylidene chloride copolymer emulsion exterior wall paint, tar polyurethane

20、制索工序无药量在线检测、自动联锁保护装置的导爆索生产线（2013 年）

21、最大不发火电流小于 0.25A 的普通型电雷管生产工艺（2015 年）

22、雷管装填工序未实现人机隔离的生产工艺（2015 年）

23、雷管卡口、检查工序间需人工传送产品的生产工艺（2015 年）

（十六）消防

1、火灾探测器手工插焊电子元器件生产工艺

（十七）其他

1、含有毒有害氰化物电镀工艺（氰化金钾电镀金及氰化亚金钾镀金（2014 年）；银、铜基合金及予镀铜打底工艺（暂缓淘汰））

2、含氰沉锌工艺

3、实体坝连岛技术

4、超过生态承载力的旅游活动和药材等林产品采集

5、不符合国家现行城市生活垃圾、医疗废物和工业废物焚烧相关污染控制标准、工程技术标准以及设备标准的小型焚烧炉

二、落后产品

（一）石化化工

1、改性淀粉、改性纤维、多彩内墙（树脂以硝化纤维素为主，溶剂以二甲苯为主的 O/W 型涂料）、氯乙烯-偏氯乙烯共聚乳液外墙、焦油型聚氨酯防

waterproof paint, water-based PVC tar waterproof paint, PVC and acetal interior and exterior wall paint (106 paint and 107 paint, among others), and polyvinyl acetate emulsion (including ethylene/vinyl acetate copolymer emulsion) exterior wall paint

2. Paint for interior walls, solvent-based carpentry, toys, cars, and exterior walls with the level of toxic substance exceeding prescribed standards; and paint containing DDT, tributyltin, PFOA and its salts, PFOS, red lead, or other toxic substance

3. Azo dye producing 24 toxic aromatic amines from splitting decomposition during reduction (elimination suspended if not used for textiles) and 9 carcinogenic dyes (elimination suspended if not in direct contact with human body)

4. Paint remover containing benzene, phenol, benzaldehyde, dichloromethane or chloroform, lithopone, waterproof PVC caulking building material (tar type), 107 glue, clenbuterol, and PCBs (transformer oil)

5. Highly toxic pesticide products: hexachlorocyclohexane, ethylene dibromide, daminozide, bis-A-TDA, nitrofen, chlordimeform, tetramethylenedisulfotetramine, fluoroacetamide, sodium fluoroacetate, nemagon nematam, sulfotep, phosphamidon, glyftor, atrane, methamidophos, parathion, methyl parathion, monocrotophos, sulfur cyclophosphamide (ethylthiapentalene cyclophosphamide), asomate, urbacid and all arsenic preparations, mercury preparations, lead preparations, glyphosate aqueous solution (10%), posfolan-methyl, calcium phosphide, zinc phosphide, fenamiphos, fonofos, magnesium phosphide, cadusafos, coumaphos, sulfotep, and terbufos (2011)

6. Pesticide products eliminated as required under the overall plan of the state to execute international conventions: chlordane, heptachlor, bromomethane, dichlorodiphenyltrichloroethane, hexachlorobenzene, mirex, lindane, toxaphene, aldrin, dieldrin, and endrin

7. Soft-edge bicycle tire, ordinary conveyor with cotton cords as framework material, ordinary V-belt with nylon cords as framework material, and hand carved vulcanization molds for tires, bicycle tires, and motorcycle tires

水、水性聚氯乙烯焦油防水、聚乙烯醇及其缩醛类内外墙（106、107 涂料等）、聚醋酸乙烯乳液类（含乙烯/醋酸乙烯酯共聚物乳液）外墙涂料

2、有害物质含量超标准的内墙、溶剂型木器、玩具、汽车、外墙涂料，含双对氯苯基三氯乙烷、三丁基锡、全氟辛酸及其盐类、全氟辛烷磺酸、红丹等有害物质的涂料

3、在还原条件下会裂解产生 24 种有害芳香胺的偶氮染料（非纺织品用的领域暂缓）、九种致癌性染料（用于与人体不直接接触的领域暂缓）

4、含苯类、苯酚、苯甲醛和二（三）氯甲烷的脱漆剂，立德粉，聚氯乙烯建筑防水接缝材料（焦油型），107 胶，瘦肉精，多氯联苯（变压器油）

5、高毒农药产品：六六六、二溴乙烷、丁酰肼、敌枯双、除草醚、杀虫脒、毒鼠强、氟乙酰胺、氟乙酸钠、二溴氯丙烷、治螟磷（苏化 203）、磷胺、甘氟、毒鼠硅、甲胺磷、对硫磷、甲基对硫磷、久效磷、硫环磷（乙基硫环磷）、福美肿、福美甲肿及所有砷制剂、汞制剂、铅制剂、10%草甘膦水剂，甲基硫环磷、磷化钙、磷化锌、苯线磷、地虫硫磷、磷化镁、硫线磷、蝇毒磷、治螟磷、特丁硫磷（2011 年）

6、根据国家履行国际公约总体计划要求进行淘汰农药产品：氯丹、七氯、溴甲烷、滴滴涕、六氯苯、灭蚊灵、林丹、毒杀芬、艾氏剂、狄氏剂、异狄氏剂

7、软边结构自行车胎，以棉帘线为骨架材料的普通输送带和以尼龙帘线为骨架材料的普通 V 带，轮胎、自行车胎、摩托车胎手工刻花硫化模具

(II) Railway

1. G60 and G17 tank cars
2. P62 boxcar
3. K13 ore car
4. U60 cement car
5. N16 and N17 flatcars
6. L17 grain car
7. C62A and C62B open freight cars
8. Rail flatcar (40 tons or less in carrying capacity)

(III) Iron and Steel

1. Hot-rolled silicon steel sheet
2. Steel wire and steel strand with a general relaxation level
3. Hot-rolled reinforcing steel bar: grade HRB335 and HPB235

(IV) Nonferrous Metals

1. Copper rod (black)

(V) Building Materials

1. GRC hollow slats made from non-alkali-resistance fiberglass and non-low-alkali cement
2. Clay crucible wire-drawing glass fiber and its products as well as its reinforced plastic (fiber-reinforced plastic) products
3. 25A hollow steel window
4. S-2 concrete sleeper
5. Toilet using more than 9 liters of water in a single flush
6. Amphibole asbestos (blue asbestos)

(二) 铁路

- 1、G60 型、G17 型罐车
- 2、P62 型棚车
- 3、K13 型矿石车
- 4、U60 型水泥车
- 5、N16 型、N17 型平车
- 6、L17 型粮食车
- 7、C62A 型、C62B 型敞车
- 8、轨道平车（载重 40 吨及以下）

(三) 钢铁

- 1、热轧硅钢片
- 2、普通松弛级别的钢丝、钢绞线
- 3、热轧钢筋：牌号 HRB335、HPB235

(四) 有色金属

- 1、铜线杆（黑杆）

(五) 建材

- 1、使用非耐碱玻纤或非低碱水泥生产的玻纤增强水泥（GRC）空心条板
- 2、陶土坩埚拉丝玻璃纤维和制品及其增强塑料（玻璃钢）制品
- 3、25A 空腹钢窗
- 4、S-2 型混凝土轨枕
- 5、一次冲洗用水量 9 升以上的便器
- 6、角闪石石棉（即蓝石棉）

7. Hollow glass in non-machinery production, various double-layer double-frame doors and windows, and single-chamber plastic doors and windows

8. Polyethylene polypropylene fiber-type composite waterproof coiled material produced by double-heating composite molding process and polyethylene polypropylene fiber composite waterproof coiled material (polyethylene core material less than 0.5mm in thickness); cotton polyester glass fiber (high alkali) grid composite tire base material and PVC waterproof coiled material (S-shape)

9. Asbestos fiber-quality clutch facing, synthetic train brake shoe, and asbestos wet-type cork clutch facing

(VI) Medicine

1. Pewter ointment tube or single layer polyolefin ointment tube (except for application to anorectum or a body cavity)

2. Sterile powder for ampoule filling injections

3. Natural rubber stopper for medical use

4. Non-frangible ampoule

5. Soft PVC bags for transfusion (excluding those for peritoneal dialysis solution and irrigation solution)

(VII) Machinery

1. T100 and T100A bulldozers

2. ZP-II and ZP-III dry-mix shotcrete machines

3. WP-3 excavator

4. Pneumatic rock grab of less than 0.35 cubic meter

5. Wire rope mining impact drill

6. BY-40 oil rig

7. Water gas furnace with a diameter of 1.98 meters

8. CER diaphragm series

9. Thermocouple (grade division LL-2, LB-3, EU-2, EA-2, and CK)

7、非机械生产中空玻璃，双层双框各类门窗及单腔结构型的塑料门窗

8、采用二次加热复合成型工艺生产的聚乙烯丙纶类复合防水卷材、聚乙烯丙纶复合防水卷材（聚乙烯芯材厚度在0.5mm 以下）；棉涤玻纤（高碱）网格复合胎基材料、聚氯乙烯防水卷材（S型）

9、石棉绒质离合器面片、合成火车闸瓦，石棉软木湿式离合器面片

（六）医药

1、铅锡软膏管、单层聚烯烃软膏管（肛肠、腔道给药除外）

2、安瓿灌装注射用无菌粉末

3、药用天然胶塞

4、非易折安瓿

5、输液用聚氯乙烯（PVC）软袋（不包括腹膜透析液、冲洗液用）

（七）机械

1、T100、T100A 推土机

2、ZP-II、ZP-III干式喷浆机

3、WP-3 挖掘机

4、0.35 立方米以下的气动抓岩机

5、矿用钢丝绳冲击式钻机

6、BY-40 石油钻机

7、直径 1.98 米水煤气发生炉

8、CER 膜盒系列

9、热电偶（分度号 LL-2、LB-3、EU-

	2、EA-2、CK)
10. Thermal resistor (grade division BA, BA2, and G)	10、热电阻 (分度号 BA、BA2、G)
11. DDZ-I electronic control system	11、DDZ-I 型电动单元组合仪表
12. GGP-01A belt weigher	12、GGP-01A 型皮带秤
13. BLR-31 weighing sensor	13、BLR-31 型称重传感器
14. WFT-081 radiation sensor	14、WFT-081 辐射感温器
15. WDH-1E and WDH-2E photoelectric thermometers and PY5 digital thermometer	15、WDH-1E、WDH-2E 光电温度计，PY5 型数字温度计
16. BC series single bellow tube differential pressure gauge and LCH-511, YCH-211, LCH-311, YCH-311, LCH-211, and YCH-511 round differential pressure gauges	16、BC 系列单波纹管差压计，LCH-511、YCH-211、LCH-311、YCH-311、LCH-211、YCH-511 型环称式差压计
17. EWC-01A strip-chart electronic potentiometer	17、EWC-01A 型长图电子电位差计
18. XQWA self-balancing strip indicator	18、XQWA 型条形自动平衡指示仪
19. ZL3 X-Y recorder	19、ZL3 型 X-Y 记录仪
20. DBU-521 and DBU-521C liquid level transmitters	20、DBU-521，DBU-521C 型液位变送器
21. YB series (machine number: 63-355 mm, voltage of 600V or less), YBF series (machine number: 63-160mm, voltage of 380V, 660V, or 380/660V), and YBK series (machine number: 100-355 mm, voltage of 380/660V or 660/1140V) flame-proof three-phase induction motor	21、YB 系列 (机座号 63—355mm，额定电压 660V 及以下)、YBF 系列 (机座号 63—160mm，额定电压 380、660V 或 380/660V)、YBK 系列 (机座号 100—355mm，额定电压 380/660V、660/1140V) 隔爆型三相异步电动机
22. DZ10 series molded case circuit breaker and DW10 series frame circuit breaker	22、DZ10 系列塑壳断路器、DW10 系列框架断路器
23. CJ8 series AC contactor	23、CJ8 系列交流接触器
24. QC10, QC12, and QC8 starters	24、QC10、QC12、QC8 系列起动器
25. JR0, JR9, JR14, JR15, JR16-A, JR16-B, JR16-C, and JR16-D series	25、JR0、JR9、JR14、JR15、JR16-

thermal relays

26. Coke-fueled nonferrous metal melting furnaces

27. GGW series medium frequency coreless induction melting furnaces

28. B and BA single-stage single-suction cantilever centrifugal pump series

29. F single-stage single-suction corrosion-resistant pump series

30. JD long axis deep well pump

31. KDON-3200/3200 regenerator low pressure process air separation unit, KDON-1500/1500 regenerator (tube) low pressure process air separation unit, KDON-1500/1500 tube plate low pressure process air separation unit, and KDON-6000/6600 regenerator process air separation unit

32. 3W-0.9/7 (ring valve) air compressor

33. C620 and CA630 common lathes

34. C616, C618, C630, C640, and C650 common lathes (2015)

35. X920 key seat milling machine

36. B665, B665A, and B665-1 shaping machine

37. D6165 and D6185 EDM shaping machine

38. D5540 electric pulse machine

39. J53-400, J53-630, and J53-1000 double-disc friction presses

40. Q11-1.6x1,600 shear

41. Q51 truck crane

42. TD62 fixed belt conveyor

43. 3-ton DC overhead electric trolley locomotive for underground mining

A、B、C、D 系列热继电器

26、以焦炭为燃料的有色金属熔炼炉

27、GGW 系列中频无心感应熔炼炉

28、B 型、BA 型单级单吸悬臂式离心泵系列

29、F 型单级单吸耐腐蚀泵系列

30、JD 型长轴深井泵

31、KDON-3200/3200 型蓄冷器全低压流程空分设备、KDON-1500/1500 型蓄冷器（管式）全低压流程空分设备、KDON-1500/1500 型管板式全低压流程空分设备、KDON-6000/6600 型蓄冷器流程空分设备

32、3W-0.9/7（环状阀）空气压缩机

33、C620、CA630 普通车床

34、C616、C618、C630、C640、C650 普通车床（2015 年）

35、X920 键槽铣床

36、B665、B665A、B665-1 牛头刨床

37、D6165、D6185 电火花成型机床

38、D5540 电脉冲机床

39、J53-400、J53-630、J53-1000 双盘摩擦压力机

40、Q11-1.6×1600 剪板机

41、Q51 汽车起重机

42、TD62 型固定带式输送机

43、3 吨直流架线式井下矿用电机车

44. A571 single-beam crane	44、A571 单梁起重机
45. High speed circuit breakers: DS3-10, DS3-30, DS3-50 (1,000A, 3,000A, or 5,000A), DS10-10, DS10-20, and DS10-30 (1,000A, 2,000A, or 3,000A)	45、快速断路器: DS3-10、DS3-30、DS3-50 (1000、3000、5000A)、DS10-10、DS10-20、DS10-30 (1000、2000、3000A)
46. SX series chamber electric resistance furnaces	46、SX 系列箱式电阻炉
47. Single-phase watt-hour meters: DD1, DD5, DD5-2, DD5-6, DD9, DD10, DD12, DD14, DD15, DD17, DD20, and DD28	47、单相电度表: DD1、DD5、DD5-2、DD5-6、DD9、DD10、DD12、DD14、DD15、DD17、DD20、DD28
48. SL7-30/10~SL7-1600/10 and S7-30/10~S7-1600/10 distribution transformers	48、SL7-30/10~SL7-1600/10、S7-30/10~S7-1600/10 配电变压器
49. Knife switch: HD6, HD3-100, HD3-200, HD3-400, HD3-600, HD3-1000, and HD3-1500	49、刀开关: HD6、HD3-100、HD3-200、HD3-400、HD3-600、HD3-1000、HD3-1500
50. GC low pressure boiler feed pump and DG270-140, DG500-140, and DG375-185 boiler feed pumps	50、GC 型低压锅炉给水泵, DG270-140、DG500-140、DG375-185 锅炉给水泵
51. Thermodynamic traps: S15H-16, S19-16, S19-16C, S49H-16, S49-16C, S19H-40, S49H-40, S19H-64, and S49H-64	51、热动力式疏水阀: S15H-16、S19-16、S19-16C、S49H-16、S49-16C、S19H-40、S49H-40、S19H-64、S49H-64
52. Fixed grate coal-fired boiler (except double-layer fixed grate boiler)	52、固定炉排燃煤锅炉 (双层固定炉排锅炉除外)
53. 1-10/8 and 1-10/7 reciprocating air compressors for power	53、1-10/8、1-10/7 型动力用往复空气压缩机
54. 8-18 and 9-27 series high pressure centrifugal fans	54、8-18 系列、9-27 系列高压离心通风机
55. X52 and X62W 320x150 knee-and-column milling machines	55、X52、X62W 320×150 升降台铣床
56. J31-250 mechanical press	56、J31-250 机械压力机
57. TD60, TD62, and TD72 fixed belt conveyors	57、TD60、TD62、TD72 型固定带式输送机

58. Agricultural transport vehicles powered by a single-cylinder diesel engine without installation of a limiter for amount of fuel (fuel limiter) (production and sale)

59. E135 two-stroke medium speed diesel engine (including three types: 2-cylinder, 4-cylinder, and 6-cylinder), TY1100 vertical single-cylinder water-cooled direct injection diesel engine, 165 horizontal single-cylinder evaporative cooling pre-chamber diesel engine, and 4146 diesel engine

60. TY1100 vertical single-cylinder water-cooled direct injection diesel engine

61. 165 horizontal single-cylinder evaporative cooling pre-chamber diesel engine

62. Switches and relays containing mercury

63. Fuel-fired mopeds

64. Vehicle engines failing to meet the national stage II emission standards

65. Asbestos brake linings for motor vehicles

(VIII) Vessels

1. Steel transport vessel built by the integral shipbuilding method

2. Substandard refitted ships and ships reaching retirement

3. Single hull oil tanker

4. Suspended screw motor boat and its engine

(IX) Light Industry

1. Mercury battery (mercuric oxide primary cells and battery packs and zinc-mercury cells)

2. Non-sealed lead acid battery

3. Cylindrical alkaline manganese battery with over 0.0001% mercury

58、以未安装燃油量限制器（简称限油器）的单缸柴油机为动力装置的农用运输车（指生产与销售）

59、E135 二冲程中速柴油机（包括 2、4、6 缸三种机型），TY1100 型单缸立式水冷直喷式柴油机，165 单缸卧式蒸发水冷、预燃室柴油机，4146 柴油机

60、TY1100 型单缸立式水冷直喷式柴油机

61、165 单缸卧式蒸发水冷、预燃室柴油机

62、含汞开关和继电器

63、燃油助力车

64、低于国二排放的车用发动机

65、机动车制动用含石棉材料的摩擦片

（八）船舶

1、采用整体造船法建造的钢制运输船舶

2、不符合规范的改装船舶和已到报废期限的船舶

3、单壳油船

4、挂浆机船及其发动机

（九）轻工

1、汞电池（氧化汞原电池及电池组、锌汞电池）

2、开口式普通铅酸电池

3、含汞高于 0.0001% 的圆柱型碱锰电池

4. Button alkaline manganese battery with over 0.0005% mercury (2015)	4、含汞高于 0.0005%的扣式碱锰电池 (2015 年)
5. Lead acid storage battery with over 0.002% cadmium (2013)	5、含镉高于 0.002%的铅酸蓄电池 (2013 年)
6. Direct vent gas water heaters	6、直排式燃气热水器
7. Spiral swivel lifting (cast iron) faucets	7、螺旋升降式 (铸铁) 水嘴
8. Aniline ink for gravure	8、用于凹版印刷的苯胺油墨
9. Water tank fittings for upward-transmitted vertical drop toilets with water inlet lower than overflow port water level	9、进水口低于溢流口水面、上导向直落式便器水箱配件
10. Cast iron globe valves	10、铸铁截止阀
11. Glass batch with added white arsenic, antimony trioxide, or auxiliary raw materials containing lead, fluoride, or chromium slag, among others	11、添加白砷、三氧化二锑、含铅、含氟、铬矿渣等辅助原料玻璃配合料
12. Semi-automatic (horizontal) industrial washing machine	12、半自动 (卧式) 工业用洗衣机
13. Non-sealed tetrachloroethylene dry cleaning machine and regular sealed tetrachloroethylene dry cleaning machine; split petroleum solvent dry cleaning machine and regular sealed petroleum solvent dry cleaning machine	13、开启式四氯乙烯干洗机和普通封闭式四氯乙烯干洗机, 分体式石油干洗机和普通封闭式石油干洗机
(X) Fire Protection	(十) 消防
1. Difluoro-chloro bromomethane fire extinguisher (1211 fire extinguisher)	1、二氟一氯一溴甲烷灭火剂 (简称 1211 灭火剂)
2. Bromotrifluoromethane fire extinguisher (1301 fire extinguisher) (except for raw materials and essential uses)	2、三氟一溴甲烷灭火剂 (简称 1301 灭火剂) (原料及必要用途除外)
3. Simplified 1211 fire extinguisher	3、简易式 1211 灭火器
4. Portable 1211 fire extinguisher	4、手提式 1211 灭火器
5. Wheeled 1211 fire extinguisher	5、推车式 1211 灭火器
6. Portable chemical foam fire extinguisher	6、手提式化学泡沫灭火器
7. Portable soda-acid fire extinguisher	7、手提式酸碱灭火器
8. Simplified 1301 fire extinguisher (exception for essential uses)	8、简易式 1301 灭火器 (必要用途除

	外)
9. Portable 1301 fire extinguisher (except for essential uses)	9、手提式 1301 灭火器 (必要用途除外)
10. Wheeled 1301 fire extinguisher (except for essential uses)	10、推车式 1301 灭火器 (必要用途除外)
11. Pipe network 1211 fire extinguishing system	11、管网式 1211 灭火系统
12. Hanged 1211 fire extinguishing system	12、悬挂式 1211 灭火系统容
13. Cabinet 1211 fire extinguishing system	13、柜式 1211 灭火系统
14. Pipe network 1301 fire extinguishing system (except for essential uses)	14、管网式 1301 灭火系统 (必要用途除外)
15. Hanged 1301 fire extinguishing system (except for essential uses)	15、悬挂式 1301 灭火系统 (必要用途除外)
16. Cabinet 1301 fire extinguishing system (except for essential uses)	16、柜式 1301 灭火系统 (必要用途除外)
(XI) Industrial Explosive Products	(十一) 民爆产品
1. Flash detonator	1、火雷管
2. Fuse	2、导火索
3. Ammonite	3、铵梯炸药
4. Cardboard detonator (2011)	4、纸壳雷管 (2011 年)
(XII) Miscellaneous	(十二) 其他
1. 59, 69, 72, and TF-3 gas masks	1、59、69、72、TF-3 型防毒面具