

**Catalogue for the Guidance of Foreign Investment
Industries (Amended in 2011) Jointly Promulgated by
the National Development and Reform Commission
and the Ministry of Commerce of the People's
Republic of China**

Decree of the National Development and Reform Commission, the Ministry of Commerce of the
People's Republic of China

No. 12

The Catalogue for the Guidance of Foreign Investment Industries (Amended in 2011), which has been approved by the State Council, is hereby promulgated and shall come into force as of January 30, 2012. The Catalogue for the Guidance of Foreign Investment Industries (Amended in 2007) as promulgated by the National Development Planning Commission and the Ministry of Commerce on October 31, 2007 shall be annulled at the same time.

Attachment: Catalogue for the Guidance of Foreign Investment Industries (Amended in 2011)

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Chen Deming, Minister of the Ministry of Commerce

December 24, 2011

Catalogue for the Guidance of Foreign Investment Industries

(Amended in 2011)

Catalogue of Encouraged Foreign Investment Industries

I. Farming, Forestry, Animal Husbandry and Fishery Industries

- (1) Planting, development and production of woody edible oil, ingredient and industrial raw material
- (2) Development of planting technology of green and organic vegetables (including edible fungus and melon-watermelon), dried fruits, teas and production of these products
- (3) Development and production of new technology of sugar-yielding crops, fruit trees, forage grass, etc.
- (4) Production of flowers and plants, and construction and operation of nursery base
- (5) Planting of rubber, oil palm, sisals and coffee
- (6) Planting and cultivation of traditional Chinese medicines (limited to equity joint ventures or contractual joint ventures)

- (7) Reusing in fields and comprehensive utilization of straws and stalks of crop, development and production of resources of organic fertilizers
- (8) Planting of forest trees (including bamboo) and cultivation of fine strains of forest trees, and cultivation of new breed varieties of polyploid trees
- (9) Breeding of aquatic offspring (except precious quality varieties peculiar to China)
- (10) Construction and operation of ecological environment protection projects preventing and treating desertification and soil erosion such as planting trees and grasses, etc.
- (11) Breeding of aquatic products, cage culture in deep water, large-scale breeding of aquatic products, breeding and proliferation of eco-ocean products.

II. Mining and Quarrying Industries

- (1) Prospecting, exploitation and utilization of coal-bed gas (limited to equity joint ventures or contractual joint ventures)
- (2) Venture prospecting and exploitation of petroleum, natural gas (limited to equity joint ventures or contractual joint ventures)
- (3) Exploitation of oil and gas deposits (fields) with low osmosis (limited to equity joint ventures or contractual joint ventures)
- (4) Development and application of new technologies that can increase the recovery factor of crude oil (limited to equity joint ventures or contractual joint ventures)
- (5) Development and application of new technologies for prospecting and exploitation of petroleum, such as geophysical prospecting, well drilling, well-logging and downhole operation, etc. (limited to equity joint ventures or contractual joint ventures)
- (6) Prospecting and exploitation of such unconventional oil resources as oil shale, oil sand, heavy oil and super heavy oil (limited to equity joint ventures or contractual joint ventures)
- (7) Prospecting, exploitation, and beneficiation of iron ores and manganese ores
- (8) Development and application of new technologies for improving the utilization of tailings and the comprehensive utilization of recovery technology of the mine ecology
- (9) Prospecting and exploitation of such unconventional national gas resources as shale gas and submarine natural gas hydrate (limited to equity joint ventures or contractual joint ventures)

III. Manufacturing Industries

1. Farm Products Processing Industry

- (1) Development and production of biology feeds, straws and stalks feeds and aquatic feeds
- (2) Aquatic products processing, seashell products cleansing and processing, and development of health food made from seaweed
- (3) Processing of vegetables, dried fruits, fowl and livestock products

2. Food Manufacturing Industry

- (1) Development and production of food for babies and agedness, as well as health-care food
- (2) Development and production of forest food
- (3) Production of natural additive for foodstuff and food ingredients

3. Drinks Manufacturing Industry

- (1) Development and production of drinks of fruits, vegetables, albumen, tea, coffee and vegetables

4. Tobacco Processing Industry

- (1) Production of secondary cellulose acetate and processing of tows (limited to equity joint ventures or contractual joint ventures)

5. Textile Industry

- (1) Production of multi-functional industrial textile characterized by lightness, high tenacity, high/low-temperature resistance, and chemical and light resistance with the non-weaving, machine-waving and knitting and the composite technology
- (2) Weaving and dyeing as well as post dressing of high-grade loomage face fabric with advanced energy-saving and emission reduction technology and equipment
- (3) Processing of special natural fiber products satisfying the requirement of comprehensive utilization of ecology and resources and environment protection (including special animal fiber such as cashmere, fibrilia, bamboo fiber, mulberry silk and colored cotton)
- (4) Production of clothes with computer integrated manufacturing system
- (5) Production of functional, green and environmentally-friendly and special clothing
- (6) Production of top-grade carpet, embroider and drawnwork product

6. Leather, Coat and Feather (Down and Feather) Products Industry

- (1) Cleaning processing of leather and fur
- (2) Post ornament and processing of leather with new technology
- (3) Processing of top-grade leather
- (4) Comprehensive utilization of feather waste

7. Lumber Processing Industry and Wood, Bamboo, Vine, Palm, Grass Products Industry

- (1) Development and production of new technology and products for the comprehensive utilization of three remainder of forestry, "sub-quality, small wood and fuel wood" and bamboo in the forest area

8. Paper Making and Paper Products Industry

- (1) Project mainly utilizing overseas timber resources with an annual production capacity of over 300 thousand tons of chemical wood pulp or an annual production capacity of over 100 thousand tons of chemical mechanical wood pulp in the single production line and synchronized construction of top-grade paper and paper plate production (limited to equity joint ventures or contractual joint ventures)

9. Petroleum Refining, Coking and Nuclear Fuel Processing Industry

- (1) Deep processing of needle coke and coal tar

10. Chemical Raw Material and Products Manufacturing Industry

- (1) Development and production of new type down-stream products of sodium-process bleaching powder, polrvinyl chloride and organic silicon
- (2) Production of supporting raw materials for synthetic materials: hydrogen peroxide propylene oxide-method propylene oxide, NDC and 1,4-CHDM
- (3) Production of synthetic fiber raw materials: caprolactam, nylon 66 salt, meltspun spandex resin and 1,3-propylene glycol
- (4) Production of synthetic rubber: solution butadiene styrene rubber (excluding thermoplastic butadiene styrene rubber), cri-rich butadiene rubber, butyl rubber, isoprene rubber, polyester rubber, acrylic rubber, chlorohydrin rubber, ethylene propylene rubber and the special rubbers of fluorous rubber and silicon rubber
- (5) Production of engineering plastics and plastic alloy: non phosgene-method PC with an annual production of 60,000 or more tons, POM, polyamide (nylon 6, 66, 11 and 12), EVA, polyphenylene sulfide, polyether-ether-ketone, polyimide, polysulfone, polyethersulfone, PAR, liquid crystal polymeride and other products.

(6) Fine chemistry: new products and technologies of catalyst, commercialization processing technology of dyeing (pigment) materials, electric chemicals and papermaking chemicals, food additives, feed additive, leather chemicals (except N-N DMF), oil additives, surface active agent, water treatment agent, adhesives, inorfil, inorganic nano materials production, and deep-processing of pigment diolame

(7) Production of environmentally-friendly printing ink, and aromatic hydrocarbon

(8) Production of natural perfume material, synthetic perfume and isolate perfume

(9) Production of high-performance coating, hydrophobic automotive paint and supporting waterborne resin

(10) Production of HCFCs substitute

(11) Production of high-performance fluoro resin, fluorine membrane materials, medical fluoro midbody, environmentally-friendly refrigeration agent and cleaning agent

(12) Production of fluorine recycling from phosphorus chemical and aluminum smelting

(13) Development and production of new technology and products of forestry chemicals

(14) Development and production of environmentally-friendly inorganic, organic and biological membrane

(15) Development and production of new fertilizers: bio-fertilizer, high-density potash fertilizer, compound fertilizer, controlled-releasing fertilizer, compound microorganism inoculant, composite microorganism fertilizer, straw and waste decomposing agent and special-function microorganism agent

(16) Development and production of new varieties of effective, safe and environmentally-friendly pesticides, new formulations, special-purpose midbody and addition agents as well as development and application of related cleaning technology (methane-method acetochlor, amine cyanogen-method paraquat and aqueous phase-method chlorpyrifos technology, glyphosate recycling chloromethane technology, stereospecific synthesis-method chirality and stereochemical structure pesticide production and synthetic technique of ethyl chloride)

(17) Development and production of biopesticide and bio-control products: microbial insecticide, microbial fungicide, agricultural antibiotic, insect pheromone, enemy insect and microbial herbicide

(18) Comprehensive utilization and disposal of exhaust gas, discharge liquid and waste residue

(19) Production of organic polymer material: covering film for plane, rare-earth cerium sulphide red dye, lead-free in electronic packages, serials of special sizing agent by photoetching for color Plasma Display Panel, small-diameter and large specific surface area superfine fiber, high precision fuel filter paper, and Li-ion battery membrane

11. Medical and Pharmaceutical Products Industry

(1) Production of new type compound medication or active composition medication (including bulk drug and preparation)

(2) Production of amino acids: tryptophan, histidine, and methionine for feed with fermentation method

(3) Production of new anti cancer medication, new cardio-cerebrovascular medication and new nervous system using medication

(4) Production of new drugs with bio-engineering technology

(5) Production of new type bacterin for AIDS, HCV and contraception as well as cervical carcinoma, malaria and hand-foot-and-mouth disease

- (6) Production of biology bacterin
- (7) Exploitation and production of marine drug
- (8) Drug preparation: production of new formulation using new technologies of sustained-release, release, targeting and percutaneous absorption
- (9) Exploitation and production of new type of pharmaceutical adjuvant
- (10) Production of antibacterial raw material drug for animal use (including antibiotics and synthetic chemicals)
- (11) Production of new products of antibacterial drug, insect repellent, pesticide, anticoccidial drug for animal use and new formulation
- (12) Production of new diagnosis reagent

12. Manufacturing Industry of Chemical Fiber

- (1) Production of hi-tech chemical fiber (except viscose) of differential chemical fiber, aramid, carbon fiber, polyethylene of high-strength and high-mode, polyphenylene sulfide (PPS) and so on
- (2) Production of new style of fiber and non-fiber polyester: PTT, PEN, PCT and PETG
- (3) Production of biopolymer fiber with new type renewable resources and green environmentally-friendly technology, including new solution-method Lyocell, regenerated cellulose fiber with bamboo and fiber as raw materials, PLA, chitosan fiber, PHA and plant and animal protein fiber
- (4) Production of polyamide, with a single line daily production capacity of 150 or more tons
- (5) Production of meridian tyre aramid fiber and tyre cord

13. Industry of Plastic Products

- (1) Development and production of new type photo-ecology multi-functional broad width agricultural film
- (2) Digestion and recycle of waste plastics
- (3) Exploitation and production of new technology and new production of soft plastic package (high barrier, multi-function film and raw material)

14. Non-metal Mineral Products Processing Industry

- (1) Development and production of energy-saving, environmentally-friendly, waste recycling, light and strong, high-performance and multi-functional building materials
- (2) Production of using plastic to replace steel and wood, energy-saving and high-efficient chemical architecture materials
- (3) Production of not less than 10,000,000sq.m. elastomer, plastic changeable asphaltum waterproof coiled materials, EPDM waterproof coiled materials with width (of not less than 2 meters) and matched materials, PVC coiled material with width (of not less than 2 meters), and TPO waterproof coiled materials
- (4) Development and production of functional glass with new technology: screen electromagnetic wave glass, micro-electronics glass base plate, penetrating infrared non-lead glass, electron grade large spec quartz glass products (pipe, plate, crucible and instrument vessels), optical property high-quality multi-functional windshield glass, extreme materials and products for information technology (including waveguide-level high-precise optical fiber pre-fabricating quartz glass sleeve and ceramic baseplate), and refining and processing of crystal raw materials with high purity of (99.998% or above) and super-purity of (99.999% or above).
- (5) Production of film battery conductive glass and solar light-concentration glass
- (6) Production of glass fiber products and special glass fibers: dielectric glass fiber, quartz glass

fiber, high silica glass fiber, strong and flexible glass fiber, ceramic fiber and products

(7) Production of optical fiber and products: coherent fiber bundle and laser medical optic fiber, super-second generation and third generation microchannel plate, optical fiber surface plate, image inverter and optical glass cone

(8) Standardized refining of ceramic material and production of high-level decorative materials used for ceramics

(9) Production of environmentally-friendly refractory material (without chromizing) used in furnaces for cement kiln, electronic glasses, ceramics and porous carbon bricks

(10) Production of AlN ceramic base piece, and multiple-hole ceramics

(11) Production of inorganic, non-metal materials and products: complex materials, special kind of ceramics, special kind of airproof materials (including quick oil sealed materials), special friction materials (including quick friction braking products), special cementation materials, special type latex materials, water rubber materials and nano materials

(12) Production of organic-inorganic composite foam insulation materials

(13) Production of high-tech compound materials: sequential fiber increasing thermoplasticity compound materials and prepreg, endure heat $> 300^{\circ}\text{C}$ colophony compound material moulding craftwork assistant materials, colophony compound material (including top grade sports articles and light and strong transport tool parts), special function compound materials and products (including deep water and diving compound material products and medical and healing use compound material products), carbon/carbon compound materials, high-performance ceramic compound materials and products, metal and glass compound materials and products, and pressure $\geq 320\text{MPa}$ super-high-pressure compound rubber pipes, air bus aviation tyres

(14) Production of precise high-performance ceramics materials: carborundum super-minute powder (purity $> 99\%$, average granule diameter $< 1\mu\text{m}$), Si_3N_4 super-minute powder (purity $> 99\%$, average granule diameter $< 1\mu\text{m}$), high pure and super-minute alumina powder (purity $> 99\%$, average granule diameter $< 0.5\mu\text{m}$), low temperature sintered zirconia (ZrO_2) powder (sintered temperature $< 1350^{\circ}\text{C}$), high pure AlN powder (purity $> 99\%$, average granule diameter $< 1\mu\text{m}$), rutile TiO_2 powder (purity $> 98.5\%$), white char black (average granule diameter $< 100\text{nm}$), barium titanate (purity $> 99\%$, average granule diameter $< 1\mu\text{m}$)

(15) Development and production of top grade artificial crystal and crystal film products: top-grade artificial synthetical crystal (piezo crystal and ultraviolet crystal), super-hard crystal (cubic boron nitride crystal), high temperature resistant and strong insulation artificially synthetic insulation crystal (artificially synthetic mica), new type electric-optic crystal, large power laser crystal and large-sized glittering crystal, and diamond film tools, super-thin artificial diamond saw piece with thickness of 0.3mm or less

(16) Deep processing of non-metal mineral products (super-thin comminution, high level pure, fine production, modification)

(17) Production of super high power black lead electrode.

(18) Production of pearlite mica (granule diameter: 3-150 μm)

(19) Production of multiple dimension and multiple direction integer weaving fabric and profile modeling fabric.

(20) Using new dry cement kiln to innocuously dispose of solid waste

(21) Recycling of building waste

(22) Comprehensive utilization of industrial byproduct gypsum

(23) Development and application of new technology for the comprehensive utilization of non-metal mining tailings as well as ecological recovery of mining

15. Non-Ferrous Metallurgical Smelting and Rolling Processing Industry

(1) Production of silicon single crystal with the diameter of more than 200mm and polishing piece
(2) Production of high-tech non-ferrous metallurgical materials: compound semiconductor materials (gallium arsenide, gallium phosphide, gallium Reexplanation, gallium nitride), high temperature superconduct materials, memory alloy materials (titanium nickel, copper and iron memory alloy materials), super minute (nanometer) calcium carbide and super minute (nanometer) crystal hard ally, super-hard compound materials, noble metal compound materials, aluminum foil used for radiator, middle and high pressure cathode capacitance aluminum foil, special large aluminum alloy materials, aluminum alloy precise model forge product, electrified railway built on stilts leads, super-thin copper strip, erosion proof heat exchanger copper alloy material, high-performance copper nickel, copper and iron alloy strip, beryllium copper strip, thread, tube and stick process material, high temperature bearable tungsten filament, magnesium alloy cast, non-lead solder, magnesium alloy and its applicable products, bubble aluminum, titanium alloy strip materials and titanium jointing pipes, atomic energy grade sponge zirconium, tungsten and deep-processing products of molybdenum

16. Metal Products Industry

(1) Development and production of aviation, aerospace, lightened car, automobile and environmentally-friendly new materials (special-purpose aluminum board, aluminum magnesium alloy materials, automobile aluminum alloy frame and so on).
(2) Development and production of hardware for construction, hot-water heating equipment and hardware parts
(3) Production and processing (including painting and processing inner and outer surface of the products) of metal packing products (thickness < 0.3mm) used to pack all kinds of grain, oil and food, fruits, vegetables, beverages, daily using materials and such contents
(4) Production of section nickel stainless steel products

17. General Machine-building Industry

(1) Manufacturing of numerically controlled machine tools of high level and key spare parts: numerically controlled machine tools which exceed quintuple linkage, digital control coordinate spindle processing center, digital control system which exceeds quintuple linkage and servomechanism installations, high-speed and super-strong knives for exact digital control manufacturing.
(2) Manufacturing of multi-station forging forming machine of 1,000 or more tons
(3) Manufacturing of equipments for breaking up and smashing retired cars and post-processing sorting equipment
(4) Manufacturing of soft FTL product line
(5) Manufacturing of vertical articulated industrial robots, welding robots and welding equipments thereof
(6) Manufacturing of special processing machines: complete sets of laser cutting and welding equipments, exact processing laser equipments, digital-control and low-speed wire-cuts, submicron cracker
(7) Manufacturing of wheel or crawler crane of 400 or more tons (limited to equity joint ventures or contractual joint ventures)

(8) Designing and manufacturing of high pressure plunger pumps of working pressure of 35MPa or above and engine, designing and manufacturing of low-speed big torque engine of working pressure of ≥ 35 MPa or above

(9) Manufacturing of electro-hydraulic proportion servo elements of the integral hydraulic multi-channel valves with the working pressure of 25MPa or above

(10) Designing and manufacturing of valve terminal, pneumatic solenoid valves of less than 0.35W and high-frequency electrical control valves of more than 200Hz

(11) Designing and manufacturing of hydrostatic drive device

(12) Development and manufacturing of non-contacting gas film seal of pressure of more than 10MPa, dry gas seal of pressure of more than 10MPa (including experience device)

(13) Development and manufacturing of macromolecule material device for automobiles (rub piece, changed phenol aldehyde plunger, non-metal liquid pressure mother pump and so on)

(14) Manufacturing of car boss axletree of 3 and 4 generation (function elements of boss axletree of flange and transducer inside or outside of the axletree, digital control machine tool or processing centre axletree of high or mid class (the processing center shall have more than three axis interlocking function and 3-4 μ m repeated precision), high-speed wire or board rolling mill axletree (assistant axletree and roller axletree of single-wire rolling mill of not less than 120m/s and of thin-board rolling mill of not less than 2mm), high-speed railway axletree (with speed of more than 200km/h), low-noise axletree of vibration of less than Z4(Z4, Z4P, V4, V4P), level P4, P2 axletree of various axletree, bearings of wind power generators (mainshaft bearing, speed-up machine bearing and generator bearing of wind generating set of more than 2MW) and aviation bearing (mainshaft bearing of aircraft engine, landing gear bearing, transmission system bearing and handling system bearing)

(15) Manufacturing of high-density, high-precision and shape-complicated powder metallurgy parts as well as chains for vehicles and engineering machinery

(16) Manufacturing of gear transmissions for wind power and high-speed trains, propeller-controllable transmission system for vessels and large-size and heavy-load gear boxes

(17) Production of high temperature resistant and insulation material (with F, H insulation class), as well as insulation shaped parts

(18) Development and manufacturing of accumulator capsule and fluid pressure rubber sealing

(19) Manufacturing of high-precision and high-intensity (above 12.9-level), dysmorphism and combination fasteners

(20) Manufacturing of micro precise transmission coupling parts (clutches)

(21) Manufacturing of coupling shaft for heavy mill

(22) Remanufacturing of mechanical equipment such as machine tools, engineering machinery and railway locomotive equipment as well as auto parts

18. Special Equipment Manufacturing

(1) Manufacturing of mine trolley mining, loading and transporting device: mechanical drive tipper for mine of 200 or more tons, mobile crusher, wheeled digger of 5,000m³/h or above, loading machine for mine of 8 or more m³, electric driving mining machine of 2,500 kw or above and so on

(2) Manufacturing of geophysical, logging equipment: MEME geophone, digital telemetry seismograph, digital imaging, computerized logging system, horizontal wells, directional wells, drilling rig equipment and apparatus, MWD logging while drilling

- (3) Manufacturing of oil exploration, drilling, gathering and transportation equipment: floating drilling systems and floating production systems which will work in water with depth of more than 1,500 meters, and supporting equipment for undersea oil production, collection and transportation
- (4) Manufacturing of large digging drilling with caliber of 2 or more meters and depth of 30 or more meters, manufacturing of push bench with diameter of 1.2 or more meters, manufacturing of large complete non-digging pipeline laying device with pulling power of 300 or more tons, and manufacturing of diaphragm wall drilling machine
- (5) Designing and manufacturing of large soil shifter of 520 hp or above
- (6) Designing and manufacturing of purge machine of 100m³/h or above, digging device with digging vessel of 1,000 or more tons
- (7) Designing and manufacturing of tuffcrete diaphragm wall for flood control bar
- (8) Manufacturing of machines for underwater mass: soil shifter, loader and digger under water with depth of not more than 9 meters
- (9) Manufacturing of devices of road bridge maintaining and automatic testing
- (10) Manufacturing of devices of road tunnel supervision, winding, disaster control and rescuing system
- (11) Designing and manufacturing of maintenance machinery for large-scale construction of railways, railway lines, bridges and tunnels, testing and monitoring equipments and key parts
- (12) Manufacturing of (asphalt) shingles equipment, galvanized steel and other metal roof production equipment
- (13) Manufacturing of spot spraying polyurethane waterproof thermal insulation system equipment which could protect environment and conserve energy, technology and equipment of polyurethane sealant paste preparation, technology and production equipment of modified silicone sealing paste preparation
- (14) Designing and manufacturing of high-precision strip mill (with thickness precision of 10 microns)
- (15) Manufacturing of selecting device for multi-element, fine-powder and hard-selecting mine
- (16) Manufacturing of key devices of 1,000,000 or more tons/year of oxene complete devices: complicated powder making machine of more than 400,000 tons/year, spiral discharging centrifuge with diameter of 1,000 or more millimeters, and small-flow and high-lift centrifugal pump
- (17) Manufacturing of large complete devices of chemical processing of coal (limited to equity joint ventures or contractual joint ventures)
- (18) Designing and manufacturing of metal product moulds (such as extrusion moulds of pipe, stick and shape of copper, aluminum, titanium and zirconium)
- (19) Designing and manufacturing of punching mould of cover elements of automobile body, large-sized injection molds of fascia and fender-guard, and clamp and testing tools of automobile and motorcycle
- (20) Designing and manufacturing of special production equipment for car power battery
- (21) Designing and manufacturing of precision mold (the precision of punching mould is more than 0.02 millimeter and that of cavity mould is more than 0.05 millimeter)
- (22) Designing and manufacturing of non-metal product moulds

- (23) Manufacturing of beer filling device of 60,000 bottles /h or above, drink mid or high hot filling device of 50,000 bottles /h, asepticism filling device of 36,000 bottles /h or above
- (24) Manufacturing of producing technologies and key equipments for aminophenol, enzyme, food additive and so on
- (25) Manufacturing of complete feed processing equipment of 10tons/h or above and key parts thereof
- (26) Manufacturing of light board and box device of 0.75-millimeter high or less
- (27) Manufacturing of single sheet-fed multi-colored offset printing presses (with the breadth of 750 or more millimeters, printing speed of 1,6000 or more sheets per hour in single multi-colored sheet and 1,3000 or more sheets per hour in double multi-colored sheet)
- (28) Manufacturing of single roll lithographic printing machine with speed of more than 75,000 pages in folio /h (787×880 millimeters), diprosopia single roll lithographic printing machine with speed of more than 170,000 pages in folio /h (787×880 millimeters) and the commercial roll paper offset press with the printing speed of more than 50,000 pages in folio/h (787x880 millimeters)
- (29) Manufacturing of multi-colored breadth flexographic press (with the printing breadth of 1,300 or more millimeters and printing speed of 350 or more meters per second), and the injection digital printing press (for publishing: printing speed of 150 or more meters per minute and resolution ratio of 600dpi or above; for packaging: printing speed of 30 or more meters per minute and resolution ratio of 1,000dpi or above; for changeable data: printing speed of 100 or more meters per minute and resolution of 300dpi or above)
- (30) Manufacturing of computer mass color pre-coordination systems, mass color remote handling systems, mass speed following systems, prints quality automatic testing and following systems, no-axis turning technologies, high-speed automatic splicer with the speed of 75,000 pieces per hour, paper feeder, and high-speed and automatic remote handling paper folding machine, automatic overprinting system, cooling device, silanion putting system, bias-adjusting device and so on
- (31) Manufacturing of electronic-gun automatic coating machine
- (32) Deep processing technique and equipment manufacturing of plate glass
- (33) Manufacturing of complete set of new type of paper (including pulp) making machines
- (34) Manufacturing of equipment with new technique for post ornament and processing of leather
- (35) Development and Manufacturing of new agriculture processing and storage equipment: new equipment for the processing, storage, preservation, classifying, packing, and drying of food, oil, vegetables, dried fruits and fresh fruits, meat and aqua-products; agricultural product quality testing equipment ; the quality detection equipment of agricultural products' damage; Rheometer; Farinograph; ultrafine pulverization equipment; highly efficient dewatering equipment ; 5-grade plus high efficient fruit juice condensation equipment; equipment for disinfection of powder food in media; aseptic packaging equipment for semi-solid and solid food; disc-type separation centrifuges
- (36) Manufacturing of agricultural machinery: facility agriculture equipment (greenhouse automatic irrigation equipment, auto-control configuration and fertilization equipment of nutritious liquid, efficient vegetable nursery equipment, soil nutrient analysis instruments), tractor and associated farm tools with 120 kilowatts and above matching engine power, low fuel consumption, low noise and low-emission diesel engine, spray machines with residual fog tablets recovery unit matching of large tractor, high-performance rice transplanter, cotton harvesting

machine, adapted to a variety of row-spacing self-moving maize reaping machine (hydraulic drive or mechanical drive), rapeseed harvesting machine, cane cutting machine and complete beet harvester

(37) Manufacturing of new technical forestry equipment

(38) Manufacturing of equipment for collecting, bundling and comprehensive utilization of crop straw

(39) Manufacturing of equipment for resource utilization of waste agriculture products and waste fowl and livestock products which are bred in scale

(40) Manufacturing of fertilizer, pesticide, water-saving agricultural technical equipment

(41) Manufacturing of cleaning equipment for electromechanical wells and equipments for laundering drug production

(42) Manufacturing of electronic endoscopes

(43) Manufacturing of fundus cameras

(44) Manufacturing of key components of medical imaging equipments (high magnetic field intensity and superconducting magnetic resonance imaging equipment, X-ray digital tomography imaging equipment, and digital color ultrasonic diagnostic equipment)

(45) Manufacturing of Medical Ultrasonic Transducer (3D)

(46) Manufacturing of boron neutron capture therapy equipments

(47) Manufacturing of image-guiding intensity-modulated radiation treatment system

(48) Manufacturing of Hemodialysis, Blood Filter

(49) Manufacturing of equipment for automatic enzyme immune system (including the functions of application of sample, elisa photo meter, wash plate, incubation, data, post treatment, etc.)

(50) New techniques of quality control of medicine products and new equipment manufacturing

(51) New analytical techniques and extraction technologies, and equipment development and manufacturing for the effective parts of national medicines

(52) Manufacturing of multi-layer co-extrusion water-cooled film mold-blowing equipment for non-PVC infusion bags for medical use

(53) Development and Manufacturing of equipment of new type of knitting machines, key parts and textile testing, laboratory equipment

(54) Manufacturing of computer Jacquard artificial fur machine

(55) Manufacturing of special equipments for solar cell production

(56) Manufacturing of equipment for prevention and treatment of air pollution: equipment for high temperature-resistant and corrosion-resistant filter materials, low NO_x combustion equipment, complete equipment for fuel gas denitrification catalysts and denitrification, equipment for industrial organic waste gas purification, equipment for diesel vehicle ventilation purification, and equipment for exhaust treatment of heavy metal

(57) Manufacturing of equipment for prevention and treatment of water pollution: horizontal spiral centrifugal machine, film and film materials, ozone generator of 50kg/h or above, chlorine dioxide generator of 10kg/h or above, ultraviolet disinfection device, small sewage treatment equipment in the rural areas, and treatment equipment for waste water with heavy metal

(58) Manufacturing of equipment for treatment of solid waste: equipment for sludge treatment and resource utilization at the sewage treatment plant, complete equipment for waste incineration with daily treatment of more than 500 tons, technical equipment for landfill leachate treatment, leakage-proof geomembrane at the landfill field, equipment for construction waste and resource

utilization, equipment for dangerous waste treatment, methane gas power generation device at the landfill field, equipment for treatment of iron and steel scrap, and equipment for polluted soil remediation

(59) Development and manufacturing of equipment for comprehensive utilization of red mud in the aluminum industry

(60) Manufacturing of equipment of comprehensive utilization of tailings

(61) Manufacturing of waste plastics, electronics, rubber, battery recycling equipments

(62) Manufacturing of equipment for recycling treatment of waste textiles

(63) Manufacturing of the remanufacturing equipment of used mechanical and electronic products

(64) Manufacturing of equipment for comprehensive utilization of scrap tires

(65) Environmental protection technology and equipment manufacturing of aquatic ecosystem

(66) Manufacturing of movable combination water purification equipment

(67) Unconventional water treatment and repeated utilization equipment and water quality monitoring instrument

(68) Industrial water pipe network and leak-testing equipment and instrument

(69) Development and manufacturing of 100,000 cubic meters and above daily production seawater desalination and recycling cooling technology and complete sets of equipments

(70) Manufacturing of special meteorological observation and analysis equipments

(71) Development of seismic station, seismic network, and mobile seismological observation technology system, and manufacturing of equipments

(72) Manufacturing of three-drum radial tire building machines

(73) Manufacturing of rolling resistance testing machine and tire noise lab

(74) Manufacturing of new heating measurement and temperature control device technical equipments

(75) Manufacturing of preparation, storage and transportation equipment and inspection systems of hydrogen energy

(76) Manufacturing of new heavy residue gasification atomization nozzle, steam leakage rate of 0.5 percent and below efficient steam traps, 1,000 ° C and above high-temperature ceramic heat exchanger manufacturer

(77) Manufacturing of equipment for marine oil-spilling recovery

(78) Manufacturing of low-density coal gas and ventilation air utilization device

19. Communication and Transportation Equipment Industries

(1) Manufacturing of automobile engine, and construction of engine research and development organization: gasoline motor with output per liter not lower than 70 kw, diesel motor with output per liter not lower than 50 kw and discharge capacity below 3 liters, diesel motor with output per liter not lower than 40 kw and discharge capacity above 3 liters, motor driven by such new resources as fuel cells and compound fuel

(2) Manufacturing of key auto parts and development of key technology: DCT, AMT, gasoline engine turbocharger, viscous even shaft device (for four-wheel drive), automatic transmission actuator (magnetic valve), hydrodynamic retarder, eddy current brake, gas generator for SRS, common rail fuel injection technology (with maximum injection pressure of more than 2,000pa), VGT, VNT, engine emission control device up to the standard for the V stage of China, ITM and coupler assembly, steer-by-wire system, diesel particles trap, special vehicle bridge for large low-floor passenger cars, absorption steering system, large-and-medium frequency air condition

system for passenger cars, special rubber parts for vehicles, as well as key parts and components of the above-mentioned parts

(3) Production as well as research and development of automobile electronic devices: engine and under-chassis control system as well as key spare parts, in-vehicle electronic technology (automobile information system and navigation system), automobile electronic network technology (limited to equity joint ventures), components for the input (sensor and sampling system) and the output (actuator) of electronic control system, EPS electronic controller (limited to equity joint ventures), embedded electronic integration system (limited to equity joint ventures or contractual joint ventures), electronic-controlled air suspension, ECS, electronic valve system equipment, EIC, ABS/TCS/ESP system, BBW, TCU, TPMS, OBD, IMMO, ABICAS, and testing system for testing and maintenance of autos and motorbikes

(4) Manufacturing of key parts and components for new energy vehicles: energy power battery (energy density of 110Wh/kg or above, cycle life of 2,000 or more times, and foreign investment proportion of not more than 50%), positive materials of battery (specific capacity of 150mAh/g or above, and cycle life of 2,000 times takes up not less than 80% of the initial discharging capacity), battery separator (with thickness of 15–40 μ m and porosity of 40%-60%); battery management system, motor management system, electronic integration of electric cars; drive motor for electric cars (peak power density of 2.5kW/kg or above, high efficient area: 65%, and working efficiency of 80% or above), DC/DC for vehicles (input voltage of 100V-400V), high power electronics (IGBT, voltage level of 600V or above and current of 300A or above); and plug-in hybrid electromechanical coupling drive system.

(5) Manufacturing of key parts and components for high-emission motorcycles (with emission of more than 250ml): technology of electrical control fuel injection for motorcycle (limited to equity joint ventures or contractual joint ventures), and engine discharging device complying with motorcycle discharging criteria stage III of China

(6) Equipment for railway transportation (limited to equity joint ventures or contractual joint ventures) : research and development, design as well as manufacturing of complete train and key spare parts (drive system, control system, brake system) of rapid transit railway, railway of passenger special line, intercity railway, trunk railway and equipment for urban railway transportation; research and development, design as well as manufacturing of passenger service facilities and equipment for rapid transit railway, railway of passenger special line, intercity railway and urban railway transportation, design as well as research and development of related information system in the process of construction of information age; research and development, design as well as manufacturing of railway and bridge facilities and equipments for rapid transit railway, railway of passenger special line, intercity railway, manufacturing of equipment and fixtures for electrical railway, research and development of technologies for controlling railway noise and vibrating, manufacturing of discharging equipment for trains, manufacturing of safety monitoring equipment for railway transportation

(7) Design, manufacturing and maintaining of civil plane: those of trunk and branch lines (Chinese part shall hold the majority of shares), general ones (limited to equity joint ventures or contractual joint ventures)

(8) Production and maintaining of spares parts for civil planes

(9) Designing and manufacturing of civil helicopters: those of three or more tons (Chinese part shall hold the majority of shares), those of less than three tons (limited to equity joint ventures or contractual joint ventures)

(10) Production of spare parts for civil helicopters

(11) Manufacturing of ground and water effect plane (Chinese part shall hold the majority of shares)

(12) Designing and manufacturing of no-people plane and aerostat (Chinese part shall hold the majority of shares)

(13) Design, manufacturing and maintaining of plan engines and spare parts as well as air assistant power systems (limited to equity joint ventures or contractual joint ventures)

(14) Designing and manufacturing of civil air-borne equipment (limited to equity joint ventures or contractual joint ventures)

(15) Manufacturing of flight ground equipments: civil airfield facilities, support equipment for civil airfield work, ground equipment for flight test, equipment for flight simulation and practice, equipment for aeronautic testing and measuring, equipment for aeronautic ground testing, comprehensive testing equipment for machines, special equipment for aeronautic manufacturing, equipment for pilot manufacturing aeronautic materials, ground receiving and applying equipment for civil aircraft, ground testing equipment for rocket launcher, equipment for dynamic and environmental experience for rocket launcher

(16) Manufacturing of mechanical and electrical products for aircrafts, temperature control products for aircrafts, test equipment for planet products and structure and organization products for aircrafts

(17) Manufacturing of light gas-turbine engine

(18) Designing of luxury cruise and deep-water (more than 3,000 meters deep) marine engineering equipment of luxury cruise (limited to equity joint ventures or contractual joint ventures)

(19) Manufacturing and maintenance of marine engineering equipment (including modules) (Chinese part shall hold the majority of shares)

(20) Designing of low-and-medium-speed diesels and their parts for vessels (limited to equity joint ventures or contractual joint ventures)

(21) Manufacturing of crankshafts of low and mid speed for diesel engine for vessels (Chinese part shall hold the majority of shares)

(22) Designing and manufacturing of stateroom machine for vessels (Chinese part shall hold the relative majority of shares)

(23) Designing and manufacturing of communication and directing systems for vessels: communication systems, electronic directing equipment, vessel radar, electric compass automatic pilot, public broadcasting systems inside vessels and so on

(24) Designing and manufacturing of cabin cruiser (limited to equity joint ventures or contractual joint ventures)

20. Electric Machinery and Equipment Industries

(1) Manufacturing of pivotal equipment of super-critical units of over 1,000, 000KW of fire and electricity set (limited to equity joint ventures and cooperative joint ventures): safety valve and adjustment valve

(2) Manufacturing of the denitration technical equipment for sintering machine at the coal-burning power plant and the steel industry

- (3) Designing and manufacturing of equipment of fire-electricity airproof
- (4) Manufacturing of heavy casting and forging equipment for coal-burning power plant and hydroelectric power station
- (5) Manufacturing of key auxiliary equipment for hydro-power generating units
- (6) Manufacturing of power transmitting and transforming equipment (limited to equity joint ventures and cooperative joint ventures): amorphous alloy transformer, operational mechanism for the switch of 500KV or **above**, arc control device, large tube insulator (more than 1000KV and 50 KA), outlet device for transformer of more than 500 KV, sleeve (alternating current of 500, 750 and 1000KV, and direct current of 14 size), tap changer (alternating current 500, 750 and 1,000 KV on-load and offload tap changer), dry PKG for the transmission of direct current, converter valve for the transmission of direct current of ± 800 KV (water-cooled equipment and direct current field equipment), electrical contactor materials in line with EU RoHS instructions and welding materials with Pb and Cd.
- (7) Manufacturing of new energy electricity-power complete equipment or key equipment: photovoltaic power , geothermal power generation, tidal power generation, wave power generation, rubbish power generation, methane power generation, wind power generation equipment of over 2.5MW
- (8) Manufacturing of large pumped-storage aggregate with the nominal power of 350MW or above (limited to equity joint ventures and cooperative joint ventures): pump turbine and speed controller, large speed-variable reversible pump turbines, generator motor and such accessory equipment as excitation and starting device
- (9) Manufacturing of Stirling generating set
- (10) Development and manufacturing of **straight linear** and **planar** motor and drive system
- (11) Manufacturing of hi-tech green battery: lithium battery power, zinc nickel storage battery, zinc-silver accumulator, lithium ion battery, solar battery, fuel cell and so on (except energy power battery for new energy vehicles)
- (12) Manufacturing of refrigeration air conditioning compressor with motor adopting DC variable frequency technology, refrigeration air conditioning compressor adopting CO₂ natural medium and refrigeration air conditioning equipment with renewable energy (air, water and ground source)
- (13) Manufacturing of solar air conditioning, heating system, solar dryer
- (14) Manufacturing of biomass drying pyrolysis system, biomass, gasification unit
- (15) Manufacturing of ac-fm voltage regulation drawbar

21. Communication Equipment, Computer and Other Electronic Equipment Manufacturing

- (1) Manufacturing of Hd camcorders and digital sound-playing equipment
- (2) Manufacturing of flat panel display such as TFT-LCD, PDP and OLED and the material of flat panel display (except TFT-LCD glass base plate of the sixth-generation or below)
- (3) Manufacturing of such parts as optical engine, light source, projection screen, high-resolution projection tube and LCOS module used in large screen color projection display
- (4) Manufacturing of digital audio and visual coding or decoding equipment, digital broadcasting TV studio equipment, digital cable TV system equipment, digital audio broadcast transmission equipment, digital television converter, digital television broadcasting Single Frequency Network (SFN), satellite digital TV up-linking station, front-end equipment manufacturing of SMATV
- (5) Designing of integrate circuit, and manufacturing of large digital integrate circuit with its wire width of not more than 0.18 micron, manufacturing of simulated and digital analogy integrate

circuit of not more than 0.8 micron and the encapsulation, manufacturing of MEMS and compound semiconductor integrated circuit and test of such advanced equipment as BGA, PGA, CSP, MCM

(6) Large and medium-sized computer, high-performance computer with its operation of 100 trillion times, portable micro computer, high-rank server with its operation of not less than 1 trillion times per second, large-scale simulated system, large industrial controller and the manufacturing of controller

(7) Manufacturing of computer digital signal process system and board card

(8) Manufacturing of figure and image recognition process system

(9) Development and manufacturing of large-capability optical and disk driver

(10) Manufacturing of high-speed storage system and intelligent storage equipment with its capability of not less than 100 TB

(11) Manufacturing of Computer Assistance Design (three-dimensional CAD) , Computer Assisted Testing (CAT) , Computer Aided Manufacture (CAM) , Computer Aided Engineering (CAE) and other computer application system

(12) Development and manufacturing of software product

(13) Development and manufacturing of specialized electronic material (except the development and manufacturing of optical fiber perform rod)

(14) Manufacturing of specialized equipment, testing equipment, tools and moulds

(15) Manufacturing of new type electronic components and parts :slice components, sensitive components and sensors, frequency monitoring and selecting components, mix integrated circuit, electrical and electronic components, photoelectric components, new type components for machinery and electronics, polymer solid electrolytic capacitor, super-capacitors, integrated passive components, high-density interlinked build-up board, multilayer flexible board, flexible printing circuit board and packaging substrate

(16) Manufacturing of touch-control system (touch screen and touch components)

(17) High-brightness LBD with its luminous efficiency of more than 100lm/W, epitaxial slice LBD (blue) with its luminous efficiency of more than 100lm/W, white luminous tube with luminous efficiency of more than 100lm/W and its power of more than 200mW

(18) Development and manufacturing of key components and parts used in high-precision digital CD drive

(19) Reproduction of read-only compact disk and manufacturing of recordable compact disk

(20) Design and manufacturing of civil satellites (Chinese partner shall hold the majority of shares)

(21) Manufacturing of civil satellites effective payload (Chinese partner shall hold the majority of shares)

(22) Manufacturing of spare pans for civil satellites

(23) Manufacturing of telecommunication system equipment for satellites

(24) Manufacturing of receiving equipment of satellite navigation and key components

(25) Manufacturing of optical communication measurement and instrument and light transceiver with its speed of not less than 10Gb/s

(26) Ultra Broad Band (UWB) communication equipment manufacture

(27) Manufacturing of wireless Local Area Network (including supporting WAPI0 and Wide Area Network

(28) Manufacturing of TDM of 40Gbps or above, DWDM, broad band passive network equipment (including EPON, GPON and WDM-PON), next generation DSL chip and equipment, 16OXC, ASON, and optical fiber transmission equipment of 40G/sSDH or above

(29) Development and manufacturing of system equipment, terminal equipment, test equipment, software and chips on the basis of the next-generation internet equipment of IPv6

(30) Development and manufacturing of the third-generation and following-up mobile communication cell phones, base station, core network equipment and network testing equipment

(31) Development and manufacturing of high-end router, and network switcher of more than 1 kilomega

(32) Manufacturing of air traffic control system equipment (limited to joint venture and cooperation)

22. Machinery Industries for Instrument and Meter, Culture and Office

(1) Manufacturing of automatic control system and device in the industrial process: FCS, PLC, two phase flow meter, solid flow meter, new sensors and field measurement instrument

(2) Development and manufacturing of large-scale sophisticated instruments: electron microscope, laser scanning microscope, scanning tunneling microscope, electronic probe, large metallurgical microscope, photo-electric direct reading spectrometer, Raman spectrometer, mass spectrograph, GC/MS spectrometer, nuclear magnetic resonance spectrometer, energy dispersive analysis system, X-ray fluorescence spectrometer, diffraction analysis system, industrial CT, 450KV industrial X -Ray defect defector, large-scale balance measuring machine, automatic testing system of on-line mechanical quality, three coordinate measuring machine, laser comparator, electrical prospecting instrument, airborne electrical prospecting and gamma-ray spectrometry measuring instrument of more than 500 m, borehole gravimeter and 3-dimensional magnetograph, high-precision microgal and aviation gravity gradiometer, aviation gravity gradient measurement instrument, linear scale and coder

(3) Manufacturing of high-precision digital voltmeter, current meter (with measuring range of seven bit and a half and above)

(4) Wattless power manufacturing of automatic compensation equipment

(5) Manufacturing of new equipment for safe production

(6) VXI bus-type automatic test system (in accordance with IEEE1155 international standards)

(7) Development and manufacture comprehensive management system for under-mine monitoring and disaster-forecasting apparatus and coal safety measurement

(8) Manufacturing of the equipment for engineering measurement and global geographical observation equipment: digital triangle surveying system, Digital programmed system for three-dimensional topography model (acreage>1000×1000mm, horizontal error<1mm, altitude error <0.5mm), ultra wideband seismograph($\phi < 5\text{cm}$, frequency band0.01-50HZ, equivalent quaking speed noise<10-9m/s), integrated earthquake data processing system, extensive under-well earthquake and auspice observation apparatus, sophisticated controllable epicenter system, engineering velocity measuring system, high-precision GPS receiver (precision 1mm + 1ppmm), INSAR graphics receiving and processing system, absolute gravimeter with the precision of less than 1 microgal, satellite gravimeter, Doppler weather radar adopting coherent technology or double polarization technology, visibility measuring apparatus, meteorological sensor, (including temperature, pressure, humidity, wind, precipitation, cloud, visibility, radiation, frozen earth, depth of snow), anti lightning stroke system, multilevel soot and dust sampler,

three-dimension supersonic anemoscope, high-precision intelligent total station machine, three-dimensional laser scanner, high-performance diamond bit used for drilling, laser rangefinder without cooperative target, wind profiler(affixed with RASS), GPS electronic probe system, CO₂/H₂O general observation system, boundary layer laser doppler radar, granule chromatography, (3nm-20 μ m), high-performance data collector, and under-water glider

(9) Manufacturing of environment monitoring apparatus: SO₂ automatic sampler and calcimeter, NO_x, NO₂ automatic sampler and calcimeter, O₃ automatic monitor, CO automatic monitor, automatic sampler and calcimeter for soot and Pm_{2.5} dust, portable calcimeter for harmful and toxic gas, automatic analyzer for organic pollutants in the air, COD automatic online monitor, BOD automatic online monitor, automatic online monitor for turbidity, DO automatic online monitor, TOC automatic online monitor, automatic online monitor for ammonia nitrogen, radiation dose monitor, ray analyzer, online monitoring equipment of heavy metal, water quality pre-warning monitoring equipment of online bio-toxicity

(10) Manufacturing of instrument and equipment for hydrological data collecting, processing, transmitting and flood warning

(11) Manufacturing of ocean exploring apparatus and equipment: deep-sea underwater video camera and underwater camera, multi-beam explorer, shallow and deeper subbottom profiler, navigation warm-salt profiler, fluxgate compass, hydraulic wire line winch, underwater airproof electronic connector, energy recycle device used in filtration-proof seawater desalinization with its efficiency of higher than 90%, Marine ecosystem inspection buoy, section probing buoy, disposable measuring instrument of electrical conductivity, temperature and depth (XCTD), on-the-spot water quality measuring apparatus, intelligent chemical transducer for measuring the water quality of the ocean (continues work for 3-6 months), electromagnetic current meter sensor, navigating acoustic Doppler current profiler(self-contained, direct-read, used-in-ship), electricity conductivity rate deep-section profiler, acoustic responding emancipator(set deep into the ocean)

(12) Manufacturing of digital camera of 1,000 super HAD CCD or above

(13) Manufacturing of office machines: multi-functional integrated office equipment (copy, print, fax and scanning) and color-printing equipment, color-printing head and photosensitive drum with high resolution and precision of 2,400dpi and above

(14) Manufacturing of motion picture machinery: 2k and 4k digital film projector, digital movie camera, digital image manufacture and edit equipment

23. Handicraft and Other Manufacturing Industries

(1) Development and utilization of clean-coal technical product (coal gasification, coal liquefaction, water-coal, industrial lump-coal)

(2) Coal ore dressing by washing and comprehensive utilization of powered coal (including desulphurized plaster), coal gangue

(3) Production of all biodegradable material

(4) Recovery processing of waste electrical and electronic products, autos, electromechanical devices, rubber, metal and batteries

IV. Production and Supply of Power, Gas and Water

1. Construction and operation of electricity power by employing the clean fuel technology of integral gasification combined circulation (IGCC), circulating fluidized bed of not less than 0.3 million kw, Pressurized Fluidized Bed Combustion Combined Cycle (PFBC) of not less than 0.1 million kw

2. Construction and operation of back pressure combined and heat power
3. Construction and management of hydropower stations with the main purpose of power generating
4. Construction and management of nuclear-power plants (Chinese partner shall hold the majority of shares)
5. Construction and management of new energy power plants (including solar energy, wind energy, magnetic energy, geothermal energy, tide energy and biological mass energy, etc.)
6. Utilization of sea water (direct use of sea water, and seawater desalinization)
7. Construction and operation of urban water-supply plant
8. Construction and operation of renewable water plant
9. Construction and operation of charging stations of motor vehicles and battery replacement stations

V. Communication and Transportation, Storage, Post and Telecommunication Services

1. Construction and management of grid of national trunk railways (Chinese partner shall hold the majority of shares)
2. Construction and management of feeder railways, local railways and related bridges, tunnels and ferry facilities (limited to equity joint ventures or contractual joint ventures)
3. Comprehensive maintenance of infrastructure of high-speed railway, special railway line, intercity (Chinese partner shall hold the majority of shares)
4. Construction and management of highways, independent bridges and tunnels
5. Road freight transportation companies
6. Construction and management of public dock facilities of ports
7. Construction and management of civil airports (the Chinese party shall hold the relative majority of shares)
8. Air transportation companies (Chinese partner shall hold the majority of shares)
9. General aviation companies for agriculture, forest and fishery (limited to equity joint ventures or contractual joint ventures)
10. International liner and tramp maritime transportation business (the Chinese party shall hold the relative majority of shares)
11. International containers inter-model transportation
12. Construction and management of oil (gas) pipelines, oil (gas) depots and petroleum wharf
13. Construction and management of the facilities of coal delivery pipelines
14. Construction and management of automatic elevated three-dimensional storage facilities and storage facilities relating to transportation services

VI. Wholesale and Retail Trade Industry

1. Joint distribution of general goods and modern fresh agricultural logistics and related technical services of low-temperature distribution
2. Chain distribution in rural areas
3. Construction and operation of stock and container unit sharing system

VII. Rent and Business Service

1. Accounting and auditing (limited to equity joint ventures or contractual joint ventures)
2. Information consulting service of international economy, science and technology, environmental protection and logistics

3. Engaged in such information technology and business flow outsourcing services as system application management and maintenance, information technology supportive management, bank background service, financial settlement, human resource service, software development, offshore call center, data processing by means of accepting service outsourcing
4. Venture investment enterprises
5. Intellectual property services
6. Domestic service

VIII. Scientific Research, Technology Service and Geological Exploration

1. Biological engineering technique and bio-medical engineering technique
2. Isotope, irradiation and laser technique
3. Sea development and sea energy development technology, comprehensive technology of sea chemical resources, development of the relevant products and deep-processing technology, sea medicine and biochemical product development technology
4. Sea surveying technology (sea tidal wave, meteorology, environmental monitoring) sea bed probing, exploration and evaluation technology of ocean resource
5. Comprehensively use of high chemical additional value technology to distill chemical potassium, bromine, magnesium from dense sea water after desalinization and its deep procession
6. Technology of marine oil pollution clearing and ecological restoration, and development of related products, prevention and treatment technology of eutrophication of sea water, prevention and treatment technology of marine biological explosive growth disasters, and restoration technology of ecological environment in the coastal zone
7. Development and service of energy-saving technology
8. Technology for recycling and comprehensive utilization of resource, development and application of the recycling technology of the waste dispelled by enterprises
9. Technology for environment pollution treatment and monitoring
10. Energy-saving and consumption-reduction in chemical fiber production and printing and dyeing and the new technology to deal with polluted air, water and solid waste
11. Technology for preventing from desertification and desert improvement
12. Comprehensive management technology for balancing grass and domestic animal
13. Application technique of civil satellite
14. Research and development centers
15. Incubator for hi-tech, new products developing, and incubation of enterprises

IX. Water, Environment and Public Facility Management Industry

1. Construction and management of key water control projects for comprehensive utilization (the Chinese party shall hold the relative majority of shares)
2. Construction and management of urban access-controlled roads
3. Construction and management of metro and city light rail (Chinese partner shall hold the majority of shares)
4. Construction and management of treatment plants for sewage, garbage, the dangerous wastes (incineration and landfill), and the facilities of environment pollution treatment

X. Education

1. Advanced educational institution (only limited to joint venture or cooperative)
2. Vocational skills training

XI. Public Health, Social Security and Social Welfare

1. Service agencies for the elderly, the handicapped and children

XII. Culture, Sports and Entertainment

1. Operation of the performance site (the Chinese party shall hold the relative majority of shares)
2. Operation of the gymnasium, body-fitting, competition performance, sports training and agency service

Catalogue of Restricted Foreign Investment Industries

I. Farming, Forestry, Animal Husbandry and Fishery Industries

1. Breeding and seeds developing production of new train crop breed (Chinese party shall hold the majority of shares)
2. Processing of the logs of precious varieties of trees (limited to equity joint ventures or contractual joint ventures)
3. Cotton (raw cotton) processing

II. Mining Industries

1. Exploring and mining of special and scarce coals exploration (Chinese partner shall hold the majority of shares)
2. Exploring and mining of barite (limited to equity joint ventures or contractual joint ventures)
3. Exploring and mining of precious metals (gold, silver, platinum families)
4. Exploring and mining of important nonmetallic ores of diamond, high aluminum refractory clay, wollastonite and plumbago
5. Exploring and cradling of phosphorite, lithium and iron pyrite, and extraction of brine resource in salt lakes
6. Mining of szaibelyite and szaibelyite iron ores
7. Mining of Celestine
8. Mining of Ocean Manganese Nodule (Chinese partner shall hold the majority of shares)

III. Manufacturing Industries

1. Farming Subsidiary Foodstuff Industry

(1) Processing of edible oil of soybean, rapeseed, peanut, cottonseed, tea seed, sunflower seed and palm (Chinese partner shall hold the majority of shares), processing of rice and flour, and deep-processing of corn

(2) Manufacturing of biology liquid fuel (fuel ethanol and bio-diesel) (Chinese partner shall hold the majority of shares)

2. Beverage Manufacturing Industries

(1) Manufacturing of rice wine and quality liquor (Chinese partner shall hold the majority of shares)

3. Tobacco Industries

(1) Manufacturing of threshing and curl tobacco leaf

4. Printing and Copy of Recording Vehicle

(1) Print of publication (Chinese partner shall hold the majority of shares)

5. Petroleum Processing, Coking and nuclear fuel processing Industries

(1) Oil refining of not more than 10 million tons per year under the normal pressure, catalytic cracking of not more than 1.50 million tons per year, continuous reforming of not more than 1 million tons per year (including aromatics extraction) and hydrocracking manufacturing of not more than 1.5 million tons per year

6. Chemical Raw Material Products Manufacturing Industry

- (1) Manufacturing of sodium carbonate and caustic soda as well as sulfuric acid, hydrogen acid and potash below the designated size or with the backward technology
- (2) Production of sensitive materials
- (3) Production of benzidine
- (4) Production of chemical products from which narcotics are easily made (ephedrine, 3, 4-idene dihydro phenyl-2-acetone, phenylacetic acid, 1-phenyl-2-acetone, heliotropin, safrole, isosafrole, acetic oxide)
- (5) Manufacturing of low-end HCFC of hydrogen fluoride
- (6) Production of divinyl rubber (except cis-rich poly butadiene rubber), emulsion polymerization buna S, thermoplastics buna S
- (7) Production of PVC with the acetylene method, ethene below the designated scale and post-processing products
- (8) Production of paints and coatings with harmful matter and backward technology and below the designated scale
- (9) Processing of ludwigite
- (10) Production of inorganic salt characterized by large occupation of resource, serious environmental pollution and application of backward technology

7. Medical and Pharmaceutical Products Industry

- (1) Production of chloramphenicol, penicillin G, lincomycin, gentamicin, dihydrostreptomycin, amikacin, tetracycline hydrochloride, oxytetracycline, medemycin, kitasamycin, ilotylin, ciprofloxacin and ofloxacin
- (2) Production of analgin, paracetamol, Vitamin B1, Vitamin B2, Vitamin C, Vitamin E
- (3) Production of vaccine varieties included in the state immunization program
- (4) Production of material medicines for addiction narcotic and A class psychoactive drug (Chinese partner shall hold the majority of shares)
- (5) Production of blood products

8. Chemical Fiber Production Industry

- (1) Production of chemical fiber drawnwork of conventional chipper
- (2) Production of rayon staple viscose fiber

9. Non-Ferrous Metal Smelting and Rolling Processing Industry

- (1) Non-ferrous metal refining of tungsten, molybdenum, stannum (except tin compounds), antimony (including antimony oxide and antimony sulphide)
- (2) Non-ferrous metal refining of electrolytic aluminium, copper, lead, zinc and another non-ferrous metal
- (3) Smelting and separation of rare earth metal (limited to equity joint ventures or contractual joint ventures)

10. Common Purpose Equipment Manufacturing Industry

- (1) Manufacturing of all kinds of general (p0) axletree and accessory (steel ball, cage), rough
- (2) Manufacturing of wheeled model, crawler crane of less than 400 tons (limited to equity joint ventures or contractual joint ventures)

11. Special Purpose Equipment Manufacturing Industry

- (1) Manufacturing of equipment for producing long Dacron thread and short fiber
- (2) Manufacturing of crawler dozers of not more than 320 horsepower, hydraulic excavator of not more than 30 tons, wheel loader of not more than 6tons, grader of not more than 220 horsepower,

road roller, fork-lift truck, electric-driving non-calzada dumper truck at the level of 135 tons or below, hydromechanical transmission non-calzada dumper truck at the level of 60 tons or below, asphalt concrete stirring and paving equipment and aerial work machinery, garden machine and tools, production of commodity concrete machinery (pump, agitating lorry, mixing plant, and pump vehicle)

12. Manufacturing of transport and communication facilities

(1) Repairing, designing and manufacturing of ship (including subsection) (Chinese partner shall hold the majority of shares)

13. Manufacturing of Communication Apparatus, Computers and another Electric Installation

(1) Production of satellite television receivers and key parts

IV. Production and Supply of Power, Gas and Water

1. Construction and management of conventional coal-fired power of condensing steam plants whose unit installed capacity is 300,000kW or below, and coal-fired power of condensing-extracted steam plants with dual use unit cogeneration whose unit capacity is 100,000kW within the small power grid

2. Construction and management of power network (Chinese partner shall hold the majority of shares)

3. Construction and management of urban gas, heating power and water supply and drainage pipe network with a population of 500,000 or more (Chinese partner shall hold the majority of shares)

V. Communication and Transportation, Storage, Post and Telecommunication Services

1. Railway freight transportation companies

2. Railway passenger transportation companies (Chinese partner shall hold the majority of shares)

3. Corporate of highway passenger transport

4. Corporate of enter-leave country fleet operation

5. Corporate of water transportation (Chinese partner shall hold the majority of shares)

6. General aviation companies engaging in photographing, prospecting and industry (Chinese partner shall hold the majority of shares)

Tele communication companies: telecommunication increment service (the foreign capital shall not exceed 50 percent), basic telecom business (the foreign capital shall not exceed 49 percent)

VI. Wholesale and Retail Trade Industries

1. Commodity direct selling, mail order selling, and on-line selling

2. Purchase of grain, and wholesale, retail and logistic distribution of grain, cotton, vegetable oil, sugar, medicines, tobaccos, automobiles, crude oil, capital goods for agricultural production (Chinese should hold the majority of shares of the multiple shops which have more than 30 branch stores and sell different kinds and brands of commodities from multi-suppliers)

3. Construction and operation of large wholesale market of agricultural products

4. Distributing and selling of audiovisual products (except movies) (limited to joint ventures)

5. Ship agent (Chinese should hold the majority of shares), tally for foreign vessels (limited to equity joint ventures or contractual joint ventures)

6. Wholesaling product oil and construction and operation of gasoline stations (Chinese should hold the majority of shares of the multiple shops which have more than 30 branch stores and sale different kinds and brands of commodities from multi-suppliers)

VII. Banking and Insurance Industries

1. Banks, finance companies, trust investment companies, currency brokerage companies

2. Insurance companies (the share of life-insurance companies shall not exceed 50%)
3. Security companies (confined to A share consignment-in, B share, H share and government and company bonds consignment-in and transaction, the foreign-capital shall not exceed one-third), security investment fund management companies (the foreign-capital shall not exceed 49%)
4. Insurance brokerage companies
5. Futures companies (Chinese should hold the majority of shares)

VIII. Real Estate Industry

1. Development of pieces of land (limited to equity joint ventures or contractual joint ventures)
2. Construction and operation of high-ranking hotels, high-class office buildings and international exhibition centers
3. Real estate transaction in second-grade market and medium and brokerage companies

IX. Leasing and Commercial Service Industry

1. Legal consulting
2. Market Research (limited to equity joint ventures or contractual joint ventures)
3. Status enquiry and grade service companies

X. Scientific Research and technical Services Industries, Geological Prospecting

1. Mapping companies (Chinese partner shall hold the majority of shares)
2. Inspection, verification and attestation companies for imported and exported goods
3. Photography service (including trick photography like air photograph, except mapping aerial photography, limited to equity joint ventures)

XI. Education

1. Common high school education mechanism (limited to contractual joint ventures)

XII. Art, Sports and Entertainment Industries

1. Production and publication of broadcasting and TV programs and film-making (limited to contractual joint ventures)
2. Construction and operation of cinemas (Chinese partner shall hold the majority of shares)
3. Construction and operation of large theme park
4. Brokering agency of stage performances
5. Operation of entertainment occupancies (limited to equity joint ventures or contractual joint ventures)

XIII. Other industries restricted by the State or international treaties that China has concluded or taken part in

Catalogue of Prohibited Foreign Investment Industries

I. Farming, Forestry, Animal Husbandry and Fishery Industries

1. Research, development, cultivation and growth of China's rare and unique precious breeds, and production of related propagating materials (including tine genes in plants industry, husbandry and aquatic products industry)
2. Research and development of genetically modified organisms, and production of genetically modified plants' seeds, stud stock birds and aquaculture
3. Fishing in the sea area under the jurisdiction of China and in in-land water of China.

II. Mining and Quarrying Industries

1. Exploring and mining of tungsten, molybdenum, tin, antimony, fluorite
2. Exploring, mining and dressing of rare earth metal
3. Exploring, mining and dressing of radioactive mineral products

III. Manufacturing Industry

1. Beverage manufacturing Industry

(1) Processing of green tea and special tea with China's traditional handicraft (famous tea, dark tea, etc.)

2. Medical and Pharmaceutical Products Industry

(1) Processing of traditional Chinese medicines that have been listed as the Regulations on Conservation and Management of Wild Chinese Medicinal Material Resources and Rare and Endangered Plants in China

(2) Application of preparing technique of traditional Chinese medicines in small pieces ready for decoction, like steam, frying, moxibustion, calcining, and production of the products of secret recipe of traditional Chinese patent medicines

3. Non-Ferrous Metal Smelting and Rolling Processing Industry

(1) Smelting and processing of radioactive mineral products.

4. Special Equipment Manufacture Industry

(1) Manufacturing of Weapons and Ammunition

5. Electric Machinery and Equipment Manufacture Industry

(1) Manufacturing of open-lead-acid (namely, acid fog direct outside-release) cells, mercury button-type silver oxide cells, mercury button type alkaline zinc-manganese dioxide cells, paste dioxide-zinc battery, and nickel cadmium cells

6. Industry Products and Other Manufacturing Industries

(1) Ivory carving

(2) Tiger-hone processing

(3) Production of bodiless lacquer ware

(4) Production of enamel products

(5) Production of Xuan-paper (rice paper) and ingot-shaped tablets of Chinese ink

(6) Production of carcinogenic, teratogenic, mutagenesis and persistent organic pollutant products

IV. Production and Supply of Power, Gas and Water

1. Construction and management of conventional coal-fired power of condensing steam plants whose unit capacity is not more than 300,000kW, within the small power grid, and the coal-fired power of condensing-extraction steam plants with dual use unit cogeneration with unit capacity of not more than 100,000KW

V. Communication and Transportation, Storage, Post and Telecommunication Services

1. Companies of air traffic control

2. Companies of postal services, and domestic express delivery of letters

VI. Leasing and Commercial Service Industry

1. Social investigation

VII. Scientific Research and Technical Services Industries, Geological Prospecting

1. Development and application of human stem cells and gene diagnosis therapy technology

2. Geodetic survey, marine charting, mapping aerial photography, administrative region mapping, and compilation of relief map, common map and electronic navigation map

VIII. Irrigation, Environment and Public Utilities Management

1. Construction and management of nature reserve and international signify marshy

2. Development of resources about wild animals and plants be native to domestic protected by nation

IX. Education

1. Institution of compulsory education and special education, like military, policeman, politics and party school

X. Art, Sports and Entertainment Industries

1. News agencies

2. Publication of books, newspaper and periodical

3. Publication and production of audio and visual products and electronic publications

4. Radio stations, TV stations, radio and TV transmission networks at various levels (transmission stations, relaying stations, radio and TV satellites, satellite up-linking stations, satellite receiving stations, microwave stations, monitoring stations, cable broadcasting and TV transmission networks)

5. Companies of publishing and playing of broadcast and TV programs

6. Companies of films making, issuing, business

7. News website, network audiovisual service, Internet service location, internet art management (except music)

8. Construction and management of golf course and villa

9. Gambling industry (including gambling turf)

10. Eroticism

XI. Other Industries

1. Projects that endanger the safety and performance of military facilities

XII. Other industries restricted by the State or international treaties that China has concluded or taken part in

Notes: 1. CEPA agreement between the Mainland and Hong Kong and supplemental agreement, CEPA agreement between the Mainland and Macao and supplemental agreement, Cross-strait Economic Cooperation Framework Agreement and supplemental agreement and free trade agreement signed by China and other related countries shall prevail if there are any separate regulations

2. If otherwise provided in the special regulations of the State Council or industrial policies, such regulations or policies shall prevail.

