

"Catalogue of Industries Encouraging Foreign Investment (2022 Edition)" issued by the National Development and Reform Commission (NDRC) and the Ministry of Commerce (MOFCOM):

Catalogue of Industries Encouraging Foreign Investment (2022 Edition)

(Adopted at the 22nd Executive Meeting of the NDRC on July 29, 2022; Promulgated by Order No. 52 of the NDRC and MOFCOM on October 26, 2022; Effective from January 1, 2023)

To implement the **Foreign Investment Law** and its implementing regulations, and in accordance with the needs of national economic and social development, this Catalogue is formulated to **encourage and guide foreign investment in specific industries, fields, and regions**.

The Catalogue consists of two parts:

1. **Nationwide Catalogue of Industries Encouraging Foreign Investment**
2. **Catalogue of Advantageous Industries for Foreign Investment in Central and Western China**

The *Catalogue of Industries Encouraging Foreign Investment (2020 Edition)*, issued by the NDRC and MOFCOM on December 27, 2020, is **repealed** as of January 1, 2023.

Nationwide Catalogue of Industries Encouraging Foreign Investment

I. Agriculture, Forestry, Animal Husbandry, and Fishery

1. Cultivation, development, and production of woody edible oils, spices, and industrial raw materials.
2. Technology development and cultivation of green/organic vegetables (including edible fungi, melons), dried/fresh fruits, and tea.
3. Breeding, cultivation, and production of wine grapes.
4. Breeding and cultivation of raw materials for beer production.
5. New cultivation technologies for sugar crops, fruit trees, forage grasses, and related production.
6. Breeding and development of high-yield silage feed plants.
7. Establishment and operation of flower production and nursery bases.
8. Cultivation of rubber, oil palm, sisal, and coffee.
9. Breeding and extraction of essential oils from aromatic plants.
10. Cultivation and breeding of Chinese medicinal herbs.
11. Comprehensive utilization of crop straw and development of organic fertilizers.
12. Forest resource cultivation (fast-growing timber, large-diameter timber, bamboo, camellia oleifera, precious tree species, etc.).
13. Eco-agriculture under forest canopies.
14. Standardized and intelligent livestock/poultry farming technologies.
15. Breeding of livestock/poultry and aquatic seedlings (excluding China's unique precious species).
16. Ecological projects for desertification control, soil erosion prevention, and afforestation.
17. Aquaculture, deep-water cage farming, industrialized fish farming, and marine ranching.
18. Water-saving irrigation, soil improvement, saline-alkali land utilization, and green farmland construction.
19. Cold-chain logistics facilities for agricultural products.
20. Smart agriculture (digital integration of software, equipment, and farm management).
21. Rural e-commerce and modern rural services, including agricultural production services and rural lifestyle services.
22. Agritourism and rural leisure industries (sightseeing, farming experiences, outdoor activities, wellness, etc.).
23. Eco-friendly feed and additives, alternatives to antibiotic growth promoters.

II. Mining

24. Exploration and development of oil, natural gas (including shale gas, coalbed methane), and coal mine gas utilization.
25. Enhanced oil recovery (EOR) technologies and related services.
26. Advanced petroleum exploration technologies (geophysical prospecting, drilling, logging, etc.).
27. Tailings utilization and mine ecological restoration technologies.
28. Exploration and mining of scarce minerals (e.g., potash, chromite).

III. Manufacturing

(Selected highlights)

(1) Agricultural and Food Processing

29. Pet food development and production.
30. Aquatic product processing, shellfish purification, and seaweed-based health foods.
31. Processing of vegetables, fruits, and livestock products.

(2) Food Manufacturing

32. Ultra-high-temperature (UHT) sterilized milk (132°C short-time sterilization).
33. Cheese and processed cheese production.
34. Infant formula, medical-purpose foods, and health foods.
35. Baked goods, convenience foods, ice cream, and related ingredients.
36. Candy, chewing gum, preserved fruits, and yogurt production.
37. Forest food processing.
38. Plant-based meat alternatives.
39. Natural food additives and flavorings.

(3) Beverages and Refined Tea

41. Fruit/vegetable juices, protein drinks, tea/coffee beverages.

(4) Textiles

42. Functional industrial textiles using nonwoven, woven, knitted, or 3D weaving technologies.
43. Digital printing, eco-friendly dyeing, and high-end fabrics.
44. Specialty natural fibers (e.g., cashmere, hemp, colored cotton).
45. Recycling of waste textiles.
46. Medical textiles, artificial skin, absorbable sutures, hernia repair materials.

(5) Apparel

47. High-count cotton yarn production.
48. Computer-integrated apparel manufacturing.
49. Functional and technical clothing.

(6) Leather and Footwear

50. Clean leather processing technologies.
51. Advanced leather finishing.
52. Leather waste recycling.
53. High-performance elastomeric shoe materials.

(7) Timber Processing, Bamboo, Rattan, Palm, and Straw Products Industry

54. Comprehensive utilization of forestry residues, low-grade, small-sized, and fuel wood, as well as waste timber and bamboo, for new technologies and product development and production; pollution control and treatment in wood and bamboo production, fine particulate emission reduction, and dust explosion prevention technology development and application.
55. New technology and product development and production for wooden structures and wood-based building

materials.

56. New technology and product development and production for waste timber recycling.

(8) Cultural, Educational, Arts and Crafts, Sports, and Entertainment Goods Manufacturing

57. Production of high-end carpets, embroidery, and drawnwork products.

(9) Petroleum Processing, Coking, and Nuclear Fuel Processing Industry

58. Processing of phenol oil, wash oil, anthracene oil, naphthalene oil, and the production of high-end chemicals from coal pitch (excluding modified pitch).

(10) Raw Chemical Materials and Chemical Products Manufacturing

59. Development and production of new downstream organic silicon products.

60. Supporting raw materials for synthetic materials: propylene oxide via hydrogen peroxide oxidation of propylene, epichlorohydrin via hydrogen peroxide oxidation of allyl chloride, dimethyl naphthalene dicarboxylate (NDC), 1,4-cyclohexanedimethanol (CHDM), adiponitrile and hexamethylenediamine via butadiene method ($\geq 50,000$ tons/year), and norbornene production.

61. Production of polyethylenepolyamine products.

62. Development and production of high-end polyolefins such as high-carbon alpha-olefin copolymerized metallocene polyethylene and COC/COP cycloolefin polymers.

63. Synthetic fiber raw material production: 1,3-propanediol.

64. Synthetic rubber production: acrylic rubber, chlorohydrin rubber, as well as specialty rubbers such as fluororubber, silicone rubber, fluorosilicone rubber, and thermoplastic polyurethane rubber.

65. Production of engineering plastics and plastic alloys: polyphenylene sulfide (PPS), polyether ether ketone (PEEK), polyimide (PI), polysulfone (PSU), polyethersulfone (PES), polyarylate (PAR), polyphenylene oxide (PPO), specialty polyamide (PA) and its modified materials, liquid crystal polymers, etc.

66. Fine chemicals: new catalyst technologies, commercialization processing technology for dyes (pigments), electronic chemicals, paper chemicals, leather chemicals, oilfield additives, surfactants, and key raw materials such as refined ethylene oxide with nitrogen-protected double-shell tower safety production technology; water treatment agents and key raw material production; high-solids, solvent-free, water-based, electron-beam-cured, UV-cured, and reactive adhesives, including key raw materials such as high-end butyl acrylate and high-end octyl acrylate, polyester polyols, and curing agents; sealants, adhesive tapes, and key raw material production; efficient, safe, and environmentally friendly plasticizers (e.g., polyester plasticizers), halogen-free flame retardants, permanent antistatic agents, organic heat stabilizers, nucleating agents, and other new plastic additives; inorganic fibers and nanomaterials; deep processing of pigment encapsulation; development and production of environmentally friendly surface treatment technology products; development and production of humic acid-based fine chemical products.

67. Production of water-based inks and adhesives, low-volatility inks and adhesives (e.g., electron-beam-cured and UV-cured), environmentally friendly organic solvent materials, and solvent-free materials.

68. Production of natural flavors, synthetic flavors, isolated flavors, and flavor intermediates such as citral.

69. Production of high-performance coatings and adhesives, low-VOC industrial coatings and supporting resins (including high-solids, water-based, powder, radiation-cured, and solvent-free), and water-based industrial coatings and supporting water-based resins (including high-end butyl acrylate and high-end octyl acrylate).

70. Production of high-performance fluorine resins, fluorine membrane materials, medical fluorine intermediates, and refrigerants, cleaning agents, and foaming agents with zero ODP and low GWP compliant with international conventions.

71. Development, storage, transportation, and liquefaction of green hydrogen fuel production technologies (hydrogen from chemical byproducts, biohydrogen, electrolysis of water from renewable energy, etc.).

72. Production and supply of large-scale, high-pressure, high-purity industrial gases (including electronic gases).
73. Construction and operation of carbon capture, utilization, and storage (CCUS) projects.
74. Recovery of fluorine resources from phosphorus chemical and aluminum smelting processes.
75. Development and production of new forestry chemical products and technologies.
76. Development and production of inorganic, organic, and biological membranes for environmental protection.
77. Development and production of new fertilizers: high-concentration potash fertilizers, compound microbial inoculants, compound microbial fertilizers, straw and waste decomposing agents, special-function microbial preparations, and humic acid-based fertilizers.
78. Development and production of efficient, safe, and environmentally friendly new pesticides, formulations, dedicated intermediates, and additives, as well as clean production processes and directional synthesis of chiral and stereospecific pesticides.
79. Development and production of biopesticides and biocontrol products: microbial insecticides, microbial fungicides, agricultural antibiotics, biostimulants, insect pheromones, natural enemy insects, and microbial herbicides.
80. Comprehensive utilization, treatment, and disposal of exhaust gases, waste liquids, and residues.
81. Production of organic polymer materials: aircraft skin coatings, rare-earth cerium sulfide red dyes, lead-free electronic packaging materials, photolithography pastes for color plasma display panels, ultra-fine fibers with small diameter and high specific surface area, high-precision fuel filter paper, self-healing surface treatment materials, superhydrophobic nanocoatings, ultra-high-refractive-index optical resins, environmentally recyclable co-extruded backsheets for solar modules and backsheet plastic materials, start-stop lead-acid battery separators for automobiles, and energy storage lead-acid battery separators.
82. Development, production, and application of new forestry biomass energy technologies and products.
83. Development of low-carbon upgrading processes for petrochemical raw materials: electrically driven ethylene cracking; reverse water-gas shift and partial oxidation processes to convert carbon dioxide and light hydrocarbons into carbon monoxide.

(11) Pharmaceuticals

84. New chemical drugs or active pharmaceutical ingredients (APIs).
85. Amino acid fermentation (tryptophan, histidine, methionine).
86. Innovative oncology, cardiovascular, and neurological drugs.
87. Biotech-based drugs.
88. Vaccines (HIV, HPV, malaria, hand-foot-mouth disease).
89. Marine-derived pharmaceuticals.
90. Advanced drug formulations (controlled-release, transdermal, etc.).
91. Novel pharmaceutical excipients.
92. Production of antimicrobial active pharmaceutical ingredients (APIs) for veterinary use (including antibiotics and chemically synthesized APIs).
93. Production of new veterinary antimicrobials, anthelmintics, insecticides, and anticoccidials, as well as novel dosage forms.
94. Development and production of novel diagnostic reagents.
95. Research, development, and production of cell therapy drugs (excluding areas prohibited for foreign investment).
96. Development and production of novel key raw materials for vaccines and cell therapy drugs, as well as large-scale cell culture products.
97. Development and production of new pharmaceutical packaging materials and technologies (including neutral

borosilicate glass for pharmaceuticals, chemically stable and degradable functional materials with light-blocking and high-barrier properties, COP cycloolefin polymer packaging materials, and novel drug delivery systems and devices such as aerosols, dry powder inhalers, self-administration, pre-filled syringes, and auto-mixing systems).

98. Development and production of orphan drugs and pediatric specialty medications.

99. Development and production of pharmaceutical manufacturing consumables: separation and purification media, solid-phase synthesis media, chiral resolution media, drug impurity control and testing consumables, etc.

(12) Chemical Fibers

100. Functional polyester (PET) modifications (flame-retardant, biodegradable, etc.).

101. High-performance fibers (carbon fiber, aramid, ultra-high-molecular-weight polyethylene).

102. New polyesters (PTT, PEN, PLA from non-grain biomass).

103. Bio-based fibers (Lyocell, chitin, PHA).

104. Development and production of new polyamides such as nylon 11, nylon 12, nylon 1414, nylon 46, nylon 56 (using non-food biomass as raw material), long-chain polyamides, and high-temperature-resistant nylon, as well as differentiated, functional, and high-value-added modified nylon (including nylon elastomers, copolymerized nylon, nylon engineering plastics, and flame-retardant nylon).

105. Development and production of impermeable geomembranes for landfill sites.

(13) Rubber and Plastics

106. Silicone products.

107. Biodegradable plastics.

108. Eco-friendly agricultural films.

109. Plastic recycling technologies.

110. Development and production of new technologies and products for flexible plastic packaging (high-barrier, multi-functional films and raw materials).

(14) Non-Metallic Minerals

111. Energy-saving, eco-friendly building materials.

112. High-tech glass (IR-transparent, solar, vacuum, etc.).

113. Advanced glass fibers (alkali-free, degradable, low-dielectric).

114. Special ceramics, seals, friction materials.

115. Production of elastomer and plastomer modified asphalt waterproof membranes with an annual capacity of ≥ 10 million m^2 , wide-width ($\geq 2m$) EPDM rubber waterproof membranes and supporting materials, wide-width ($\geq 2m$) PVC waterproof membranes, and thermoplastic polyolefin (TPO) waterproof membranes.

116. Development and production of new-technology functional glass: lead-free infrared-transmitting chalcogenide glass and products, multifunctional windshield glass with excellent optical properties (light transmittance $\geq 70\%$), coated privacy windshield glass, soundproof windshield glass, solar windshield glass, electrochromic windshield glass, electrically heated windshield glass, heads-up display (HUD) windshield glass, vacuum glass, and purification processing of high-purity ($\geq 99.998\%$) and ultra-pure ($\geq 99.999\%$) crystal raw materials.

117. Production of thin-film solar power generation glass, solar concentrator mirror glass, and building-integrated photovoltaic (BIPV) glass.

118. Production of $\geq 80,000$ tons/year alkali-free glass fiber roving (filament diameter $> 9\mu m$) via tank furnace drawing, $\geq 50,000$ tons/year alkali-free glass fiber yarn (filament diameter $\leq 9\mu m$) via tank furnace drawing, as well as specialty glass fibers such as ultra-fine glass fiber (filament diameter $\leq 5\mu m$), biodegradable glass

fiber, profiled cross-section glass fiber, alkali-resistant glass fiber, low-dielectric glass fiber, quartz glass fiber, high-silica glass fiber, high-strength high-elasticity glass fiber, and ceramic fiber, along with glass fiber mats, fabrics, and other products.

119. Production of optical fibers and related products: image transmission bundles and laser medical optical fibers, ultra-second and third-generation microchannel plates, fiber optic faceplates, image inverters, and glass light cones.
120. Standardized refining of ceramic raw materials and production of high-grade decorative materials for ceramics.
121. Production of long-life, energy-saving, and environmentally friendly (chromium-free) refractory materials for kilns used in cement, electronic glass, ceramics, microporous carbon bricks, etc.
122. Production of porous ceramics.
123. Production of new inorganic non-metallic materials and products: composite materials, specialty ceramics, specialty sealing materials (including high-speed oil seal materials), specialty friction materials (including high-speed friction brake products), specialty cementitious materials, specialty latex materials, underwater acoustic rubber products, and nanomaterials.
124. Production of organic-inorganic composite foam insulation materials, high-performance energy-saving building insulation materials, and modern insulation and isolation materials for intensive agricultural farming.
125. Production of high-tech composite materials: continuous fiber-reinforced thermoplastic composites and prepregs, process auxiliary materials for resin matrix composites forming at $>300^{\circ}\text{C}$, biodegradable resin matrix composites, resin matrix composites for additive manufacturing, resin matrix composites (including sports equipment and lightweight high-strength transportation components), special functional composites and products (including deep-sea and diving composite products, medical and rehabilitation composite products), carbon/carbon composites, high-performance ceramic matrix composites and products, metal matrix and glass matrix composites and products, metal laminated composites and products, ultra-high-pressure composite hoses (pressure $\geq 320\text{MPa}$), large commercial aircraft tires, and polyester structural foam materials (for lightweight high-strength transportation components, wind turbine blade cores, construction materials, etc.).
126. Production of precision high-performance ceramic raw materials: silicon carbide (SiC) ultrafine powder (purity $>99\%$, average particle size $<1\mu\text{m}$), silicon nitride (Si_3N_4) ultrafine powder (purity $>99\%$, average particle size $<1\mu\text{m}$), high-purity ultrafine alumina powder (purity $>99.9\%$, average particle size $<0.5\mu\text{m}$), low-temperature sintered zirconia (ZrO_2) powder (sintering temperature $<1350^{\circ}\text{C}$), high-purity aluminum nitride (AlN) powder (purity $>99\%$, average particle size $<1\mu\text{m}$), rutile-type TiO_2 powder (purity $>98.5\%$), white carbon black (particle size $<100\text{nm}$), and barium titanate (purity $>99\%$, particle size $<1\mu\text{m}$).
127. Development and production of high-quality artificial crystals and thin-film products: high-quality synthetic crystal (piezoelectric and UV-transmitting crystals), ultra-hard crystals (cubic boron nitride crystals), high-temperature-resistant high-insulation synthetic crystals (synthetic mica), new electro-optic crystals, high-power laser crystals and large-scale scintillation crystals, diamond film tools, and ultra-thin synthetic diamond saw blades (thickness $\leq 0.3\text{mm}$).
128. Fine processing of non-metallic minerals (ultrafine grinding, high-purity refining, modification).
129. Production of ultra-high-power graphite electrodes.
130. Production of pearlescent mica (particle size $3\text{-}150\mu\text{m}$).
131. Production of multi-dimensional and multi-directional integrated woven fabrics and shaped fabrics.
132. Harmless disposal of solid waste using new dry-process cement kilns and sintered wall materials.
133. Recycling of construction waste.

- 134. Comprehensive utilization of industrial by-product gypsum and other industrial waste.
- 135. Development and application of new technologies for comprehensive utilization of non-metallic mine tailings and mine ecological restoration.
- 136. Development and production of high-temperature-resistant and corrosion-resistant filter materials.

(15) Non-Ferrous Metals

- 137. High-tech metal materials (nanocrystalline alloys, aerospace-grade aluminum/copper).
- 138. Rare earth high-end applications.
- 139. Production of high-performance aluminum-titanium-boron grain refiners.

(16) Metal Products

- 140. Lightweight materials for aerospace, automotive (Al/Mg alloys).