

Guidelines for Industrial Development

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1. Background Introduction

A. Intention behind the Guidelines

The guidelines aim to encourage a comprehensive and innovative industrial development, respond to the major trends and challenges posed by international industrial development, and underscore the importance of balanced industrial development between the different Taiwanese regions. The Guidelines for Industrial Development (hereafter referred to as the Guidelines) were drafted as per Section 4 of the Industrial Innovation Act. It provides a framework for future industrial developmental strategies and directions for the next 10 years as the basis for drafting strategic directions of industrial development.

B. The Guidelines' Legal Position

The Guidelines are based on the spirit of a balanced development of people's livelihood as stipulated in Constitution's Basic National Policies and are on equal footing with Industrial Innovation Act, Basic Environment Law, as well as Science and Technology Basic Law. The Guidelines' visions, fundamental principles, policy directions, and the various industrial developmental policies, etc. should not violate Guidelines' spirit to underscore the concept of sustainability, balance, inclusion, innovation, and safety in industrial development.

C. Spectrum of Industries

As per the Industrial Innovation Act, the "industry" in the Guidelines includes the relevant industries in agriculture, industry, and service sector. Sustainable Energy Policy Framework and Water Program for the New Century will be drafting developmental policies for the public utilities services not included in the Guidelines such as water, electricity, and gas services.

2. Visions and Goals

A. Overall Visions

- (A) To elevate Taiwan's international standing in trade so that it will become the global innovation center, Asia-Pacific operation hub, and operation headquarter for Taiwanese businesses.
- (B) To transform Taiwan into a more diverse industrial structure, meet the international responsibility of environmental protection and energy conservation, as well as upgrade the industrial value-added.
- (C) To facilitate balanced regional developments, assist small and medium enterprises, and create diverse job opportunities to realize the goal of a happy Taiwan.

B. Developmental Goals

To achieve the overall developmental visions, the improvement directions and goals of industrial structures for the next 10 years are:

- (A) The domestic agricultural production needs to be maintained at a certain scale to ensure food safety and balance between supply and demand and to forge a highly competitive quality agriculture. To achieve industrial sustainability and global deployment and development, Taiwan's agriculture will be developed in the directions of "hygienic, safe, and healthy agriculture", "technically advanced outstanding agriculture", and "comfortable, leisure *Happy Living* agriculture".
- (B) Under stable growth, the industrial value-added will replace the growth in quantity with quality to facilitate carbon reduction and efficient resource use in the industries. Confronted with the need to upgrade industrial value-added and global competitions, the development will move in the direction of becoming a "global resource consolidator", "industrial and technical leader", and "soft economy innovator".
- (C) Service sector's value-added needs to grow faster to create quality job opportunities. To meet the needs to improve people's living standards and face global competitions, the development will also move in the directions of creating a "robust industrial

environment", "improving technical and internationalizing capability", and "facilitating the value-added in innovation and aesthetic culture".

3. Developmental Principle

To ensure the industries develop in accord with the overall national developmental objectives, the government should follow the fundamental principles below when promoting the various developmental plans.

- (A) **Diverse Innovation:** Industrial development should encourage technical and service models, operating strategies, and application innovation to upgrade industrial competitiveness.
- (B) **Job Creation:** Industrial development should underscore human resources and job creation.
- (C) **Balanced Development:** Industrial development should consider regional developments and developmental needs of small and medium enterprises.
- (D) **Environmental Carrying Capacity:** Industrial development should address issues such as climate change, environmental resources, etc., appropriately conserve energy and reduce carbon emission, as well as upgrade energy efficiency and environmental protection. Existing industrial lands should be further exploited to improve land use efficiency.

- (E) **International Participation:** Industrial development should actively promote international industrial collaboration in keeping with the spirit of open market.
- (F) **Partnership between Public and Private Sectors:** Industrial development should respond to enterprises' needs and guide these enterprises to take on social responsibilities.
- (G) **Steady Policies:** Industrial development should seek to maximize policy coordination efficiency and improve policies' long-term stability and predictability.
- (H) **Self-Redeeming Finance:** Industrial development should use self-redeeming finance as the selection criterion for policy tools.

4. Developmental Planning

A. Agriculture

(A) Critical Issues

a. Increased climate change underscores the importance of food safety.

As global climate change worsens, the persistent warming and change in rainfall patterns may impact agricultural productions and threaten food safety. In the future, agricultural production should be made to resist adversity

better in order to lower environment's impact and to ensure food safety.

b. Open market and cross-Strait competitions/cooperations will affect long-term industrial development.

After joining the WTO, Taiwan's agricultural products have gradually moved to open market and tariff reduction. Under the continued signing of free trade agreements with other trade partners, regional trades are quickly liberalized, and markets for agricultural products become more open. As the two sides of the Strait compete and cooperate, this will affect Taiwanese agriculture's long-term development.

c. Crop diversity, health demands, and industrial structures all need to be adjusted accordingly.

As people's income increases and social structure changes, Taiwanese standard of living also increases. Consumers' need for agricultural products becomes more diversified and quality-oriented. To address the issues of changing Taiwanese dietary habits, increasing leisure and eat-outs, aging populations in farm villages, under-sized farm operations, and loss of farm lands due to re-zoning, adjustment to agricultural industry's structure needs to be more expedient. Diet education should also be enhanced to encourage domestic food consumption.

d. Agricultural development incorporates emerging industrial and telecommunication technologies to speed up its upgrade.

Faced with intense global competition, safety, quality, speed, and innovation will be the deciding factors to industrial advantage. To pursue sustainable development, agriculture must embrace technology, information management, and enterprise. Both key and high-potential industries must be developed to nurture relevant professionals and to facilitate agricultural industry's upgrade.

(B) Developmental Strategies

In response to global climate change, ensuring food safety, and need for diversified and healthy agriculture, agriculture technology will incorporate information management to carry out the administrative ideal of sustainable operation. Agriculture will be transformed into a modern leisure service industry of green ecology. Future agricultural development will include key strategies described below:

a. Health: Establish a general image of health and high quality for agriculture; promote responsible agriculture to ensure products' safety; speed up the promotion of safety certification to ensure consumers' health and to methodically move to a toxic-free agriculture island.

b. Efficiency: From seed preparation, farm management, to post-harvest processing, the R&D of nuclear agricultural technology and training of key professionals should be enhanced. Modernization needs to be faster, and standardized business management should be applied to agriculture. Moreover, industrial and telecommunication

technologies should be applied to agricultural production and marketing.

c. Sustainable Operation: Assist agriculture to develop from production-oriented industry to everyday-living, underscore agriculture's multiple contributions to the environment, promote industrial adjustment policies in response to climate change, develop energy-conserving and carbon-reducing green industries, and facilitate a harmonious symbiosis between agriculture and environment.

B. Industry

(B) Critical Issues

1. Global industries are developing toward low-carbon emission and service consolidation

In response to global climate change and trend of economic development, industrial competitiveness has shifted to product differentiation, aesthetic designs, environmentally conscious and energy conserving materials, as well as extending the backend value-added services, etc. Based on innovative R&D and operating models, nations are developing toward low-carbon and service-oriented industries to upgrade the value-added.

b. Because investment tends to concentrate on physical assets, sustainable development is facing challenge.

Taiwan's manufacturers tend to invest mostly on physical assets, pursuing primarily quantity. In mid and long-terms, they will face the limitation and challenge of resource depletion and greenhouse gas reduction. Investment in non-physical assets should be enhanced in the future. By developing Soft Powers and strengthening cross-industry consolidation, a new relative industrial advantage is created, and sustainable development is truly implemented.

c. Lacking Critical Technologies and International Brands

Taiwan's industrial development had over-emphasized production efficiency and cost-control in the past. Key products and technologies all depend on import. Taiwan also

lacks globally recognizable brands and the access to international retail markets. Value distribution is still in the hands of major foreign companies.

d. Needs to Quickly Become Part of Regional Economic Consolidation

Taiwan's industrial development still needs to face global competitions in attracting investment and in trade. To improve the environment for industrial development, Taiwan needs to quickly join the regional economic consolidation in the future to become fully internationalized.

(B) Developmental Strategies

Taking into consideration the global energy and resource depletion, the trend to conserve energy and reduce carbon emission, the impact of an aging population with low birth rate on the labor market, and the need to transform industrial structures into green, low carbon, and intelligence, manufacturers' overall direction should be diversity and innovation to raise the rate of return for the production of various key elements. It is expected that economic growth will be sustained under limited resources. Under this goal, the focus of future industrial developmental strategies will include the following:

a. Facilitate Investment in Soft Capitals: Upgrading industries' advantage in soft powers, creating an incentive mechanism and platform, and facilitating cross-industry manpower and capital as well as investment in non-physical assets in response to the upgrade and transformation of traditional industries as well as accelerated promotion of emerging industries and service-oriented manufacturers, etc.

b. Develop Service-Oriented Manufacturers: Endeavor in promoting service-oriented manufacturers, utilize R&D innovation and marketing activities, facilitate the development of business models where manufacturers are extended to provide services, extend value chain, develop cross-industry consolidated products and services, and expand contact with consumers to raise the value added.

c. Promote Industries to Become More Green: By

endeavoring to promote industries to become more environmentally conscious as well as utilizing R&D innovation, personnel training, and investing in the best energy conserving technologies/equipments to raise the production efficiency with the overall industry's energy and resource; developing green industries in response to the global trend. ◦

d. Enhance Regional Consolidation and Attracting Global Businesses: Actively joining the regional economic consolidation to promote the signing of free trade agreements and improve domestic investment environment; attracting global key elements to better realize Taiwanese industries' relative advantages; at the same time, improving Taiwan's foreign trade conditions to increase foreign trade's contribution to domestic economic growth and reward to domestic key elements.

C. Service Sector

(A) Critical Issues

a. The global service sector is developing toward cross-industry consolidation.

The current single-service business model has been quite mature. However, as telecommunication technology continues to make progress and lifestyle continues to change, cross-industry consolidation is now the industrial developmental model for the future. For instance, the consolidations between tourism and cultural creativity and between tourism and international medical care, etc will create a synergistic effect and establish new industries, business environments, as well as new types of jobs and job opportunities.

a. Regulations and environment are not yet robust, affecting both investment and employment.

The domestic service sector is still affected by the inadequate regulations and environment as well as lack of pro-active policies. Many service industries encounter bottlenecks as they strive to become more enterprising. As a result, growth in both investment and employment has slowed down relatively.

b. Businesses lack capital and high-level professionals. Consequently, service sector is not sufficiently internationalized.

Taiwanese service industries consist of mostly small and medium businesses. Acquiring funding can be difficult for them. On the other hand, Taiwan lacks high-level managers, technical professionals, and consolidated service innovators; therefore, Taiwan's service businesses lack international competitiveness.

c. With less investment in R&D innovations, service sector's technical upgrades and cross-industry consolidation are limited.

The growth of Taiwanese manufacturers' demand for professional service industries is relatively slow. Moreover, Taiwan's domestic service businesses also committed less in R&D innovations. This will affect Taiwanese service sector in technical upgrades and cross-industry consolidation.

(B) Developmental Strategies

To make service sector the main driving force behind Taiwan's future economic growth and enable the sector to provide more quality jobs, its overall policy should focus on creating more robust regulations and environment for industrial development and actively enhancing service sector's international competitiveness to expand its developmental basis both in Taiwan and abroad. To achieve this goal, the future key strategies for service sector will include the following:

a. Prepare to Internationalize Taiwan's Regulations:

Accelerate the deregulation and its complementary measures to create a robust environment for cross-industry consolidation; promote international cooperation to remove any obstacle in operation as well as entering into overseas market.

b. Training Professionals in Diverse Fields: Meet service sector's needs in cross-industry development and train the required professionals; enhance the foreign language and internationalizing skills in management and marketing professionals as well as facilitate internationalize professional training to improve service sector's international competitiveness.

c. Facilitate Technical Upgrades and Innovation: Assist businesses to acquire resources to carry out R&D and other innovation activities; enhance protection of intellectual property and technology transfer between the academia and

industries; carry out relevant legal adjustment to increase the participation of business researchers in innovation activities.

d. Assist International Marketing: Create a business-friendly environment, enhance domestic certifications of service quality, and improve Taiwan's overall image in service; incorporate technological application, improve the efficiency in international operation, and actively assist service businesses to market internationally.