5. Major Industries
## Major Industries

1. **Manufacturing**
   - Industrial machinery industry
   - Aircraft equipment industry
   - Space industry (space systems)
   - Automobile industry
   - Raw and partly-formed materials industry
   - Steel industry
   - Aluminum and electric wiring industries
   - Chemical industry
   - Cement and glass industries
   - Paper and pulp industries
   - Fiber industry

2. **Electronics/IT industry**

3. **Energy industry**
Japan’s manufacturing industry needs the following in order to continue leading the economy:

- **Demand from emerging nations**, which are growing swiftly and suddenly
- **A strengthened industrial base for Japan’s manufacturing industry**, in order to ensure that the country's position can be strengthened and maintained as a supply base for high-level parts and products.

**Future Direction for Japan’s Manufacturing Industries**

**Action Plan I - Ensuring demand from emerging nations**

- **Ensure demand from emerging nations**, which are the new frontier of growth.

  - **Upgrading of development and production systems for products aimed at emerging markets, and support for creation of sales channels**
    - Strategy for introducing products optimized to the needs of local markets
    - Development of brand in emerging country markets
    - Utilization of financial support such as JBIC, NEXI
    - Public/private sector partnerships to enable planning / promotion of social infrastructure development

  - **Work on improving profitability**
    - Prevention of technology leaks (raise awareness within companies etc.)
    - Strategic standardization (black boxes for core technologies, multi-purpose components and open interfaces, etc.) in support of reformation of business models
Action Plan II – Strengthening the industrial base for Japan’s manufacturing industry

Japan’s manufacturing industry needs to maintain its position as a center for domestic research and product development, as well as a manufacturing location for high-level components and products, and to continue to accumulate both employment and technical ability so as to continue to provide high added value. In order to do this, it is vital that we strengthen the industrial base of the manufacturing industries.

Upgrade the domestic competitive environment

- Review corporate taxes based on international standards, and improve the competitive environment through a research and development tax system, etc.
- Appropriate response to the problem of global warming, with consideration given to international competitiveness

Measures to increase profitability through improvements to Japanese corporations’ excessive competitiveness

- Complete overhaul of support strategies for business restructuring, co-habitation, consolidation, etc., based on an understanding of the reality of globalization.
- Support for strategic standardization and other improvements to business models
- Prevention of technology leaks (increased knowledge of business confidentiality management policies, reorganization of claims procedures, improved corporate awareness, etc.)
- Strategic and effective intellectual property rights within companies

Development and strengthening of next-generation growth industries

- Prioritized distribution of domestic resources in support of technical development and rollout of next-generation growth industries, etc.
- Promotion of activities to attract companies engaged in next-generation growth industries (subsidies for land acquisition, etc.)
- Industrial support for social needs such as environmental and ageing society issues (systems reform, fiscal support, etc.)
Manufacturing utilizing world’s most advanced energy-saving and environmental technologies

- Development of green information technology for reinforcing the foundation of domestic manufacturing, including supporting industries and support for the location of low-carbon job-creating industries in Japan

Storage battery  LED lighting  Semiconductor

Standardization strategy that is a combination of the “black box” and “open box” approaches

- Approach of black-boxing control technology to resist commoditization and opening the interface to build a foundation for an autonomous expansion of the market
  - Technological development in view of the future international standardization

Support for overseas market development of types of content in which Japan has competitive advantages

- Development of a system and conditions for establishing business models
  - Verification of a pluralistic right processing system
  - Utilization of Japan International Content Festival (“CoFesta”), etc.
  - Creation of “Overseas Content Development Fund” (provisional name), etc.

Anime  Movies and dramas  Books  Tourism information
Music  Manga  Diary  Road map

Distribution of movie, TV, and music products
Distribution of digital books
Blog
Car navigation

Manufacturing/service utilizing content (advanced value-added tertiary industry)

- Vast accumulation of information
  - Realization of a convenient and affluent future through wide use of cloud computing in a secure and safe manner

PC  Smart phone  Game machine
Consumer electronics  Digital signage  In-vehicle terminals

Information necessary for establishing a Smart Community (GPS/sensor information, behavior history, etc.)

Adding value to existing industries

- Adding value to primary, secondary and tertiary industries through effective use of all available information about people, money and things in management, production, distribution, etc.
  - Demonstration for the creation of new services in health and nursing care, agriculture, and retail that gather and use a vast amount of data, etc.
  - Data format, standardization, etc.

Health care and nursing care  Agriculture

Retail sales  Logistics

- Personal health care
  - Supervision service for elderly people

- Knowledge and experience is made into data

- Push type advertisement (use of electronic money, etc.)

- Logistics leveraging information technology

- EDI/traceability

- Innovative management, etc.

- Reducing unnecessary services and improving the efficiency of operation

- Studies of social systems, behavior data, etc.

- Improved efficiency of local government activities, etc.

- Smart grid

Communication infrastructure (NGN, IP-VPN, the Internet)

Issues Common to All Energy Industries

- Matured domestic market results in relative decline in bargaining power for obtaining resources
- Fuel prices: rising trend & greater fluctuations
- Technology innovation (fuel cells, heat pumps, etc.) results in harsh competition between energies
- Higher demand from customers & society for low carbon and efficient energy supply (electricity & heat, large scale electricity sources & distributed electricity sources, shift from sectional optimization of supply/demand to overall optimization)
- Fulfill duty for stable supply in a shrinking domestic market

Major Issues of Each Industry

**Electric Power** (Market size: ¥18 trillion)
- General electric utilities (10), Wholesale electric utilities (2), PPS (35), Specified electric utilities (5)
  - Strengthen resource acquisition abilities
  - Strengthen business foundations for investments to promote nuclear power & strengthen transmission grid
  - Promote electrification, such as heat pumps

**Gas** (Market size: ¥3 trillion)
- General utilities (211), Community gas utilities (1,567), Gas pipeline service providers (18), Large-volume gas suppliers (17), LP gas suppliers (23,101)
  - Strengthen resource acquisition abilities
  - Expansion of fuel conversion
  - Develop new demand such as for cogeneration

**Petrol** (Market size: ¥29 trillion)
- Original sales companies (9), gasoline sales businesses (22,041)
  - Strengthen resource acquisition abilities
  - Ensure competitive refining abilities, strengthen business foundations
  - Effectively use petroleum
  - Maintain SS network

**Development**
- Petrol & natural gas upstream development
- Listed companies (2)
  - Enhance upstream development competitive abilities
  - Strengthen financial foundations
  - Enhance risk-taking abilities

Recent trends towards rebuilding business models

- Entries into related energy industries (Electric → Gas, Gas → Electric, Petrol → Gas, Petrol → Renewable energy, etc.)
- Expanding alliances to strengthen profitability
- Shifts into growth fields beyond limits of existing business in order to strengthen business foundations (related businesses (new energy business by petrol refining business, coal development, etc.), overseas (electric power, etc.), between different industries (cooperation with petrochemicals by petrol refining business, etc.))
- Expanding coordination with energy related businesses (automotive, home appliance, construction (gas business with real estate), etc.)
- Providing optimal energy services using customer energy demand data

Rebuilding business models & new growth strategies are essential

Expand growth frontiers by overseas expansion & new cooperation

- Global level upstream development companies
  - Petroleum, natural gas, coal, bio-ethanol, uranium, etc.
- Local energy supply businesses (electric &/or heat, petrol, hydrogen in future, etc.)
- Distributed & independent electric power businesses (large scale solar energy, wind power, etc.)
- Small scale energy businesses (remote or unpopulated places, niches, etc.)
- Energy solutions businesses (demand aggregator, supply/demand leveler, ESCO, etc.)
- Service businesses tied to energy (housing, home appliance, nursing, etc.)

- Smart meters, energy demand management devices
- Customers (Need: optimal use of electricity, heat, fuel, etc.)

- Solar power
- Wind power
- Biomass
- Biogas
- Hydrogen
- Related industries (rare metals, energy-saving devices, storage batteries, raw materials, devices, plants)
- Ev

Overseas expansion
Overseas development & reverse import

Energy flow: Energy flow

Use IT, etc.
6. Diverse Local Development Models to Match Local Characteristics
Local Economic Conditions are Becoming Increasingly Severe

- Increasing economic gap between Tokyo and Nagoya metro areas vs. rest of Japan
- Especially outside major metro areas, population decrease will accelerate. Rebuilding local economies is a serious issue.

GDP trends by region (1997→2007 growth rate)

Population change and %, by region

A national industrial development model is unrealistic
Local Economic Revitalization Initiatives

1. Basic Understanding

- For Japan to grow economically in the harsh conditions it faces, the diverse strengths, characteristics and potential of each region throughout Japan must be actively utilized to build energetic local economic societies.
- To regenerate and revitalize local economies, cooperation is needed stretching across borders of cities/towns/villages and prefectures. The nation and communities must also jointly create and work together, building environments which enable independent community development.

2. Local Economic Revitalization Issues

- Less internationally competitive and attractive
- Concerns about decline of local industries
- Crisis of collapse of local communities

3. Directions for Strategic Actions

- “Select & concentrate” & “priority support” for growth industries which are potentially very competitive internationally
- Create new locally generated businesses utilizing abilities tied to local strengths
- Foster new “core industries” which can obtain income from outside region
- Utilize local characteristics & resources, and foster tourist interaction industries which boost abilities to attract customers
- Use local roots as source of vitality for lifestyles and industries
Diverse Local Development Models to Match Local Characteristics (Draft)

**Type of local characteristics**

- Community with R&D locations which have globally leading technology abilities, human resources, etc., and Japan’s highest level of industrial focus

- Communities with industry/academia/government networks & strong industrial focus

- Community with existing & potential strengths, such as tangible & intangible local resources (agriculture, forests, culture, history, traditional crafts, industrial heritage) and technical abilities.

- Communities facing lifestyle issues with possible improvements

**Development Model of Local Economy**

- **Internationally competitive center model**
  - Build leading cluster which ranks in the front line of international competition, and pulls Japan forward (e.g. next generation aircraft cluster)
  - Build innovation center which brings together people, things and money from Japan and the world (e.g. North Kyushu Asian industry creation center)

- **Local advanced industry focus model**
  - Build industrial cluster with local roots (e.g. 3 Hokuriku prefectures textile cluster, Kyushu K-RIP, Hokkaido Food Cluster)
  - Innovation & new business creation by industry/academia/government networks (e.g. AREC of Faculty of Textile Science and Technology in Shinshu University, Fukushima medical & welfare devices development)

- **New local core industry development model**
  - 6th industry & agriculture/commerce/industry cooperation to make agriculture into a growth industry
  - Further strengthen and broaden effects of manufacturing companies which become core of community (Foster independent companies & hidden champions, overseas expansion, etc.)
  - Culture industries (overseas expansion of content, fashion, etc.)
  - In move to lower carbon, build environmental society using local resources (snow, ice, forests, etc.)

- **Tourist interaction development model**
  - Tourist attraction & interaction (Revitalize by industrial tourism, arts & culture, sports, health tourism)

- **Community lifestyle issues solution model**
  - Downtown & commercial zone revitalization
  - Elderly comprehensive services, lifestyle infrastructure businesses
  - Social business