

(3) Scenario Building

62. Basically, the following two scenarios were analyzed to compare current conditions to those after conclusion of an EPA/FTA: 1) if tariffs are eliminated in almost all areas, or 2) if tariffs maintain the status quo (baseline).

3.4 Implementation of impact assessments

3.4.1 Economic impact assessment

63. The impacts on scale, impacts on products and industry, and impacts on industrial structure were each organized according to the next table and overall economic impact assessment was conducted.

Table 3.7 Impact on scale (domestic production and trade balance)

Aspect of assessment	Item of assessment	Details of impact
What kind of impact would there be on economic growth at the macro level?	Japan and ROK's GDP	<ul style="list-style-type: none"> ● It is estimated that as an impact on conclusion of an EPA/FTA on domestic productivity, the GDPs of Japan and ROK will rise slightly and economic growth will increase at the macro level. ● The AIM/CGE model estimated that the GDP growth rate due to the elimination of tariffs will be 0.26% for Japan and 0.65% for ROK. According to estimate which covers the period up to 2010 and assumes that tariffs are eliminated in 2005, the GDPs of Japan and ROK will gradually increase. The changes in industrial structure brought about by conclusion of an EPA/FTA will change the structure of trade between Japan and ROK, and the structure of production will also change as a result of increased final demand.
	GDP of other countries	<ul style="list-style-type: none"> ● According to the analysis using the AIM/CGE model, the GDPs of China and seven of the ASEAN countries will fall slightly due to enhanced economic competitiveness of Japan and ROK. However, there will be little impact on the GDPs of other parts of the world. Estimate covering the period up to 2010 also shows that there will be little impact on the GDP of other parts of the world.
What kind of impact would there be on the amount of exports and imports to Japan and ROK?	Overall trend	<ul style="list-style-type: none"> ● As a result of the elimination of tariffs, there will be an increase in the amount of imports and enhanced competitiveness in industrial sectors that have high tariffs to begin with.
	Amount of Japan's exports	<ul style="list-style-type: none"> ● The amount of Japan's exports will increase approximately US\$3.4 billion (0.69%) (according to the I-O analysis).
	Amount of Japan's imports	<ul style="list-style-type: none"> ● According to the input-output analysis, the amount of Japan's imports will increase approximately US\$7.7 billion (1.66%).
	Amount of ROK's exports	<ul style="list-style-type: none"> ● The amount of ROK's exports will increase 4.83% (according to the I-O analysis).
What kind of impact would there be on trade balance?	Amount of ROK's imports	<ul style="list-style-type: none"> ● The amount of ROK's imports will increase 4.11% (according to the I-O analysis).
	Overall trend	<ul style="list-style-type: none"> ● It appears that the trade balance between Japan and ROK will improve (according to the I-O analysis).
	Japan's trade balance	<ul style="list-style-type: none"> ● Japan's "Business-as-Usual" (BaU) shows a trade surplus of approximately US\$32.8 billion. After the EPA/FTA is concluded, both exports and imports will grow, but the increase in the amount of imports will be larger and the trade surplus will become approximately US\$28.5 billion. Japan's trade surplus will shrink approximately US\$4.3 billion (13.2%) and will be on a declining trend (according to the I-O analysis).
What kind of economic impacts would there be on specific local regions within Japan?	ROK's trade balance	<ul style="list-style-type: none"> ● ROK's BaU shows a trade deficit of approximately US\$18 billion. This deficit will become approximately US\$17.7 billion after conclusion of an EPA/FTA. The trade deficit will fall approximately US\$300 million (1.82%) and will be on a declining trend (according to the I-O analysis).
	Specific local regions within Japan expected to experience impacts	<ul style="list-style-type: none"> ● As for economic impacts on specific local regions within Japan, it is expected that there will be impacts on local regions with relatively strong ties to ROK.
	Expected specific impacts	<ul style="list-style-type: none"> ● The four prefectures of the Hokuriku region are the regions with relatively strong ties to ROK. However, the share that these regions account for in Japan's economy is not that significant.

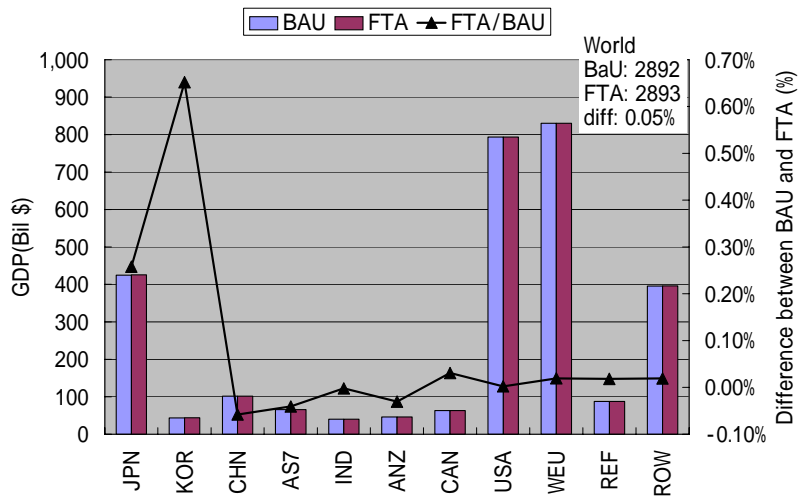


Figure3-6(1) GDP in 1997 (10bil.US\$) depend on BAU case and EPA/FTA case

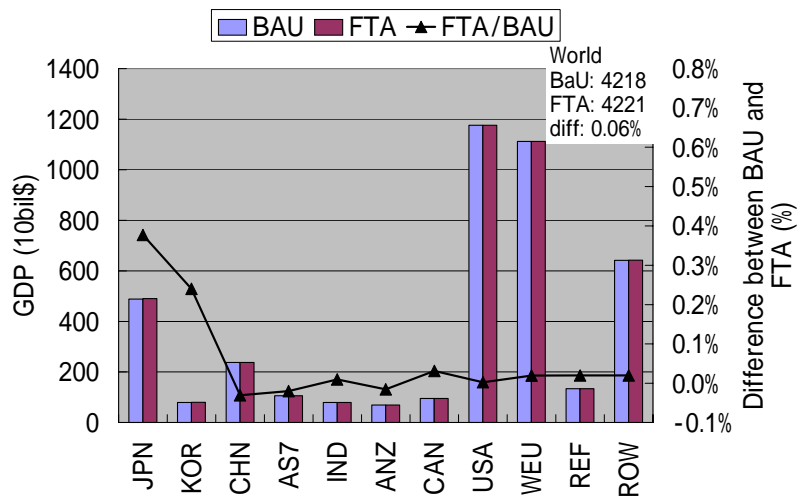


Figure3-6(2) GDP in 2010 (10bil.US\$) depend on BaU case and EPA/FTA case

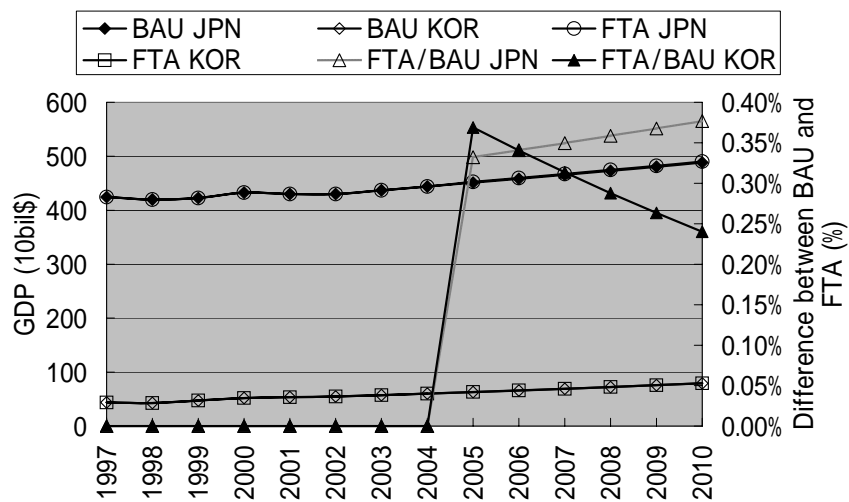


Figure3-6(3) Comparison of GDP for both Japan and ROK

Source: AIM/CGE

Table 3.8(1) Impact on products and industry

Aspect of assessment	Item of assessment	Details of impact
<p>In particular, what are the industrial sectors that will be affected by exports?</p> <p>* There are data on changes in exports and imports by sector (1997).</p>	Overall trend	<ul style="list-style-type: none"> ● Looking at the characteristics of changes in trade resulting from a Japan-ROK EPA/FTA, the agriculture, forestry and fisheries sectors of both Japan and ROK, particularly agricultural products, will experience increased exports and imports and it is expected that trade will be invigorated through conclusion of an EPA/FTA. ● Exports in trade, commerce, public services and the transport equipment industry will decline and imports will rise in these sectors in both Japan and ROK. It is assumed that a third country other than Japan or ROK will see growth in exports in these sectors.
	Japan's exports	<ul style="list-style-type: none"> ● There will be a marked growth rate in each of the agriculture, fisheries, food, and the textile, apparel and leather industries. However, because the absolute amount is small for the agriculture, forestry and fisheries industry, the overall impact is assumed to be minimal (according to the AIM/CGE model). Estimate for 2010 shows the growth rate in the amount of exports in the agriculture, forestry and fisheries industry will be noticeably high, but the absolute amount will be insignificant. ● The growth rate will be noticeably high in the agriculture, food and fisheries industry, but the absolute amounts will be insignificant for industries other than food (according to the I-O analysis). ● Japan's exports will increase, while ROK's exports will decrease and its exports will increase in the following sectors: nonferrous metal industry, paper and pulp industry, mining, livestock industry, forestry and other machinery sectors.
	ROK's exports	<ul style="list-style-type: none"> ● As is the case with Japan, there will be a marked growth rate in each sector among the agriculture, fisheries, food, textile, apparel and leather industry sectors. However, because the absolute amount is small for the agriculture, forestry and fisheries industry, the overall impact is assumed to be minimal (according to the AIM/CGE model). Estimate for 2010 shows that likewise with Japan, the growth rate of the amount of exports in the agriculture, forestry and fisheries industry will be noticeably high, but the absolute amount is insignificant. Hardly any changes can be seen in other sectors. ● Because domestic industrial competitiveness will be enhanced due to elimination of tariffs, in the estimate for 2010, for example, the amount of exports is expected to increase in the agricultural, livestock and forestry industries in both Japan and ROK. However, the absolute amount will not be that significant since the share these industries hold in industry as a whole is minimal to begin with (according to the AIM/CGE model). ● Meanwhile, very few changes can be seen in the amount of exports in other industries (according to the AIM/CGE model). ● The growth rate is strikingly large in the amount of exports in the agriculture, food and fisheries industry (according to the I-O analysis).

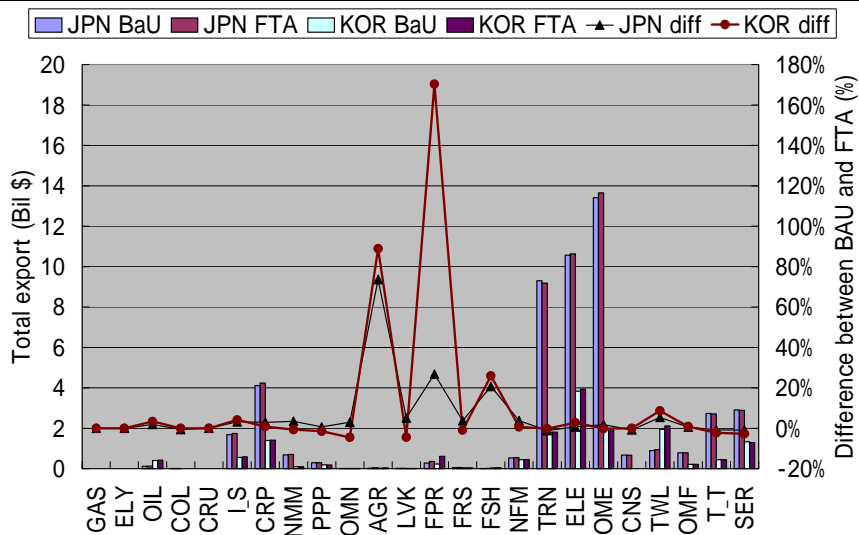


Figure3-7(1) Export value in the year of 1997 (10bil.US\$)

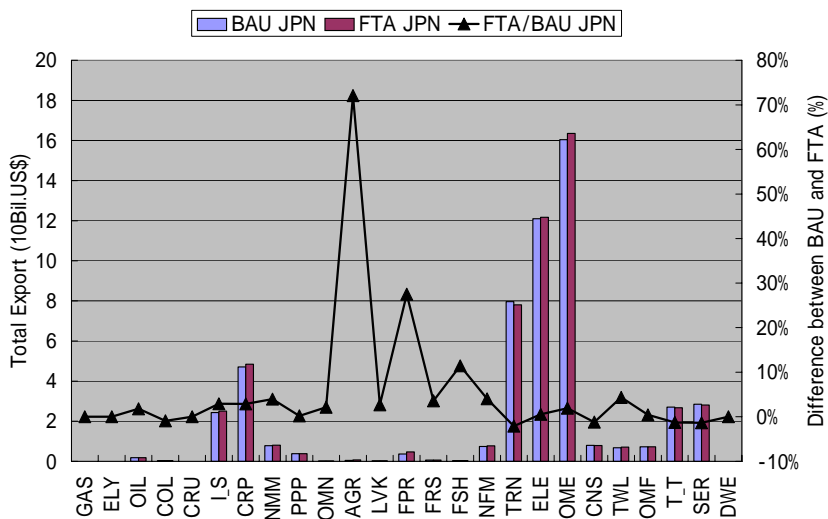


Figure3-7(2) JPN Export in 2010 (10Bil\$)

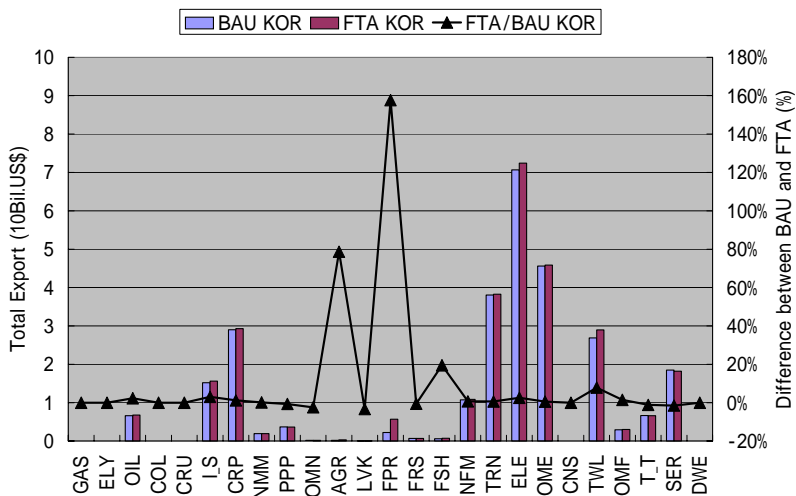


Figure3-7(3) KOR Export in 2010 (10Bil\$)

Source : AIM/CGE

Table 3.8(2) Impact on products and industry

Aspect of assessment	Item of assessment	Details of impact
<p>In particular, what are the industrial sectors that are affected by imports?</p> <p>* There are data on changes in exports and imports by sector (1997).</p>	Overall trend	<ul style="list-style-type: none"> As is the case with changes in the amount of exports, changes in the amount of imports are expected in industrial sectors (agricultural, livestock, fishery industries, etc.) in which tariffs were high.
	Japan's imports	<ul style="list-style-type: none"> There is a trend for a slight increase in the amount of imports in most industrial sectors. In particular, there is a marked growth rate in the food, textile, apparel and leather industries (according to the AIM/CGE model). The amount of imports will have grown in most industrial sectors in estimate for 2010. Among these sectors, the growth rate is high in the steel (+4.5%), food (around +6%), fisheries (+3.5%) and textile, apparel and leather industries (+3%). On the other hand, there are no sectors in which imports decreased. Imports into Japan will expand in all sectors. Among them, the growth rate is rather high in the food, textile, apparel and leather industries and steel industries (according to the I-O analysis).
	ROK's imports	<ul style="list-style-type: none"> As is the case with Japan, the amount of imports is on an upward trend in most industries. In particular, there is a marked growth rate in the agriculture, forestry and fisheries industry, food, textile, apparel and leather industry, steel and metal industry, chemical industry, machinery and equipment industry, and other manufacturing industries (according to the AIM/CGE model). In estimate for 2010, the amount of imports will have increased for most sectors, with significant growth in the agriculture, forestry and fisheries industry (+5-8%), other machinery (+5%), iron and steel industry, chemical industry, non-metallic mineral industry and textile, apparel and leather industry. On the other hand, the amount of imports will have fallen in industries such as the nonferrous metal industry. Imports into ROK will expand in sectors other than coal products and nonferrous metal. Among them, the growth rate will be high in the agricultural sector including the agriculture, livestock and forestry industries (according to the I-O analysis).
<p>In particular, what are the industrial sectors in which production volume will increase?</p> <p>* There are data on changes in output by sector.</p>	Japan's situation	<ul style="list-style-type: none"> There will be no industrial sectors that will show marked increases in production volume. However, it is expected that production volume will rise in the iron and steel industry, chemical industry, non-metallic mineral industry, nonferrous metal industry and other machinery (according to the AIM/CGE model). There will hardly be any changes in production volume in each industrial sector in estimate for 2010. According to the input-output analysis, production volume will rise in other machinery (+0.47%), chemical industry (+0.38%), non-metallic mineral industry (+0.38%), in addition to the nonferrous metal industry, housing and electronics.
	ROK's situation	<ul style="list-style-type: none"> Production volume will increase in the agriculture, forestry and fisheries industry (agriculture, livestock, forestry, fisheries) (according to the AIM/CGE model). It is expected that production volume will rise in the textile, apparel and leather industry and electronics (according to the AIM/CGE model). The growth rate of production volume is strikingly large for the agriculture, forestry and fisheries industry (agriculture, livestock, forestry, fisheries), food, electronics and textile, apparel and leather industry (around +6% for food, around +4% each for fisheries, livestock, and the textile, apparel and leather industry), according to estimate for 2010. According to the input-output analysis, marked increase in production volume is seen in the agriculture, forestry and fisheries industry (+3.27 to 8.56%) and textile, apparel and leather industry (+4.55%).

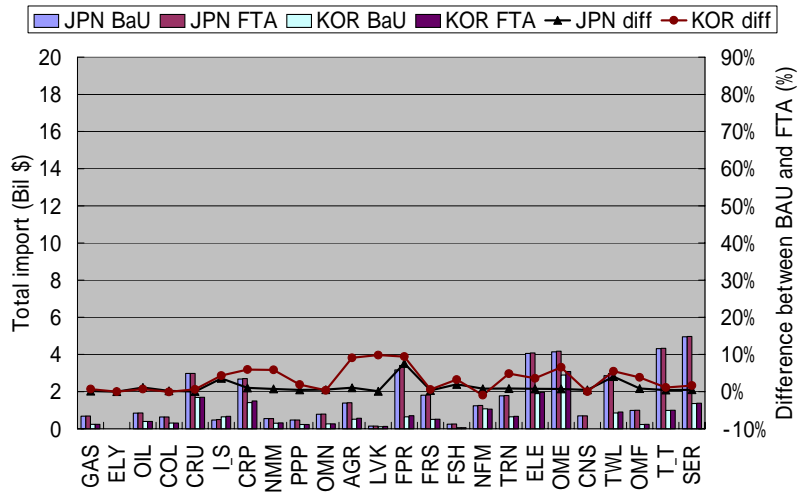


Figure3-8(1) Import value in the year of 1997 (10bil.US\$)

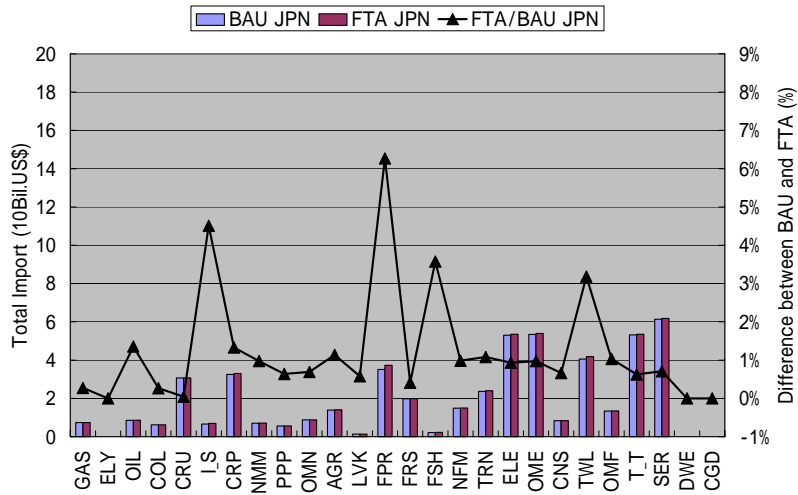


Figure3-8(2) JPN Import in 2010 (10Bil\$)

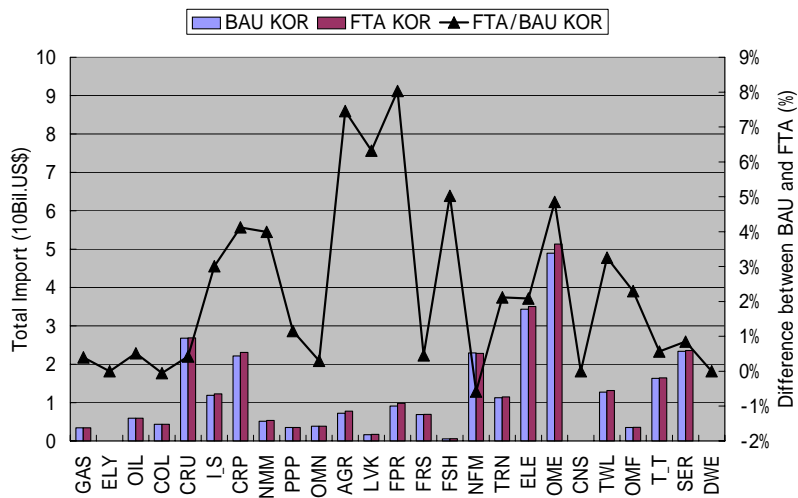


Figure3-8(3) KOR Import in 2010 (10Bil\$)

Source: AIM/CGE

Table 3.8(3) Impact on products and industry

Aspect of assessment	Item of assessment	Details of impact
In particular, what are the industrial sectors in which production volume will decrease?	Japan's situation	<ul style="list-style-type: none"> ● Production volume will decrease in the agriculture, forestry and fisheries industry (agriculture, livestock, forestry, fisheries) (according to the AIM/CGE model). According to estimate for 2010, declines are expected in coal products, oil, transport equipment, and the textile, apparel and leather industry. ● According to the input-output analysis, marked decline is seen in the chemical industry (-4.55%), coal products (-1.23%) in addition to the agriculture, forestry and fisheries industry.
	ROK's situation	<ul style="list-style-type: none"> ● Production volume will decrease in coal products, iron and steel industry, chemical industry, non-metallic mineral industry, mining, nonferrous metal industry, and other machinery (AIM/CGE model). According to estimate for 2010, there is a marked rate of decline in coal products and other machinery (around -2%) in addition to the steel and metal industry. ● According to the input-output analysis, declines are seen in other machinery (-3.64%), the iron and steel industry (-1.94%) in addition to the chemical industry and non-metallic mineral industry.
What kind of impact would there be on the consumption of specific products or in industrial sectors?	Potential impact on Japan	<ul style="list-style-type: none"> ● Presumably there will be an impact on production and investment and a greater shift towards low-priced goods overall in terms of consumption.
	Potential impact on ROK	

Table 3.9 Impact on industrial structure

Aspect of assessment	Item of assessment	Details of impact
What kind of potential impacts would there be on changes in industrial structure in both Japan and ROK?	Status of intra-industry specialization	<ul style="list-style-type: none"> ● It is assumed that there will be further intra-industry specialization in sectors where intra-industry specialization has advanced between Japan and ROK through conclusion of an EPA/FTA.
	Medium- to long-term impact on industrial structure	<ul style="list-style-type: none"> ● As of 2010, few changes can be seen in Japan's industrial structure, but there are industries in ROK where production volume will have increased (according to the AIM/CGE model).
What kind of impact would there be on specific local regions and industries within Japan?	Impact, etc. on the establishment and closure of bases, and investment	<ul style="list-style-type: none"> ● It is possible that there will be an impact on regions whose core industries are in sectors that may experience changes such as downsizing resulting from factory shutdowns and technological innovation.

Table 3.10 Overall assessment of the economic aspect

Perspective	View
Overall assessment of the economic aspect	<ul style="list-style-type: none"> ● It was assessed that the conclusion of a Japan-ROK EPA/FTA will contribute to the expansion of economic activity. For instance, it will bring about changes in the trade balance due to elimination of tariffs by both Japan and ROK, increase the GDP of both countries and raise the amount of imports and exports in both countries. Furthermore, in terms of trade balance, it was predicted that Japan's trade surplus would grow and ROK's trade deficit would increase. ● These trends are not common to all industries; rather, there is a different trend in each industrial sector. In the field of agriculture, forestry and fisheries centered on agriculture and livestock, the trend is that Japan's production volume will fall while ROK's production volume will rise. ● Production volume in steel, the chemical industry, mining, non-metallic mineral industry and other machinery is expanding in Japan but declining in ROK.

3.4.2 Environmental impact assessment

64. Impact assessments were conducted from the aspect of the impact on the overall environment, impact due to changes in the industrial structure and investment, impact on availability of natural resources, environmental goods and services, and impact on environmental regulations and policy, and an overall assessment of the environmental aspect was made at the end.

Table 3.11 Impact on the overall environment

Aspect of assessment	Item of assessment	Details of impact
What kind of impact will there be on the environmental pressure level?	Changes in the overall pollution level	<ul style="list-style-type: none"> There is a concern that the total environmental pressure in some areas (consumption of raw materials, energy consumption, pollutant emission) will increase due to expanded production in the manufacturing industry. However, the AIM/CGE model predicts that the ratio of increase in the amount of environmental burden to increase in production volume (basic unit of emissions) will improve year by year.
What kind of impact will there be on the impact on CO ₂ emissions levels?	Changes in emissions in Japan and ROK	<ul style="list-style-type: none"> According to the analysis using the AIM/CGE model (as of 1997), emissions will increase 0.17% in Japan and 0.14% in ROK due to the growth in GDP. The total amount of CO₂ emissions will increase because GDP is growing in both Japan and ROK, but the ratio of the GDP growth rate to the CO₂ emissions growth rate is small in both countries.
	Changes in emissions in Japan and ROK (medium- to long-term)	<ul style="list-style-type: none"> As of 2010, emissions will have increased slightly in Japan and ROK, but Japan's rate of increase will be higher (0.22% for Japan and 0.07% for ROK). However, as in the 1997 assessment, the ratio of the GDP growth rate to the CO₂ emissions growth rate is small in both countries.
	Impact on global scale	<ul style="list-style-type: none"> For both 1997 and 2010, the impact on CO₂ emissions around the world is that it is on a slightly decreasing trend. It is assumed that this is caused by GDP around the world being on a slightly increasing trend in most countries and regions.
What kind of impact will there be on SO ₂ emissions levels?	Changes in emissions	<ul style="list-style-type: none"> According to the international input-output analysis, emissions will increase 0.16% in Japan (12,864t) and 0.33% in ROK (5,106t). The degree of impact on the environmental pressure is greater in ROK than in Japan.
	Changes in emissions (medium- to long-term)	
	Relationship to economic activity	<ul style="list-style-type: none"> At the macro level, the basic unit of SO₂ emissions is declining in Japan and ROK.
What kind of environmental impact would there be if some industrial sectors experience economic revitalization?	Potential environmental impacts	<ul style="list-style-type: none"> Energy consumption, etc. may increase in addition to CO₂ and SO₂, etc. It is possible that there will be problems such as the impact on the natural environment caused by capital investment (building or closing factories, etc.), air pollution, water pollution and waste generation.
What other environmental impacts would there be?	Impact on water quality, etc.	<ul style="list-style-type: none"> On a local scale, it is possible that there will be an impact on land development and nature as a result of the development of industrial complexes, impact on the water environment as a result of the concentration of factories, etc.
	Impact on waste	<ul style="list-style-type: none"> The amount of waste may increase due to expanded economic activity.

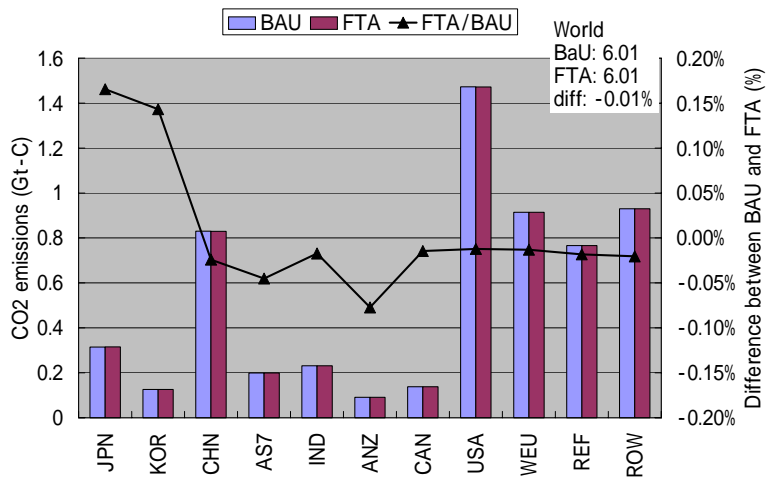


Figure3-9(1) CO2 emissions in the year of 1997 (Gt-C)

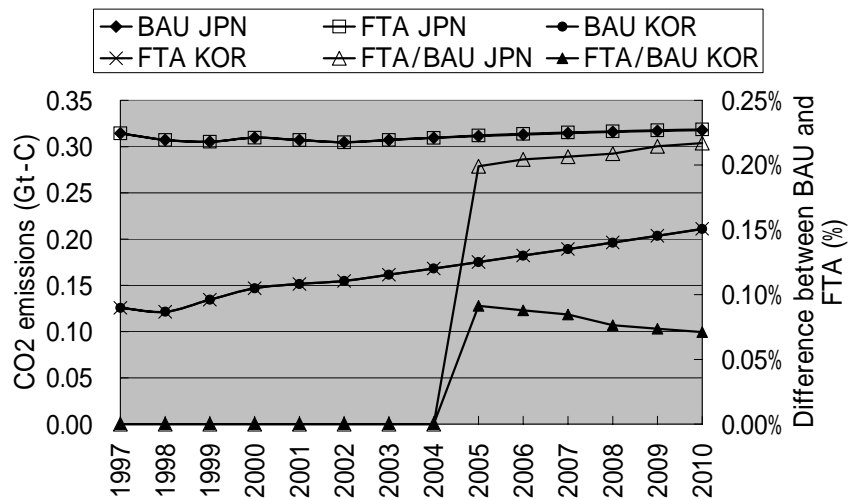


Figure3-9(2) CO2 emissions (JPN, KOR)

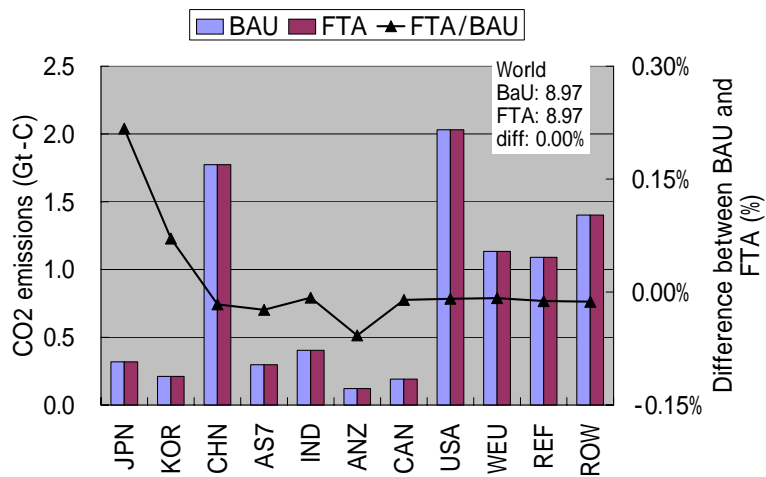


Figure3-9(3) CO2 emission in 2010 (Gt-C)

Source: AIM/CGE

Table 3.12 Impact on changes in the industrial structure and investment

Aspect of assessment	Item of assessment	Details of impact
What kind of potential environmental impact would there be if production, consumption and investment patterns of specific products or industrial sectors change?	Overall trend	<ul style="list-style-type: none"> ● There are concerns that the environmental pressure will increase as a result of expanded production volume. Production volume will increase due to advances in intra-industry specialization resulting from changes in production, consumption and investment patterns of specific products and sectors. However, the results of quantitative analysis show that the basic unit of emissions will decrease.
	Industrial sectors that have an impact on CO ₂ emissions	<ul style="list-style-type: none"> ● In Japan, even among sectors in which the amount of exports is high to begin with, there are sectors where CO₂ emissions will increase and those in which CO₂ emissions will decrease. CO₂ emissions will decrease in sectors with high volume of imports. Furthermore, the decline in the amount of emissions is increasing for electricity and other products, which are energy-intensive industries. ● In ROK, CO₂ emissions will increase in most top export sectors. Among export sectors, although emissions are declining in the chemical industry and other manufacturing industries, they are increasing in commerce, public services and electronics. Furthermore, emissions are increasing in transport, which is an energy-intensive industry, while it is declining in electricity and heat supply.
	Industrial sectors that have an impact on SO ₂ emissions	<ul style="list-style-type: none"> ● The sectors that have a significant impact on the increase in SO₂ emissions are other machinery, electricity, heat supply and the steel industry in Japan, and forestry, the textile, apparel and leather industry, and fisheries in ROK.
What kind of impact will there be on the CO ₂ emissions levels?	Industrial sectors in Japan where emissions will particularly increase	<ul style="list-style-type: none"> ● The growth rate is high for the iron and steel industry (+0.50%), other machinery (+0.47%), chemical industry and non-metallic mineral industry (+0.38%). The amount of increase, 776,000t, is highest in electricity and heat supply (according to the input-output analysis).
	Industrial sectors in ROK where emissions will particularly increase	<ul style="list-style-type: none"> ● The growth rate is high for food (+8.56%), fisheries (+6.58%), livestock (+5.40%) and the textile, apparel and leather industry (+4.55%). The amount of increase, 324,000t, is highest in electricity and heat supply (according to the input-output analysis).
	Industrial sectors in Japan where emissions will decrease in particular	<ul style="list-style-type: none"> ● The rate of decrease is high for oil (-4.55%) and coal products (-1.23%), but their absolute amounts are low. The amount of decrease in food is 97,000t, (according to the input-output analysis).
	Industrial sectors in ROK where emissions will decrease in particular	<ul style="list-style-type: none"> ● There is a marked rate of decrease in machinery (-3.64%), the steel industry (-1.94%) as well as the chemical industry and mining. The amount of decrease in the steel industry is 381,000t (according to the input-output analysis).
What kind of impact will there be on SO ₂ emissions levels?	Industrial sectors in Japan where emissions will particularly increase	<ul style="list-style-type: none"> ● There is a marked rate of increase in the steel industry (+0.50%), other machinery (+0.47%), chemical industry and non-metallic mineral industry (+0.38%). The amount of increase, 7,115t, is highest in other manufacturing industries (according to the input-output analysis).

	Industrial sectors in ROK where emissions will particularly increase	<ul style="list-style-type: none"> ● There is marked increase in food (+8.56%), fisheries (+6.58%), livestock (+5.41%), textile, apparel and leather industry (+4.55%) and agriculture (+3.27%). Based on the amount of increase, food (3,289t) and textile, apparel and leather industry (3,073t) are prominent (according to the input-output analysis).
	Industrial sectors in Japan where emissions will decrease in particular	<ul style="list-style-type: none"> ● The rate of decrease is high for oil and coal products, but their absolute amounts are low to begin with. Rather, the decreases in food (-0.66%, -211t) and the textile, apparel and leather industry (-0.79%, -105t) are prominent (according to the input-output analysis).
	Industrial sectors in ROK where emissions will decrease in particular	<ul style="list-style-type: none"> ● There is a marked rate of decrease in other machinery (-3.64%) and the steel industry (-1.94%). Based on the amount of decrease, there are significant decreases in transport (-1,340t) and the steel industry (-1,298t) (according to the input-output analysis).
Environmental pressure of a particular impact by industrial sector	Potential environmental impacts	<ul style="list-style-type: none"> ● The environmental pressure may increase as new production bases develop. Impact on the natural environment, air pollution, water pollution and waste generation is expected. At this point in time, however, it is difficult to make specific projections.
What kind of potential environmental impact will there be on domestic specific local regions?	Potential environmental impacts	<ul style="list-style-type: none"> ● The environmental pressure may increase as new production bases develop as a result of changes in production, consumption and investment patterns in specific local regions.
Is there a possibility that environmental technology transfer will be promoted?	Possibility of environmental technology transfer	<ul style="list-style-type: none"> ● Environmental technology transfer may increase as various exchanges between Japan and ROK become more vigorous. ● It is expected that the environmental business market will expand, especially air pollution prevention equipment, energy-conservation technology and technology to reduce the environmental pressure in Japan.

Table3-13(1) Top five sectors of CO2emission

CO ₂ (Japan)		CO ₂ (ROK)	
Increase (2.26million tCO ₂)	Decrease (0.21million tCO ₂)	Increase (1.77million tCO ₂)	Decrease (0.99million tCO ₂)
ELY (34.18%)	FPR (44.88%)	FPR (23.83%)	I_S (38.15%)
I_S (15.92%)	FSH (22.10%)	TWL (18.63%)	T_T (18.59%)
OMF (15.62%)	TWL (19.11%)	ELY (18.30%)	OME (17.28%)
T_T (7.81%)	TRN (7.60%)	SER (12.69%)	NMM (12.20%)
SER (6.79%)	AGR (5.88%)	FSH (10.89%)	CRP (10.62%)
SUM 80.32%	99.57%	84.34%	96.84%

Table3-13(2) Top five sectors of SO2emission

SO ₂ (Japan)		SO ₂ (ROK)	
Increase (13349tSO ₂)	Decrease (503tSO ₂)	Increase (10360tSO ₂)	Decrease (5254tSO ₂)
OMF (53.3%)	FPR (41.96%)	FPR (31.75%)	T_T (25.5%)
ELY (16.27%)	FSH (24.42%)	TWL (29.66%)	I_S (24.71%)
I_S (14.45%)	TWL (20.89%)	FSH (12.10%)	CRP (18.53%)
NMM (4.14%)	AGR (6.74%)	ELY (10.51%)	OME (15.01%)
PPP (2.61%)	TRN (5.64%)	SER (5.63%)	NMM (13.98%)
SUM 90.77%	99.65%	89.65%	97.73%

Source: International input-output analysis

Table 3.14 Impact on availability of natural resources and environmental goods and services

Aspect of assessment	Item of assessment	Details of impact
Will there be an impact on export and import of natural resources?	Impact on marine resources	<ul style="list-style-type: none"> ● In particular, there is a possibility that the amount of catch (amount of export of marine resources from ROK to Japan) on the ROK side will increase. Quantitative analysis predicts that Japan's trade surplus and ROK's trade deficit will expand in fishery as a result of conclusion of an EPA/FTA.
	Possibility of partnership and cooperation between Japan and ROK	<ul style="list-style-type: none"> ● The new Japan-ROK Fisheries Agreement was concluded in 1999. However, there are unresolved issues such as resources management in provisional waters, which are under consultation at the Japan-ROK Fisheries Joint Committee.
Will there be increased (or decreased) availability of environmental goods and services?	Availability	<ul style="list-style-type: none"> ● Availability of environmental goods and services may increase as various exchanges between Japan and ROK become more vigorous.
	Possibility of environmental business	<ul style="list-style-type: none"> ● The environmental business market is expanding both in Japan and ROK and presumably availability of environmental goods and services will increase.
Is there a possibility that a high risk will be imposed on the environment, such as the transfer of goods that are harmful to the environment?	Relationship to differences in environmental standards between Japan and ROK	<ul style="list-style-type: none"> ● It is possible that, in areas where environmental standards differ significantly between Japan and ROK, there will be a transfer of goods that are harmful to the environment to ROK as its environmental standards are looser. For example, Japan and ROK have different obligations under the Montreal Protocol.
	Transboundary movements of hazardous waste	<ul style="list-style-type: none"> ● Both Japan and ROK are signatories to the Basel Convention. As for transboundary movements of specific hazardous waste, both countries are managing exports and imports based on this Convention, but administrative disposition and other measures have not been implemented in FY2002. ● ROK is a country to which Japan exports and from which Japan imports hazardous waste. Japan exports to ROK lead scrap for the purpose of recycling and collection, and imports from ROK are used ion-exchange resin for the purpose of collection.

Table 3.15 Impact on environmental regulations and policy

Aspect of assessment	Item of assessment	Details of impact
Has consistency been maintained in conclusion of an EPA and MEAs?	Treatment of MEAs	<ul style="list-style-type: none"> ● Presumably it is necessary to have prior coordination to ensure that proper consideration will be given in an EPA/FTA, at least for the MEAs in which both Japan and ROK participate.
	MEAs included in the scope	<ul style="list-style-type: none"> ● Possible MEAs include the UN Framework Convention on Climate Change (Kyoto Protocol), Montreal Protocol and Convention on Biological Diversity. Regarding the differences in obligation within conventions such as the UN Framework Convention on Climate Change, prior coordination is necessary to confirm what kind of impact there will be and how they will be treated within the agreement.
Will conclusion of an EPA have an impact on achieving environment-related goals such as the reduction of greenhouse gas emissions and the protection of endangered species?	Greenhouse gas emissions reduction targets	<ul style="list-style-type: none"> ● CO₂ emissions are expected to increase as a result of expanded production volume, so it is possible that there will be an impact on achieving goals concerning the reduction of greenhouse gas emissions.
	Protection of endangered species, etc.	<ul style="list-style-type: none"> ● As for endangered species, it is necessary to consider the treatment of wild fauna and flora as stipulated in the appendices of the Convention on International Trade in Endangered Species of Wild Fauna and Flora.
What kinds of financial merits would there be in terms of environmental protection if macro-level economic growth is realized through conclusion of an EPA?	Voluntary efforts at the corporate level	<ul style="list-style-type: none"> ● Macro-level economic growth is anticipated through conclusion of an EPA/FTA. It is expected that as corporate profits recover, corporations will promote their voluntary efforts in environmental policy. ● As for corporate-level efforts in particular, with leeway created in the management environment through increased profits generated by economic growth, it is expected that there will be newcomers to the environmental business in addition to voluntary efforts aimed at environmental policy.
	Relationship to policy	<ul style="list-style-type: none"> ● If corporate administration recovers, it is possible to expect that environmental policy will be advanced due to increased government tax revenue.
Will conclusion of an EPA have an impact on the number, location, type and characteristics of project assessments that should be conducted?	Impact on the implementation of project assessments	<ul style="list-style-type: none"> ● Under current conditions, it is difficult to predict the impact on the implementation of project assessments.

Table 3.16 Overall assessment of the environmental aspect

Perspective	View
Overall assessment of the environmental aspect	<ul style="list-style-type: none"> ● It was assessed that the amount of pressure on the overall environment will steadily increase as a result of expansion of economic activities in both Japan and ROK. However, the growth rate of the environmental pressure will be lower than that of economic activities. Therefore, it is assessed that from a macro-level perspective, there has been progress in changes aimed at an energy-efficient industrial structure as well as in the spread of environment-friendly technology. ● As a result, it was assessed that conclusion of an EPA between Japan and ROK will not necessarily have a negative impact on the environment. ● Nonetheless, it is true that the environmental pressure will increase due to expanded economic activities. The reason why the environmental pressure will intensify includes both aspects: the pressure caused by the ordinary pace of activity (overall pressure) and the pressure resulting from new activities (localized pressure).

3.4.3 Social impact assessment

65. It is assumed that there will be an impact on employment and other areas due to changes in the industrial structure. However, it is difficult to predict specific impacts in this case study. In Japan, it is expected that employment will be affected in industrial sectors in which ROK will have an advantage (imports from ROK will grow and domestic industries may be curtailed) as a result of changes in the trade and industrial structures brought about by conclusion of an EPA/FTA. Judging from the assessment of economic impacts, etc., the industrial sectors that fall under this category include fisheries, food, textile, apparel and leather industries.

Table 3.17 Social impact resulting from economic impact

Aspect of assessment	Item of assessment	Details of impact
What impacts are expected on domestic and overseas employment and low-income group through conclusion of an EPA/FTA?	Industrial sectors expected to be affected	<ul style="list-style-type: none"> ● It is expected that employment will be affected in industrial sectors that are significantly affected by conclusion of an EPA/FTA. However, at this point in time, it is difficult to predict specific impacts on employment.

3.4.4 Conclusion of assessment of impacts

66. It was assessed that conclusion of a Japan-ROK EPA/FTA will contribute to expansion of economic activities in both Japan and ROK. However, the results show that the EPA/FTA will have a different impact on exports and imports as well as on production volume in each industry of both countries. The impact on the environment is expected to steadily increase as a result of expansion of economic activities. However, the growth rate of the environmental pressure will be lower than that of economic activities, and from a macro-level perspective, it is presumed that the spread of environment-friendly technology and structural changes aimed at becoming energy-efficient industries will be promoted. This trend became even more apparent through international input-output analysis, which showed the relationship between the rate of change of CO₂ emissions and SO₂ emissions and economic growth rate. However, if expansion of the environmental pressure is to be suppressed as much as possible while maintaining or increasing economic activities, it is necessary to consider measures to counterbalance expansion of the environmental pressure arising from expansion of economic activities.

3.5 Consideration of preventive and mitigating measures

67. Considerations were given to three aspects: efforts in the industrial sectors, support in the policy and systemic aspects, and efforts in bilateral negotiations.

68. The following six industrial sectors should put in more efforts to reduce environmental impacts.

Table 3.18 Efforts in the industrial sector

Specific items	Individual measures
Electricity and heat supply	<ul style="list-style-type: none"> ● It is hoped that various efforts will be made to ensure that the environmental impact (CO₂ emissions, etc.) will not exceed the amount supplied (generated electricity, heat). <ul style="list-style-type: none"> · Improve energy usability by spreading and promoting the optimal mix of electrical resources and natural gas · Support the introduction and spread of new energy and energy conservation
Steel industry	<ul style="list-style-type: none"> ● It is hoped that the following efforts will be made in making use of technological build-up in addition to promoting energy conservation in the production process. <ul style="list-style-type: none"> · Commercialization, spread and promotion of innovative technology in addition to spreading and expanding existing energy conservation technology · Cooperation in energy conservation measures such as jointly implemented activities, as part of energy conservation contribution provided through international technical cooperation · Energy conservation through development, spread and expansion of high-performance steel ● Reduction of by-products and improvement of the recycling rate in the production process as a waste measure
Chemical industry	<ul style="list-style-type: none"> ● Strive to improve energy usability, using intra-industry technology build-up and making efforts to develop energy-conserving, energy-conscious technology. ● Steadily conduct voluntary management at each corporation through promotion of responsible care as an industrial waste measure.
Non-metallic mineral industry	<ul style="list-style-type: none"> ● It is hoped that efforts will be undertaken to improve energy usability and reduce waste in the production process. <ul style="list-style-type: none"> · Development of technology to reduce CO₂ emissions in the production process and energy conversion technology · Conversion to high energy-efficiency facilities · Introduction of an appropriate waste processing system · Development of technology to remove harmful substances
Other machinery and other manufacturing industries	<ul style="list-style-type: none"> ● It is hoped that the following efforts will be undertaken to improve energy usability in the manufacturing process. <ul style="list-style-type: none"> · Integrated improvement in the manufacturing and distribution processes · Promotion of designs that take into account energy conservation in plant and equipment development · Keeping track of the amount of substances used that place a burden on the environment and promotion in the reduction of burden · Promotion of technological development that will contribute to reducing environmental burden
Environmental business	<ul style="list-style-type: none"> ● It is hoped that environmental business will develop to further promote efforts undertaken in each sector and improve environmental standards. ● Aim to realize sustainable development by vigorously promoting the proactive development, use and transfer of environmental technology

Table 3.19 Support in the policy and systemic aspects by the government

Specific items	Individual measures
Promotion of efforts by corporations	<ul style="list-style-type: none"> ● If corporate profits are expected to recover as a result of activated economic activity, it is hoped that corporations will undertake voluntary efforts in environmental policy and that support will be provided to further promote such efforts.
Research and development (R&D) of environmental technology	<ul style="list-style-type: none"> ● Each corporation is expected to employ measures to make production process more energy efficient and it is hoped that support will be provided to promote R&D in the necessary technological aspects.
Promotion of environmental policy	<ul style="list-style-type: none"> ● If government tax revenue increases as a result of activated economic activity (corporate profit recovery), it is desired that economic support measures are introduced in corporations and local governments. ● In addition, activities to educate not only corporations but also general consumers are necessary.

Table 3.20 Efforts in bilateral negotiations

Specific items	Individual measures
Fishery resources	<ul style="list-style-type: none"> ● Because the use of fishery resources is expected to expand with conclusion of an EPA, it is necessary for Japan and ROK to strengthen cooperation in the joint management and use of marine resources before conclusion of an EPA. <ul style="list-style-type: none"> · It is necessary to reach an agreement on approaches to resource management in provisional waters through consultations at the Japan-ROK Fisheries Joint Committee and other means.
Hazardous waste	<ul style="list-style-type: none"> ● Under current conditions, administrative disposition has not been implemented regarding transboundary movements of hazardous waste in accordance with the Basel Convention, which both Japan and ROK have signed. Efforts should be made to ensure that current conditions continue.
MEAs	<ul style="list-style-type: none"> ● Regarding MEAs in which both Japan and ROK participate, prior coordination is necessary to ensure that proper consideration be given when an EPA is concluded. <ul style="list-style-type: none"> · As for CO₂ reduction targets in the Kyoto Protocol, only Japan is subject to a 6% reduction target and conclusion of an EPA must not impede the achievement of this target. · Prior coordination is necessary regarding the treatment of environmental substances for which reduction targets differ in the Montreal Protocol and other agreements.
Differences in environmental standards	<ul style="list-style-type: none"> ● With Japan's efforts to achieve the greenhouse gas emissions reduction targets and ROK's relative improvements in the environment, it is hoped that further increases in the environmental pressure will be curbed through the implementation of measures to improve and manage environmental standards and regulations. Therefore, prior coordination is necessary involving various parties.

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