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Advanced Manufacturing Industries

Investment Promotion Division 2

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Advanced Manufacturing Industries

Investment Promotion Division 2

Section 3 Machinery and Vehicles Industry

Activities	Conditions	Incentives
Machine and Automation System Industries		
3.1 Manufacture of machinery, equipment and parts, and repair of in-house fabricated machinery or equipment 3.1.1 Manufacture of automation machinery and/or automation equipment with engineering design 3.1.1.1 Manufacture of automation machinery and/or automation equipment with engineering design, including automation system integration and control system configuration	1. The product must be a system or machine that is fully automated and can perform at least two tasks at once continuously and collectively. 2. Project must have the following operations: 2.1 Design and development of automation system integration 2.2 Design of the operational control system configuration by the integrated automation system 2.3 Engineering design of machinery, equipment and parts	A1
3.1.1.2 Manufacture of automation machinery and/or automation equipment with engineering design, including control system configuration	Project must have the following operations: 1. Design of the operational control system configuration by the integrated automation system 2. Engineering design of machinery, equipment and parts	A2
3.1.2 Manufacture of machinery, equipment and parts and/or repair of mould and die	Project must have the forming process of parts that serve in the main function of the manufactured machinery and/or the engineering design.	A3
3.1.3 Assembling of machinery and/or machinery equipment	Project must have assembling process as approved by the Board.	A4
3.1.4 Assembling of robots or automation equipment and/or automation parts	Project must have assembling process as approved by the Board.	A3
3.1.5 Manufacture of high-precision machinery, including equipment and parts of the machinery, and machinery repair		

Activities	Conditions	Incentives
3.1.5.1 Manufacture of high-precision machinery	1. Project must have part forming process and/or assembling process as approved by the Board. 2. Product must have one of the following features: 2.1 Product must be machinery that applies technology machinery in the manufacturing of electronics products such as integrated circuit (IC), semiconductor or microelectromechanical systems (MEMS) 2.2 Product must be capable of setting the production tolerance not more than IT5, according to the International Tolerance Grades (IT)	A2
3.1.5.2 Manufacture of equipment and parts for high precision machinery	1. Project must have part forming process and/or assembling process as approved by the Board. 2. Product must have one of the following features: 2.1 Product must be equipment or parts that serve in the main function of the machinery according to the Activity 3.1.5.1 2.2 The main machinery used in the project must be able to produce workpieces with a tolerance value not exceeding IT5, according to the International Tolerance Grades (IT)	A2
3.1.5.3 Repair of high precision machinery	1. Project must repair key parts that directly serve in the main function of high precision machinery. 2. Project must have expenses on salary for repairing personnel of at least 1,500,000 baht per year and it must be new employment, or capital investment (excluding cost of land and working capital) of at least 1 million baht.	A3 (with no limit on the income tax exempted)
3.2 Manufacture of scientific equipment		
3.2.1 Manufacture of scientific equipment using high technology	Project must manufacture scientific equipment that is able to measure parameter value, process data and self-report the result or automatically measure and control the parameter.	A2
3.2.2 Manufacture of other scientific equipment		A3

Activities	Conditions	Incentives
3.3 Manufacture of lenses that are not classified as medical devices		
3.3.1 Manufacture of lenses from the glass melting process within the same project	Manufacture of lenses that are classified as medical devices shall not be promoted.	A3
3.3.2 Manufacture of lenses such as camera lenses	Manufacture of lenses that classified as medical devices, sunglass lenses, cosmetic lenses or eyeglasses frame and parts shall not be promoted.	A4
3.3.3 Manufacture of sunglasses lenses, cosmetic lenses, eyeglasses frame and parts		B
Automotive Industry		
3.4 Manufacture of engines, equipment, or parts		
3.4.1 Manufacture of automobile engines	1. In case project has part forming process of not less than 4 out of 5 parts, e.g. cylinder head, cylinder block, crankshaft, camshaft and connecting rod.	A3
	2. In case project has engine assembling process.	A4
3.4.2 Manufacture of motorcycle engines		
3.4.2.1 Manufacture of motorcycle engines with more than 248 cc engine displacement	1. In case of manufacture of motorcycle engine with more than 248 cc engine displacement but less than 500 cc, the project must have forming process in Thailand of not less than 4 out of 6 parts, e.g. cylinder head, cylinder block, crankcase, crankshaft, camshaft or connecting rod, which are either manufactured by own company or other manufacturers.	A3
	2. In case of manufacture of motorcycle engine with more than 500 cc engine displacement, the project must have forming process of not less than 2 out of 6 parts, e.g. cylinder head, cylinder block, crankcase, crankshaft, camshaft or connecting rod, which are either manufactured by own company or other manufacturers.	A3
	3. In case project has engine assembling process.	A4
3.4.2.2 Manufacture of motorcycle engines with less than 248 cc engine displacement	1. In case project has forming process of the following parts: cylinder head, cylinder block, crankcase, crankshaft, camshaft or connecting rod.	A3

Activities	Conditions	Incentives
	2. In case project has engine assembling process.	A4
3.4.3 Manufacture of engines for machinery	1. n case project has forming process of not less than 2 out of 6 parts, e.g. cylinder head, cylinder block, crankcase, crankshaft, camshaft and connecting rod.	A3
	2. In case project has engine assembling process.	A4
3.4.4 Manufacture of multi-purpose engines or equipment	1. In case project has forming process of the following parts: cylinder head, cylinder block, crankcase, crankshaft, camshaft or connecting rod.	A3
	2. In case project has engine assembling process.	A4
3.4.5 Manufacture of equipment or parts for engine system		
3.4.5.1 Manufacture of crankshaft	Project must have part forming process as approved by the Board.	A3
3.4.5.2 Manufacture of camshaft	Project must have part forming process as approved by the Board.	A3
3.4.5.3 Manufacture of gear	Project must have part forming process as approved by the Board.	A3
3.4.5.4 Manufacture of turbocharger	1. In case of project with part forming process as approved by the Board.	A3
	2. In case of project with turbocharger assembling process.	A4
3.4.5.5 Manufacture of turbocharger parts, i.e., turbine blade, turbine housing and bearing housing	Project must have part forming process as approved by the Board.	A4
3.4.5.6 Manufacture of cylinder head	Project must have part forming process as approved by the Board.	A4
3.4.5.7 Manufacture of cylinder block and crankcase	Project must have part forming process as approved by the Board.	A4
3.4.5.8 Manufacture of connecting rod	Project must have part forming process as approved by the Board.	A4
3.4.5.9 Manufacture of valve	Project must have part forming process as approved by the Board.	A4

Activities	Conditions	Incentives
3.4.5.10 Manufacture of piston	Project must have part forming process as approved by the Board.	A4
3.4.5.11 Manufacture of starting motor or parts	Project must have part forming process as approved by the Board.	A4
3.4.5.12 Manufacture of alternator or parts	Project must have part forming process as approved by the Board.	A4
3.4.5.13 Manufacture of rocker arm	Project must have part forming process as approved by the Board.	A4
3.4.5.14 Manufacture of waster gate actuator	Project must have part forming process as approved by the Board.	A4
3.5 Manufacture of vehicle parts		
3.5.1 Manufacture of vehicle parts using high technology		
3.5.1.1 Manufacture of substrate for catalytic converter		A2
3.5.1.2 Manufacture of electronic fuel injection system		A2
3.5.1.3 Manufacture of transmission		A2
3.5.1.4 Manufacture of electronic control unit (ECU)		A2
3.5.2 Manufacture of safety parts		
3.5.2.1 Manufacture system or parts for anti-lock brake system (ABS) or electronic brake force distribution (EBD)		A2
3.5.2.2 Manufacture of air bag/ safety belt		A4
3.5.2.3 Manufacture of airbag inflator, gas generator or gas generant		A3
3.5.2.4 Manufacture of parts for air bags, i.e., initiator coolant filter and ignitor		A4
3.5.2.5 Manufacture of parts for safety belt, i.e., interlock, retractor and buckle		A4

Activities	Conditions	Incentives
3.5.3 Manufacture of electronic devices for controlling or efficiency improving of vehicle system		
3.5.3.1 Manufacture of electronic stability control (ESC)		A2
3.5.3.2 Manufacture of regenerative braking system		A2
3.5.3.3 Manufacture of idling stop system		A2
3.5.3.4 Manufacture of autonomous emergency braking system		A2
3.5.3.5 Manufacture of other electronic device for vehicle	Project must have production process as approved by the Board.	A2
3.5.4 Manufacture of equipment for electric vehicle		
3.5.4.1 Manufacture of batterie	1. In case of project with the cell production process, the project is eligible for a 90 percent reduction in import duties on non-locally produced raw materials and essential materials for five years under Section 30. The benefit will be approved for one year at a time, starting from the date of the first import of raw materials.	A1
	2. In case of project using cells in the production of modules or battery packs, the project is eligible for a 90 percent reduction in import duties on non-locally produced raw materials and essential materials for five years under Section 30. The benefit will be approved for one year at a time, starting from the date of the first import of raw materials.	A2
	3. In case of the project using modules in the production of battery packs.	A3
3.5.4.2 Manufacture of traction motor		A2
3.5.4.3 Manufacture of electrical air-conditioning systems, i.e., compressor		A2
3.5.4.4 Manufacture of battery management system (BMS)		A2

Activities	Conditions	Incentives
3.5.4.5 Manufacture of driving or motor control units		A2
3.5.4.6 Manufacture of on-board charger		A2
3.5.4.7 Manufacture of electric vehicle charging devices such as plug, socket, and wallbox		A2
3.5.4.8 Manufacture of DC/DC converter		A2
3.5.4.9 Manufacture of inverter		A2
3.5.4.10 Manufacture of portable electric vehicle charger		A2
3.5.4.11 Manufacture of electrical circuit breaker		A2
3.5.4.12 Manufacture of EV smart charging system		A2
3.5.4.13 Manufacture of front/rear axle for electric bus and truck		A2
3.5.4.14 Manufacture of high voltage harness		A2
3.5.4.15 Manufacture of reduction gear		A2
3.5.4.16 Manufacture of battery cooling system		A2
3.5.4.17 Manufacture of regenerative braking system		A2
3.5.5 Manufacture of rubber tires for vehicle		A2
3.5.6 Manufacture of fuel system parts		
3.5.6.1 Manufacture of fuel pump	Project must have part forming process as approved by the Board.	A3
3.5.6.2 Manufacture of injection pump	Project must have part forming process as approved by the Board.	A3
3.5.6.3 Manufacture of injector	Project must have part forming process as approved by the Board.	A3
3.5.6.4 Manufacture of fuel pipe/tube		A4

Activities	Conditions	Incentives
3.5.7 Manufacture of transmission system parts	1. In case project has part forming process as approved by the Board.	A3
	2. In case of part assembling process as approved by the Board.	A4
3.5.8 Manufacture of brake system and parts	Project must have part forming process as approved by the Board.	A4
3.5.9 Manufacture of suspension system parts	Project must have part forming process as approved by the Board.	A4
3.5.10 Manufacture of steering system parts	Project must have part forming process as approved by the Board.	A4
3.5.11 Manufacture of cooling system parts		
3.5.11.1 Manufacture of water pump	Project must have part forming process as approved by the Board.	A4
3.5.11.2 Manufacture of heat exchanger such as radiator and air cooler.	Project must have part forming process as approved by the Board.	A4
3.5.12 Manufacture of exhaust system parts	Project must have part forming process as approved by the Board.	A4
3.5.13 Manufacture of air conditioning system parts		
3.5.13.1 Manufacture of air compressor	Project must have part forming process as approved by the Board.	A4
3.5.13.2 Manufacture of condenser/ condensing coil	Project must have part forming process as approved by the Board.	A4
3.5.13.3 Manufacture of evaporator/ cooling coil	Project must have part forming process as approved by the Board.	A4
3.5.14 Manufacture of body parts using ultimate tensile strength steel	Project must use steel with ultimate tensile strength (UTS) higher than 700 MPa.	A4
3.5.15 Manufacture of rolling bearing for vehicle	1. In case project has part forming process as approved by the Board.	A3
	2. In case of assembling of rolling bearing.	A4
3.5.16 Manufacture of motorcycle frame for motorcycle with more than 248 cc engine displacement, electric motorcycle frame and electric bicycle frame	1. Project must have part forming process or welding process as approved by the Board. 2. In case of electric bicycle frames, the product must be manufactured from lightweight material such as aluminium alloy, chromiummolybdenum alloy steel, titanium alloy and carbon fiber.	A4

Activities	Conditions	Incentives
3.5.17 Manufacture of other vehicle parts	1. In case project has part forming process as approved by the Board. 2. Other cases	A4 B
3.6 Manufacture of general automobile		B
3.7 Manufacture of motorcycles (except less than 248 cc engine displacement)	1. Project must have forming process in Thailand of the following parts: cylinder head, cylinder block, crankcase, crankshaft, camshaft and connecting rod, which are either manufactured by own company or other manufacturers. 1.1 Manufacture of motorcycle with more than 248 cc engine displacement but less than 500 cc must have part forming process of not less than 4 out of 6 parts. 1.2 Manufacture of motorcycle with more than 500 cc engine displacement must have part forming process of 2 out of 6 parts. 2. Project must have structural welding process and spray-painting process, which are either manufactured by own company or other manufacturers. 3. Plan for manufacturing and utilization of parts must be proposed and approved by the Board. <u>Incentives</u> 1. In case project meets conditions 1., 2. and 3. 2. In case project meets conditions 2. and 3.	A3 B
3.8 Manufacture of battery electric vehicles (BEV), Plug-In hybrid electric vehicles (PHEV), hybrid electric vehicles (HEV), and BEV platforms	1. Plan must be proposed in package covering at least a manufacture project of BEVs and/or BEV platforms; a manufacture project of electric batteries (own project or other manufacturer's project); machinery importation and installation plans; manufacture plans of BEVs and/or BEV platforms in year 1-3; manufacture or procurement plans of other parts; electric charging station or battery swapping station development plans (only for BEV production); used battery management plans; and plans for developing local suppliers of raw materials and parts, with Thai shareholding of not less than 51 percent of its registered capital, in providing technology training and technical assistance.	

Activities	Conditions	Incentives
	2. Electric vehicles to be marketed in the country must conform to the following standards and specifications: 2.1 The safety standard of the electrical power transmission system according to UN R100. 2.2 The active safety standard with ABS and ESC at the minimum (UN R13HW/ABS & ESC). 2.3 The standard for protection of occupants in the event of frontal and side collisions (UN R94 & UN R95). 2.4 The pollution standard of EURO 5 and above (UN R83) (only for HEVs and PHEVs). 2.5 Other standards and specifications as stipulated by relevant agencies such as the Thai Industrial Standards Institute and the Department of Land Transport. For BEV platforms, irrelevant product standards are waived such as the standard for occupant protection in the event of frontal and side collisions (UN R94 & UN R95). 3. The platform must consist of an energy storage system, charging module, and a front & rear axle module. 4. The manufacture of all approved categories of electric vehicles and/or BEV platforms, and electric batteries from using cells in the production of modules or battery packs must be started within 3 years from the issuance date of the investment promotion certificate. 5. At least one of the three key parts (traction motor, battery management system (BMS), and driving or motor control unit) must be additionally manufactured within 3 years after the starting production date of electric vehicles and/or BEV platforms. 6. For HEVs and PHEVs, at least 2 additional parts according to activity category 3.5.4 (manufacture of parts and equipment for electric vehicle) must be additionally manufactured within 3 years after the starting date of electric vehicle manufacture	

Activities	Conditions	Incentives
	7. No extension of machinery importation schedule shall be allowed, except for justifiable reasons. 8. In the case of the combined investment capital of not less than 5,000 million baht, excluding land costs and working capital, of the project package including the BEVs and/or BEV platforms manufacture, and key parts (electric battery, traction motor, battery management system (BMS), and driving or motor control unit) of the project and the suppliers, the following incentives shall be granted: • for PHEVs • for BEVs and BEV Platforms. The projects may apply for additional incentives for competitiveness enhancement measure under the categories of research and development of technology and innovation, and/or advanced technology training according to the specified criteria 9. In the case of an investment capital less than 5,000 million baht, excluding land costs and working capital, of the project package including the production of BEV vehicles and/or BEV platforms and the production of key parts (electric battery, traction motor, battery management system (BMS), and driving or motor control unit), of the project and the suppliers, the following incentives shall be granted: • for PHEVs • for BEVs and BEV platforms <u>Additional incentives:</u> 9.1 If key parts of BEVs and/or BEV platforms, except electric batteries are manufactured in addition to the basic criteria within 3 years after the starting date of manufacturing electric vehicles and/or BEV platforms, an additional 1-year corporate income tax exemption shall be granted for each part.	A4 A2 A4 A4

Activities	Conditions	Incentives
	9.2 If, in any year within 3 years as from the start of the manufacture, the actual production of BEVs and/or BEV platforms is more than 10,000 cars (units) per year, an additional 1-year corporate income tax exemption shall be granted. 9.3 The approved projects may apply for additional incentives to enhance competitiveness in the category of research and development of technology and innovation and/or advanced technology training under the prescribed criteria. 10. No additional incentives shall be granted on the merit of industrial area development. 11. The promoted projects in eco-car production can include all types of electric vehicles manufactured under the project as the actual production quantity of international standard eco-cars. The vehicles produced for the domestic market must have environmental qualifications following the international standard for eco-car manufacture.	
3.9 Manufacture of electric battery motorcycles	1. Plan must be proposed in package covering the electric battery motorcycle manufacture project; the manufacture of electric battery (own project or other manufacturer's project); machinery importation and installation plan, electric motorcycle manufacture plans for year 1 to year 3; manufacture or procurement plan of other parts; EV charging station or battery swapping station development plan; used battery management plan; and local supplier development plan for raw materials or parts, with Thai shareholding of not less than 51 percent of its registered capital in the technological training and technical assistance. 2. Must manufacture battery electric motorcycles and electric battery within 3 years as from the issuance of promotion certificate.	A4

Activities	Conditions	Incentives
	3. Electric motorcycle distributed domestically must conform to the following standards and specifications: 3.1 Safety standard of electrical transmission system according to UN R136 3.2 Tire standard according to TISI 2720 or UN R75 3.3 ABS or CBS standard according to UN R78 3.4 Other standards and specifications stipulated by relevant agencies such as the Thai Industrial Standards Institute and the Department of Land Transport 4. No extension of machinery importation schedule shall be allowed, except for justifiable reasons. 5. Additional incentives 5.1 If electric battery manufacture starts from using cells in the production of modules or battery packs within 3 years as from the promotion certificate issuance, an additional 1-year corporate income tax exemption shall be granted for each part. 5.2 If any additional key parts, i.e., traction motor, battery management system (BMS), and driving or motor control unit, are produced within 3 years as from the promotion certificate issuance, an additional 1-year of corporate income tax exemption shall be granted for each part. 5.3 The approved projects may apply for additional incentives to enhance competitiveness in the category of research and development of technology and innovation and/or advanced technology training under the prescribed criteria. 6. No additional incentives shall be granted on the merit of industrial area development.	
3.10 Manufacture of battery electric tricycles and battery electric tricycle platforms	1. Plan must be proposed in package covering a manufacture project of battery electric tricycles and/or battery electric tricycle platforms; a manufacture project of electric batteries (own project or of	A4

Activities	Conditions	Incentives
	other manufacturer's project); machinery importation and installation plans; charging station or battery swapping networking plans (only for battery electric tricycle production); manufacture plans of battery electric tricycle and/or battery electric tricycle platforms for year 1-3; manufacture or procurement plans of other parts; used battery management plans; and plans for developing local suppliers of raw materials and parts, with Thai shareholding of not less than 51 percent of its registered capital, in providing technology training and technical assistance. 2. The platforms must consist of an energy storage system, charging module, and front and rear axle module. 3. The battery electric tricycles and/or battery electric tricycle platforms, and electric batteries must be manufactured within 3 years from the issuance date of the investment promotion certificate. 4. The battery electric tricycles and the battery electric tricycle platforms to be marketed in the country must conform to the following standards and specifications: 4.1 The safety standard of the electrical power transmission according to UN R136. 4.2 Other standards and specifications as stipulated by relevant agencies such as the Thai Industrial Standards Institute and the Department of Land Transport. 5. No extension of the machinery importation schedule shall be allowed, except for justifiable reasons. 6. Additional incentives: 6.1 If the manufacture of electric batteries from using cells in the production of modules or battery packs is started within 3 years from the issuance date of the investment promotion certificate, an additional 1- year corporate income tax exemption shall be granted.	

Activities	Conditions	Incentives
	6.2 If any additional key parts, i.e., traction motor, battery management system (BMS), and driving or motor control unit are manufactured within 3 years from the issuance date of the promotion certificate, an additional corporate income tax exemption for 1 year per part shall be granted. 6.3 The approved projects may apply for additional incentives to enhance competitiveness under the category of research and development of technology and innovation, and/or advanced technology training under the prescribed criteria. 7. No additional incentives shall be granted on the merit of industrial area development.	
3.11 Manufacture of battery electric buses and trucks and battery electric buses and truck platforms	1. Plan must be proposed in package covering a manufacture project of battery electric buses or battery electric trucks and/or battery electric bus or truck platforms; a manufacture project of electric batteries (own project or of other manufacturer's project); machinery importation and installation plans; manufacture plans of battery electric buses and trucks and/or battery electric bus or truck platforms in year 1-3; production or procurement plans of other parts; charging station or battery swapping station development plans (for the production of battery electric buses or trucks only); used battery management plans; and plans for developing local suppliers of raw materials and parts, with Thai shareholding of not less than 51 percent of its registered capital, in providing technology training and technical assistance. 2. The platforms must consist of an energy storage system, charging module, and front and rear axle module. 3. The battery electric buses and trucks, and/or platform of battery electric buses or trucks, and electric batteries must be manufactured	A4

Activities	Conditions	Incentives
	within 3 years from the issuance date of the investment promotion certificate. 4. Battery electric buses and trucks and battery electric bus or truck platforms to be marketed in the country must conform to the following standards and specifications: 4.1 The safety standard of the electrical power transmission according to UN R 100. 4.2 Other standards and specifications as stipulated by relevant agencies such as the Thai Industrial Standards Institute and the Department of Land Transport. 5. No extension of the machinery importation schedule shall be allowed except for justifiable reasons. 6. Additional incentives: 6.1 If the manufacture of electric batteries from the using cells in the production of modules or battery packs is started within 3 years from the issuance date of the investment promotion certificate, an additional 1- year corporate income tax exemption shall be granted. 6.2 If any additional key parts, i.e., traction motor, battery management system (BMS), and driving or motor control unit are manufactured within 3 years from the issuance date of the promotion certificate, an additional corporate income tax exemption for 1 year per part shall be granted. 6.3 The approved projects may apply for additional incentives to enhance competitiveness under the category of research and development of technology and innovation, and/or advanced technology training under the prescribed criteria. 7. No additional incentives shall be granted on the merit of industrial area development.	

Activities	Conditions	Incentives
3.12 Manufacture of electric bicycles (E-BIKE)	1. Plan must be proposed in package covering (1) a manufacture project of electric bicycles, (2) a manufacture project of electric batteries (own project or other manufacturer's project); and (3) used battery management plans. 2. Electric bicycles and electric batteries must be manufactured within 3 years from the issuance date of the investment promotion certificate. 3. The projects must use electric bicycle frames from lightweight materials such as aluminum alloy, chromium-molybdenum alloy steel (Chrome Moly), titanium alloy and carbon fiber, etc. 4. Electric bicycles manufactured by the project must comply with the EN15194 standard or equivalent. 5. The battery used in electric bicycles must be of an environmentally friendly technology. 6. Bicycles can be produced together with electric bicycles in the project. However, the manufacture of bicycles is not eligible for the benefits of corporate income tax exemption. 7. No extension of the machinery importation schedule shall be allowed except for justifiable reasons. 8. Additional incentives: 8.1 If the manufacture of traction motors is started within 3 years from the issuance date of the investment promotion certificate, an additional 1-year corporate income tax exemption shall be granted. 8.2 If the manufacture of electric bicycle frames with lightweight materials is started within 3 years from the issuance date of the investment promotion certificate, an additional 1-year corporate income tax exemption shall be granted.	A4

Activities	Conditions	Incentives
	8.3 The approved projects may apply for additional incentives to enhance competitiveness under the category of research and development of technology and innovation according to the specified criteria. 9. No additional incentives shall be granted on the merit of industrial area development.	
3.13 Manufacture of fuel cell electric vehicles (FCEV) and equipment for fuel cell system		
3.13.1 Manufacture of fuel cell electric vehicles (FCEV)	In case of manufacture of fuel cell electric vehicle (FCEV), plans must be proposed in package covering a manufacture project of fuel cell electric vehicle (FCEV) and a manufacture project of fuel cell (own project or of other manufacturer's project); machinery importation and installation plans; manufacture plans in year 1-3; manufacture or procurement plans of other parts; ; hydrogen fueling station development plans; used battery management plans; and local supplier development plan for raw materials and parts, with Thai national shareholding of not less than 51 percent of its registered capital in the technological training and technical assistance.	A2
3.13.2 Manufacture of equipment for fuel cell system		A2
3.14 Manufacture of fuel cells or parts		A2
3.15 Building or repair of ships		
3.15.1 Building or repair of ships not less than 500 tons gross	Project must be obtained ISO 14000 within 2 years as from full operation deadline.	A2
3.15.2 Building or repair of ships less than 500 tons gross (only steel or fiber glass ships with installed engine and equipment)	Project must be obtained ISO 14000 within 2 years as from full operation deadline.	A2
3.16 Manufacture and/or repair of rolling stocks, parts, or equipment for rail system		
3.16.1 Manufacture of trains and/or rolling stocks such as passenger cars and cargo cars		

Activities	Conditions	Incentives
3.16.1.1 Manufacture of trains and/or rolling stocks such as passenger cars and cargo cars, that requires engineering design	1. Project must have engineering design process. 2. Project must comply with international standard or related government agencies' specifications.	A1
3.16.1.2 Manufacture of trains and/or rolling stocks such as passenger cars and cargo cars	Project must comply with international standard or related government agencies' specifications.	A2
3.16.2 Repair of trains or parts, or rail system equipment.	Project must have overhaul or repair activities using high level of technology.	A3 (with no limit on the income tax exempted)
3.16.3 Manufacture of rail system parts or equipment	1. Project must have production process as approved by the Board. 2. Project must manufacture rail system parts or equipment, i.e., 1) Main structure 2) Rolling stocks 3) Cab and equipment 4) Bogie 5) Break system and/or major parts 6) Couplers 7) Air condition and ventilation system and/or major parts 8) Air compressor and distributor and/or major parts 9) Door system and/or major parts 10) Lighting system and/or major parts 11) Communication and observation systems and/or major parts 12) Controlli ng and signaling systems and/or major parts 13) Electric power and distribution system 14) Track and parts	A2
3.17 Charging station and battery swapping station for electric vehicles		
3.17.1 Electrical vehicle charging station	1. Project must submit a procurement plan for equipment and parts. 2. Project must submit an EV smart charging system development plan or a plan to connect the	

Activities	Conditions	Incentives
	charging system to an EV charging network operator platform or a central platform for the charging network management. 3. Project must comply with the laws or safety standards of relevant authorities such as the Ministry of Energy, Metropolitan Electricity Authority, Provincial Electricity Authority, Ministry of Industry. 4. The following incentives shall be granted: • For projects with no fewer than 40 chargers of which at least 25% are quick-charging units (DC type).	A3
	• Other cases	A4
3.17.2 Electrical vehicle battery swapping station	1. Project must submit a procurement plan for equipment and parts. 2. Project must submit an EV smart charging system development plan or a plan to connect the charging system to an EV charging network operator platform or a central platform for the charging network management. 3. Project must comply with the laws or safety standards of relevant authorities such as the Ministry of Energy, Metropolitan Electricity Authority, Provincial Electricity Authority, Ministry of Industry. 4. Battery shall not eligible for import duty exemption (Section 28).	A3
Space and aerospace Industry		
3.18 Space and aerospace industry		
3.18.1 Manufacture or repair of aircrafts, or aerospace devices and equipment		
3.18.1.1 Manufacture of aircrafts or aircraft parts	Project must manufacture aircraft or aircraft parts such as airframe, critical parts, appliance, equipment or other components.	A1
3.18.1.2 Manufacture of onboard devices or equipment	Project must manufacture onboard devices or equipment such as seats, life vests, trolley or galley. Manufacture of disposable and reusable aircraft utilities or supplies shall not be promoted.	A3

Activities	Conditions	Incentives
3.18.1.3 Repair of aircraft or aircraft parts	The project is eligible for a 90 percent reduction in import duties on non-locally produced raw materials and essential materials for five years under Section 30. The benefit will be approved for one year at a time, starting from the date of the first import of raw materials.	A2
3.18.1.4 Repair of onboard devices or equipment	Repair of disposable and reusable aircraft utilities or supplies shall not be promoted.	A4
3.18.1.5 Manufacture of ground support equipment and ground support service	1. Manufacture of bus or passenger transport vehicles, airport trolley, aviation belt or air transport aviation freight pallet shall not be promoted..	
	2. In case project has part forming process and/ or engineering design process.	A3
	3. In case project has assembling process as approved by the Board	A4
3.18.2 Manufacture, design and development of space equipment and provision of space services		
3.18.2.1 Manufacture of space equipment	1. Project must manufacture space products and equipment such as spacecraft, satellites, and propulsion systems for guided rockets and space vehicles. 2. The project is eligible for a 90 percent reduction in import duties on non-locally produced raw materials and essential materials for five years under Section 30. The benefit will be approved for one year at a time, starting from the date of the first import of raw materials.	A1
3.18.2.2 Manufacture of mechanical parts and/or electronic parts for satellites or space objects of various form		A2
3.18.2.3 Design and development of system or software related to satellites and ground stations	Project must have design and development of system or software such as system or software for satellite platform, payload system, searching system, space debris mitigation system or space navigation system.	A1

Activities	Conditions	Incentives
3.18.2.4 Space launching services or manufacture of launch mission control systems		A1
3.18.2.5 Aeropace support activities	Project must conduct aerospace support activities such as testing laboratory for satellites and other space objects and/or standard certification for parts	A2
Defense Industry		
3.19 Manufacture and/or repair of vehicles and weapon systems for national defense	1. Project must manufacture vehicles and weapon systems for national defense, i.e., tank, armored car, combat vehicle, combat-facilitating vehicle. 2. Product must be certified with approved test or standard by the Ministry of Defense or the National Institute of Defense Technology. 3. In the case of repair work, it must involve extensive maintenance or requires advanced technology, and must adhere to the standards approved by agencies under the Ministry of Defense or the National Institute of Defense Technology.	A2
3.20 Manufacture and/or repair of unmanned systems for national defense and parts used in the manufacture and/or repair		
3.20.1 Manufacture and/or repair of unmanned ground system (UGS) and parts	1. Project must manufacture unmanned ground system (UGS) such as unmanned ground vehicle (UGV), robot for military operations or small robot. 2. Project must manufacture parts for unmanned system such as main structure, mechanical arm, handle, communication system, camera system, computer system, electrical system, or battery. 3. In the case of repair work, it must involve extensive maintenance or requires advanced technology, and must adhere to the standards approved by agencies under the Ministry of Defense or the National Institute of Defense Technology. 4. Product must be certified with approved test or standard by the Ministry of Defense or the National Institute of Defense Technology.	A1

Activities	Conditions	Incentives
3.20.2 Manufacture and/or repair of unmanned maritime system (UMS) and parts	1. Project must manufacture unmanned maritime system (UMS) such as unmanned surface vehicle (USV) or unmanned underwater vehicle (UUV). 2. Project must manufacture parts for unmanned system such as main structure, mechanical arm, handle, communication system, camera system, computer system, electrical system, or battery. 3. In the case of repair work, it must involve extensive maintenance or requires advanced technology, and must adhere to the standards approved by agencies under the Ministry of Defense or the National Institute of Defense Technology. 4. Product must be certified with approved test or standard by the Ministry of Defense or the National Institute of Defense Technology.	A1
3.20.3 Manufacture and/or repair of unmanned aircraft system (UAS) and parts	1. Project must manufacture unmanned aircraft system (UAS) such as fixed wing unmanned vehicle, rotor unmanned vehicle and combined fixed wing/rotor unmanned vehicle. 2. Project must manufacture parts for unmanned system such as main structure, mechanical arm, handle, communication system, camera system, computer system, electrical system, or battery. 3. In the case of repair work, it must involve extensive maintenance or requires advanced technology, and must adhere to the standards approved by agencies under the Ministry of Defense or the National Institute of Defense Technology. 4. Product must be certified with approved test or standard by the Ministry of Defense or the National Institute of Defense Technology.	A1
3.21 Manufacture and/or repair of weapons and exercise-facilitating equipment for national defense and part 3.21.1 Manufacture and/or repair of weapons		

Activities	Conditions	Incentives
3.21.1.1 Manufacture of firearm and parts and/or repair of firearm	1. Product must be certified with approved test or standard by the Ministry of Defense or the National Institute of Defense Technology. 2. In the case of repair work, it must involve extensive maintenance or requires advanced technology, and must adhere to the standards approved by agencies under the Ministry of Defense or the National Institute of Defense Technology. 3. Project must receive permission in accordance with the Private Weapon Manufacturing Factory Act B.E. 2550 (A.D. 2007). 4. The applicant must have a Thai shareholding of at least 51 percent of the registered capital, except for an activity established by the National Institute of Defense Technology or jointly with other parties incorporated as a juristic entity which is exempted under the Defense Technology Act B.E. 2562 (2019).	A2
3.21.1.2 Manufacture of ammunition and parts	1. Product must be certified with approved test or standard by the Ministry of Defense or the National Institute of Defense Technology. 2. Project must receive permission in accordance with the Private Weapon Manufacturing Factory Act B.E. 2550 (A.D. 2007). 3. The applicant must have a Thai shareholding of at least 51 percent of the registered capital, except for an activity established by the National Institute of Defense Technology or jointly with other parties incorporated as a juristic entity which is exempted under the Defense Technology Act B.E. 2562 (2019).	A2
3.21.1.3 Manufacture of rocket system and parts and/or repair of rocket system	1. Project must manufacture rocket system such as firing vehicle or rocket leading item. 2. Product must be certified with approved test or standard by the Ministry of Defense or the National Institute of Defense Technology. 3. In the case of repair work, it must involve extensive maintenance or requires advanced technology, and must adhere to the standards approved by agencies under the Ministry of Defense or the National Institute of Defense Technology.	A2

Activities	Conditions	Incentives
	4. Project must receive permission in accordance with the Private Weapon Manufacturing Factory Act B.E. 2550 (A.D. 2007). 5. The applicant must have a Thai shareholding of at least 51 percent of the registered capital, except for an activity established by the National Institute of Defense Technology or jointly with other parties incorporated as a juristic entity which is exempted under the Defense Technology Act B.E. 2562 (2019).	
3.21.2 Manufacture of simulation and virtual training system and parts and/or repair of simulation and virtual training system	1. Project must manufacture of simulation and virtual training system such as virtual training facilitating systems for combat vehicles, personal weapon and unit weapon training field systems, Joint Theater Level Simulation systems (JTLS). 2. Product must be certified with approved test or standard by the Ministry of Defense or the National Institute of Defense Technology. 3. In the case of repair work, it must involve extensive maintenance or requires advanced technology, and must adhere to the standards approved by agencies under the Ministry of Defense or the National Institute of Defense Technology. 4. Project must have system design or software development activity.	A1
3.22 Manufacture and/or repair of combat facilitating equipment	1. Project must manufacture combat facilitating equipment such as bullet-proof and flak-proof vests, armours or bullet-proof and flak-proof shields. 2. Product must be certified with approved test or standard by the Ministry of Defense or the National Institute of Defense Technology. 3. In the case of repair work, it must involve extensive maintenance or requires advanced technology, and must adhere to the standards approved by agencies under the Ministry of Defense or the National Institute of Defense Technology.	A2

Activities	Conditions	Incentives
Electrical Appliances and Electronics industry		
4.1 Electronic design i.e. microelectronics, optoelectronics or embedded system	1. Project must have expenses on salaries for electronics design personnel of at least 1,500,000 baht per year and it must be new employment, or must have capital investment of at least 1,000,000 baht (excluding cost of land, working capital and vehicles) 2. To exercise the benefits of corporate income tax exemption from the sale of products or services which are directly related to the promoted business, one of the following evidences must be provided: • Patents for products or services which are directly related to the promoted business. • Letters from the National Science and Technology Development Agency or relevant institutions for each product or service, which certify that the products or services are electronic designs of the project.	A1
4.2 Manufacture of electronic products, devices and parts		
4.2.1 Manufacture of wafer	Project must have production process as approved by the Board.	A1+ (13 year with no limit on the income tax exempted)
4.2.2 Manufacture or test of semiconductors and integrated circuits (IC)		
4.2.2.1 Manufacture or test of semiconductors and integrated circuits (IC), which is a large-scale investment	1. Project must manufacture or test of semiconductors and integrated circuits (IC) and products obtained in between the manufacturing process or downstream products such as wafer grinding, sawed dice, wafer testing, IC, testing and IC Module 2. For the manufacturing and testing of integrated circuits (IC), the cost of refurbishment of existing machines shall be regarded as an investment and will be taken into account in the calculation of corporate income tax exemption cap. The original cost of existing machines shall not be regarded as an investment.	A2

Activities	Conditions	Incentives
	3. The investment capital in machinery (including cost of installation and test run) used in the manufacturing or testing process must not be less than 1,500 million baht.	
4.2.2.2 Manufacture or test of semiconductors and integrated circuits (IC)	1. Project must manufacture or test of semiconductors and integrated circuits (IC) and products obtained in between the manufacturing process or downstream products such as wafer grinding, sawed dice, wafer testing, IC testing and IC Module 2. For the manufacturing and testing of integrated circuits (IC), the cost of refurbishment of existing machines shall be regarded as an investment and will be taken into account in the calculation of corporate income tax exemption cap. The original cost of existing machines shall not be regarded as an investment.	A3
4.2.3 Manufacture of electronic passive components such as resistors, capacitors and inductors		
4.2.3.1 Manufacture of electronic passive components in the form of surface-mount devices, which is a large-scale investment	The investment capital in machinery (including cost of installation and test run) used in the manufacturing process must not be less than 1,500 million baht.	A2
4.2.3.2 Manufacture of electronic passive components in the form of surface-mount devices		A3
4.2.3.3 Manufacture of electronic passive components in the form of through-hole devices		A4
4.2.4 Manufacture of circuit board and/or parts		
4.2.4.1 Manufacture of printed circuit boards in the form of high-density interconnect	The investment capital in machinery and the manufacturing process must be approved by the Board.	A2

Activities	Conditions	Incentives
4.2.4.2 Manufacture of flexible printed circuit boards, multilayer printed circuit boards or parts, which is a large-scale investment	The investment capital in machinery (including cost of installation and test run) used in the manufacturing process must not be less than 1,500 million baht.	A2
4.2.4.3 Manufacture of flexible printed circuit boards, multilayer printed circuit boards or parts.		A3
4.2.4.4 Manufacture of printed circuit boards or parts		B
4.2.5 Manufacture of printed circuit board assemblies (PCBA) and downstream products from PCBA in the same project.		
4.2.5.1 Manufacture of printed circuit board assemblies (PCBA) or downstream products from PCBA in the same project, which is a large-scale investment	1. The whole assembly line of PCBA in the same project must use the surface mount technology. 2. The investment capital in machinery (including cost of installation and test run) used in the manufacturing process must not be less than 500 million baht.	A3
4.2.5.2 Manufacture of printed circuit board assemblies (PCBA) or downstream products from PCBA in the same project, which uses the surface mount technology to the whole production line	The whole assembly line of PCBA in the same project must use the surface mount technology.	A4
4.2.5.3 Manufacture of printed circuit board assemblies (PCBA) or downstream products from PCBA in the same project.		B
4.2.6 Manufacture of printed electronics		
4.2.6.1 Manufacture of printed electronics using more than 1 type of printing material		A2
4.2.6.2 Manufacture of printed electronics using 1 type of printing material		A4

Activities	Conditions	Incentives
4.2.7 Manufacture of parts, data storage and memory storage		
4.2.7.1 Manufacture of solid-state drives	1. The whole assembly line of PCBA in the same project must use the surface mount technology. 2. The cost of refurbishment of existing machines shall be regarded as an investment and will be taken into account in the calculation of corporate income tax exemption cap. The original cost of existing machines shall not be regarded as an investment.	A2
4.2.7.2 Manufacture of advanced technology hard disk drives and/or critical parts	1. The areal density of hard disk drives must not be less than 2,000 gigabits per square inch. 2. The production of top covers or base plates or peripherals shall not be promoted. 3. The cost of refurbishment of existing machines shall be regarded as an investment and will be taken into account in the calculation of corporate income tax exemption cap. The original cost of existing machines shall not be regarded as an investment.	A2
4.2.7.3 Manufacture of hard disk drives and/or critical parts	1. Project must manufacture hard disk drives and/or critical parts such as spindle motors, suspensions, head gimbal assemblies and voice coil motors. 2. The production of top covers or base plates or peripherals shall not be promoted. 3. The cost of refurbishment of existing machines shall be regarded as an investment and will be taken into account in the calculation of corporate income tax exemption cap. The original cost of existing machines shall not be regarded as an investment.	A3
4.2.7.4 Manufacture of other parts of hard disk drive such as top covers, base plates, pins and filters		A4
4.2.7.5 Manufacture of external hard disk drives and other memory storage such as flash drives	The whole assembly line of PCBA in the same project must use the surface mount technology.	A4

Activities	Conditions	Incentives
4.2.8 Manufacture of energy storage		
4.2.8.1 Manufacture of high-density batteries with the cell production process	1. Project must manufacture high-density batteries with the properties as approved by the Board as followings: 1) Specific energy density not less than 150 Wh/g 2) Charging cycle not less than 500 cycles 2. The project will be eligible for a 90 percent reduction in import duties on non-locally produced raw materials and essential materials for five years under Section 30. The benefit will be approved for one year at a time, starting from the date of the first import of raw materials.	A1
4.2.8.2 Manufacture of high-density batteries in the case of using cells in the production of modules or battery packs	1. Project must manufacture high-density batteries with the properties as approved by the Board as followings: 1) Specific energy density not less than 150 Wh/g 2) Charging cycle not less than 500 cycles 2. The project is eligible for a 90 percent reduction in import duties on non-locally produced raw materials and essential materials for five years under Section 30. The benefit will be approved for one year at a time, starting from the date of the first import of raw materials.	A2
4.2.8.3 Manufacture of high-density batteries in the case of using modules in the production of battery packs	Project must manufacture high-density batteries with the properties as approved by the Board as followings: 1) Specific energy density not less than 150 Wh/g 2) Charging cycle not less than 500 cycles	A3
4.2.8.4 Manufacture of supercapacitors	Project must manufacture supercapacitors with the properties as approved by the Board as followings: 1) Specific energy density not less than 10,000 Wh/g 2) Charging cycle not less than 10,000 cycles	A2
4.2.8.5 Manufacture of other batteries	The production of lead-acid batteries shall not be promoted.	B

Activities	Conditions	Incentives
4.2.9 Manufacture of flat panel displays and parts		
4.2.9.1 Manufacture of flat panel displays or critical parts	1. Project must manufacture flat panel displays or critical parts such as backlight panel, diffuser, LCD film, electrode and polarizing film. 2. Project must have production process as approved by the Board.	A3
4.2.9.2 Manufacture of other parts of flat panel displays		B
4.2.10 Manufacture of electro-magnetic products and parts		A4
4.2.11 Manufacture of parts, peripheral devices and signal cables		
4.2.11.1 Manufacture of optical fibers	Project must have production process as approved by the Board.	A2
4.2.11.2 Manufacture of parts for optical fiber device, optical device and electro-optical device	Project must have production process as approved by the Board.	A3
4.2.11.3 Manufacture of parts, peripheral devices and signal cables with the continual manufacturing process from metal forming or the fabrication of electrically conductive materials in the same project		A4
4.2.11.4 Manufacture of other parts, peripheral devices and signal cable		B
4.2.12 Manufacture of parts or equipment for solar-powered products		
4.2.12.1 Manufacture of solar cells and/or raw materials for solar cell	Project must have production process and product must have energy yield as approved by the Board.	A2
4.2.12.2 Manufacture of solar panels from the solar cells produced within the same project	Project must have production process and product must have energy yield as approved by the Board.	A2

Activities	Conditions	Incentives
4.2.13 Manufacture of smart electrical appliances and smart electronics		
4.2.13.1 Manufacture of smart electrical appliances and smart electronics, which is a large-scale investment	1. Project must manufacture smart electrical appliances with the following properties: • Have electronic components that can detect and receive the data as the principal element. • Can connect to other devices or equipment or network through wireless system. • Have the operating or processing system embedded into such equipment or devices. 2. The production of electrical plugs, illumination devices and light bulbs shall not be promoted. 3. The investment capital in machinery (including cost of installation and test run) must not be less than 1,500 million baht. 4. The whole assembly line of PCBA must use the surface mount technology in the same project.	A2
4.2.13.2 Manufacture of smart electrical appliances and smart electronics	1. Project must manufacture smart electrical appliances with the following properties: • Have electronic components that can detect and receive the data as the principal element. • Can connect to other devices or equipment or network through wireless system. • Have the operating or processing system embedded into such equipment or devices. 2. The production of electrical plugs, illumination devices and light bulbs shall not be promoted. 3. Additional incentives In case the whole assembly line of PCBA in the same project uses the surface mount technology, 1-year of corporate income tax exemption will be additionally granted.	A3

Activities	Conditions	Incentives
4.2.14 Manufacture of audio-visual products and parts		
4.2.14.1 Manufacture of audio-visual products and parts, which are produced from the PCBA manufactured within the same project	The whole assembly line of PCBA in the same project must use the surface mount technology.	A3
4.2.14.2 Manufacture of audio-visual products and parts		A4
4.2.15 Manufacture of office electronics and parts		
4.2.15.1 Manufacture of office electronics and parts, which are produced from the PCBA manufactured within the same project	The whole assembly line of PCBA in the same project must use the surface mount technology.	A3
4.2.15.2 Manufacture of office electronics and parts		A4
4.2.16 Manufacture of telecommunication devices and wireless-system devices		
4.2.16.1 Manufacture of optical modules, optical devices, electro-optical modules, or electro-optical devices	Project must have one of the following production processes: 1. Assembling of PCBA using the surface mount technology to the whole line in the same project. 2. Assembling of optical chip	A3
4.2.16.2 Manufacture of network device for office and home use such as router, access point, network switch, repeater, extender and gateway, which are produced from the PCBA manufactured within the same project; or which has part forming process	Project must meet one of the following production processes: 1. Assembling of PCBA using the surface mount technology to the whole line in the same project. 2. Forming of part	A3

Activities	Conditions	Incentives
4.2.16.3 Manufacture of network device for office and home use such as router, access point, network switch, repeater, extender and gateway		A4
4.2.17 Manufacture of electronic measuring instruments and parts		
4.2.17.1 Manufacture of electronic measuring instrument and parts, which are produced from the PCBA manufactured within the same project	Project must have one of the following production processes: 1. Assembling of PCBA using the surface mount technology to the whole line in the same project 2. Forming of part	A3
4.2.17.2 Manufacture of electronic measuring instruments and parts		A4
4.2.18 Manufacture of power supply, converter, inverter or charger		
4.2.18.1 Manufacture of power supply, converter, inverter or charger which has operation control software	Project must have following production processes: 1. Designing of circuit layout for the circuit board (PCB Design) 2. Loading of control software within the same project	A3
4.2.18.2 Manufacture of power supply, converter, inverter or charger	Project must have production process as approved by the Board	A4
4.2.19 Manufacture of products using microtechnology	The project must meet one of the following conditions: 1. The products must be manufactured using microfabrication technology such as Micro Electro Mechanical Systems (MEMS), microelectronics, and microsensors; or microtechnology such as micro coils, micro magnets, micro components, micro rotors, micro ceramics, brushless motors 2. The main machinery used in the project must be able to produce workpieces with a tolerance value not exceeding IT5, according to the International Tolerance Grades (IT)	A2
4.2.20 Manufacture of other electronics products and parts		B

Activities	Conditions	Incentives
4.3 Manufacture of electrical appliances, devices and parts		
4.3.1 Manufacture of electrical appliances	1. Project must manufacture air conditioners, refrigerators, freezers, washing and drying machines 2. Product must meet Thailand's energy efficiency standards and have the high energy efficiency label (label no. 5) from the Ministry of Energy or have other equivalent energy efficiency.	A4
4.3.2 Manufacture of parts, connecting devices and electrical wires		
4.3.2.1 Manufacture of parts, peripheral devices and electrical wires with the continual manufacturing process from metal forming or the fabrication of electrically conductive materials in the same project		A4
4.3.2.2 Manufacture of other parts, peripheral devices and electrical wires		B
4.3.3 Manufacture of transformers	Project must have coil winding process.	A4
4.3.4 Manufacture of circuit breakers		
4.3.4.1 Manufacture of circuit breakers with the part forming process	Project must have part forming process.	A4
4.3.4.2 Manufacture of circuit breakers		B
4.3.5 Manufacture of compressors and/or motors for electrical appliance	Project must have coil winding process or fabrication of stators or rotors in the project.	A4
4.3.6 Manufacture of other electrical appliances, devices and part		B