

How structural issues could be used to transform Japan into a sustainable society

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- ▶ While economic activity is in the process of normalizing in Japan, the Covid-19 pandemic has highlighted how various structural issues such as a record trade deficit and a low birth rate remain a problem.
- ▶ Structural issues need to be tackled over the long term, but in some ways a single initiative can contribute to solving multiple issues. For example, an initiative to address a declining population could lead to energy conservation and efficiency improvements (productivity) for decarbonisation. In looking at the future of the Japanese economy, we will assess the long-term impact of each individual initiative by the government, industries or businesses and the small changes in the economy that result from them.

The Japanese economy is expected to remain resilient in 2023 as economic activity begins to normalise in a number of areas, against the backdrop of downgrading legal classification of Covid-19, easing the border restrictions, and rising wages.

On the other hand, Japan's long-term structural issues, such as low energy self-sufficiency, a declining population, stagnant productivity, and national security remain problematic. In fact, the Covid-19 pandemic has highlighted the significance of these challenges. With an energy self-sufficiency rate of around 11%, the lowest among OECD countries, rising energy prices resulted in a trade deficit of approximately JPY 20 trillion in 2022, the largest deficit since 1979 based on comparable date. With regard to population, the number of births in Japan fell below 800,000 in 2022 for the first time since 1899. Now that the Covid-19 outbreak is settling down, it is time to place more importance on tackling these issues.

Two and a half years have passed since October 2020, when the Suga Government announced that Japan would achieve carbon neutrality by 2050. While the main discussion on decarbonisation was the impact of global warming on people's lives, such as natural disasters and the global food crisis, here we consider the impact on the Japanese economy if reliance on fossil fuels continues as it does today.

The first thing that comes to mind is the continuing annual outflow of tens of trillions of yen in national wealth due to mineral fuel imports; the record trade deficit in 2022 was mainly due to an increase in the import value of mineral fuels such as crude oil, gas, and coal which accounted for around JPY 33 trillion as a result of rising energy prices (Figure 1). Japan's heavy reliance on imports implies that energy security risks persist.



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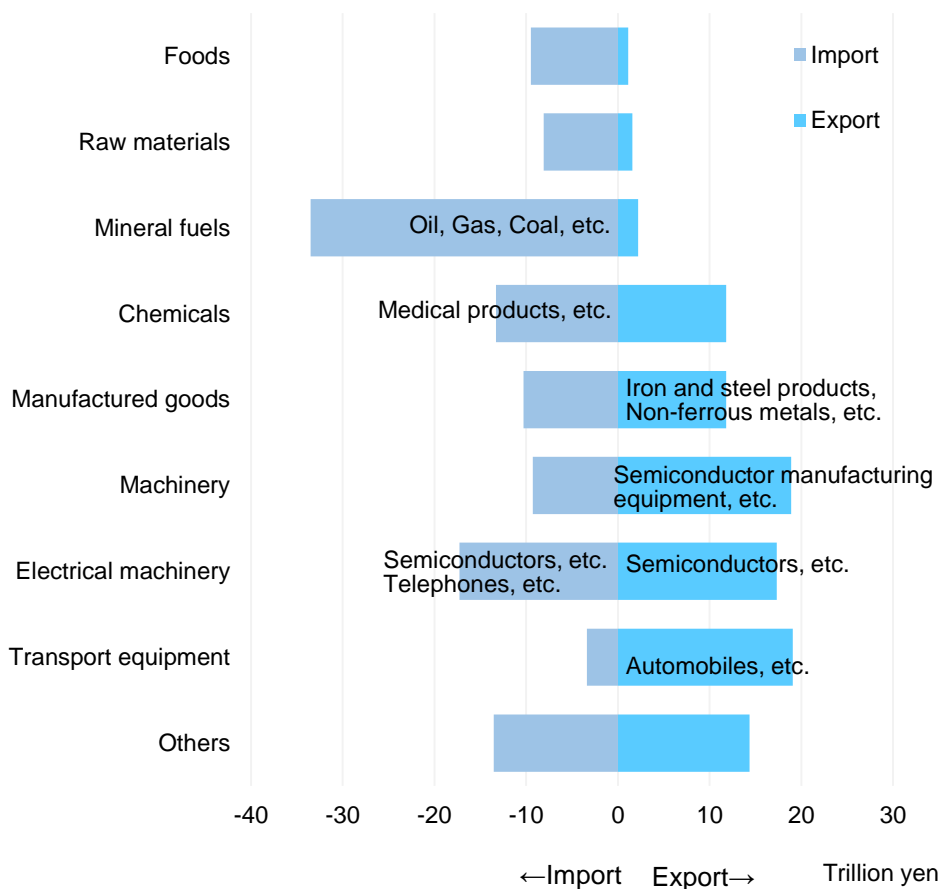
“Structural issues need to be tackled over the long term”

“The future of the Japanese economy in case decarbonisation does not progress”

In addition, in order to achieve carbon neutrality while CO2 emissions remain the same, it will be necessary to capture CO2 using carbon capture and storage (CCS) and other methods. Storing a large amount of CO2 underground is not practical solution in Japan, an earthquake-prone country with a limited amount of safe underground storage space.

If carbon border adjustment measures (imposition of tariffs on imports from countries with lax environmental regulations) are introduced globally, export-intensive industries (Figure 1) would have to pay additional taxes and risk the possibility of having trade deals terminated on environmental grounds. If carbon taxes and carbon trading prices are raised domestically, this could put downward pressure on earnings of the industries with high CO2 emissions and reduce Japan's industrial competitiveness. The success or failure of Japan's decarbonisation is an important factor in determining the future of the Japanese economy.

Figure 1: The amount of import and export in 2022



Source: Ministry of Finance, JAPAN

Period: 2022

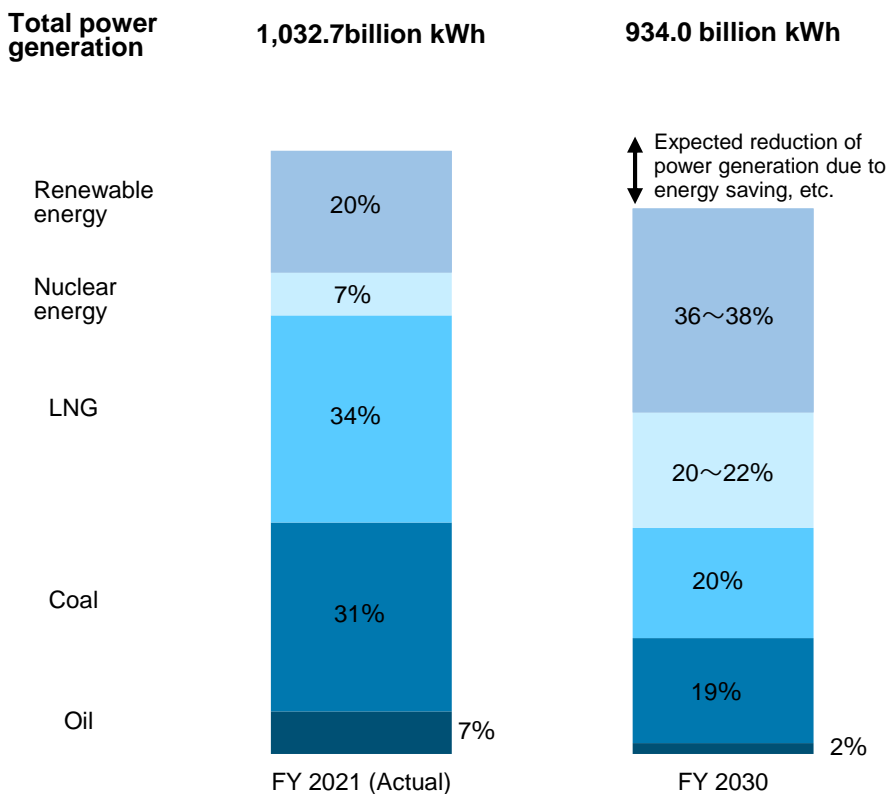
Note: Negative figures show the amount of Imports

However, this is an extreme case of fossil fuel dependence, remaining largely unchanged from the present levels. In order to avoid such outcome, the government has set out various measures to achieve carbon neutrality by 2050.

In relation to the decline in population, while it is important to mitigate the pace through measures to address the falling birthrate, we believe that it is also necessary to restructure the society into one suitable for a declining population. The 6th Strategic Energy Plan (Figure 2), which was formulated in 2021 with the aim of achieving carbon neutrality, tends to focus on the composition of power sources, but we consider that energy saving on the demand side also plays a major role. We believe a sustainable system suitable for the society with declining population will lead to energy savings. (Figure 3).

“Dealing with a declining population will lead to decarbonisation”

Figure 2: The energy mix of the 6th Strategic Energy Plan



Source: Ministry of Economy, Trade and Industry
Note: FY2030 plan numbers are approximate.

Figure 3: The comparison of the current economic structure vs the structure which is suitable for a declining population

If the current economic structure remains the same in the future:	Items	If the current economic structure is moved towards one suitable for a declining population in the future:
<ul style="list-style-type: none"> • GDP growth rate • Quantity • Possession value 	Values regarded as important	<ul style="list-style-type: none"> • GDP growth rate per person • Quality • Functional value
<ul style="list-style-type: none"> • Possession of products 	Consumption	<ul style="list-style-type: none"> • Function and service consumption, Sharing
<ul style="list-style-type: none"> • Low margin and high turnover business model • Mass-production → Mass consumption → Mass disposal 	Production activities	<ul style="list-style-type: none"> • Demise of volume expansion business model • Reduction of sales volume → Higher prices for added value → Recycling
<ul style="list-style-type: none"> • Worsening of declining population in rural areas • Maintaining of existing infrastructure facilities 	City / Infrastructure	<ul style="list-style-type: none"> • Consolidate city functions -“Compact city”- • Efficient infrastructure provision • Shorten daily travel distance
<ul style="list-style-type: none"> • Deflation of general-purpose goods 	Inflation	<ul style="list-style-type: none"> • Price and wage increases due to the high labor costs and high-value added

Source: Asset Management One

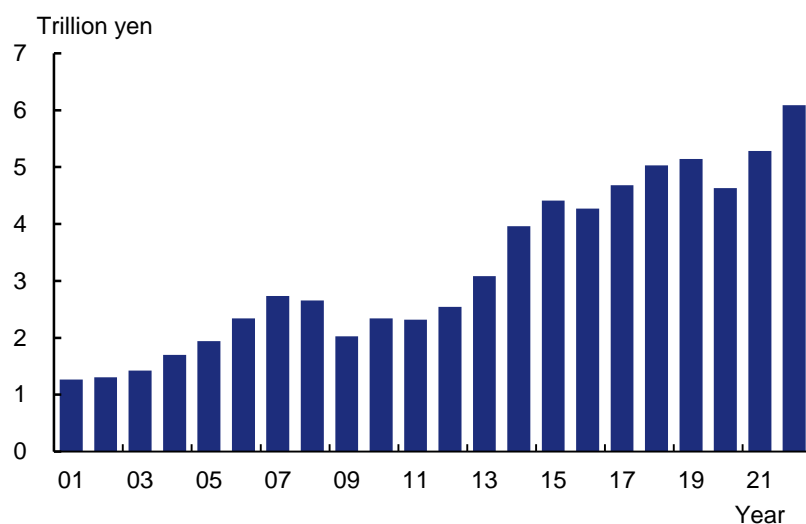
While the Japan's post-war economic model was based on quantitative expansion, supported by the population growth and consistent economic growth, this is being forced to change in a maturing economy experiencing population decline. The thin-margin business model, which rely on increased sales volumes, has reached its limits and there is a need to break away from the low-cost, low-price orientation that has supported it.

In addition, rising wages to secure workers in a declining labour force are also likely to prompt a shift away from the low-cost strategies. Soaring prices are likely to lead to a shift from mass consumption and mass disposal to an even greater emphasis on recycling than now. Another major change is the shift in the leading role in economic activity from a generation that has satisfied its desires by owning things to one that is comfortable with sharing and recycling things. Depopulation in rural areas is likely to become more serious and urban functions will be consolidated (compact cities) in order to maintain an efficient infrastructure. These behavioural changes associated with population decline will also lead to energy savings.

Looking at the supply side, according to the power source composition of the Basic Energy Plan, by FY2030 the share of renewable energy will be approximately double that of FY2021, with solar power doubling and wind power quintupling. The realisation of the plan will depend on the expansion of renewable energy, but Japan is still dependent on imports for much of its renewable energy raw materials. It was recently reported that the Chinese government is considering to ban the export of technology for manufacturing high-performance rare earth magnets, which are essential in the production of motors used in electric vehicles and wind turbines. This will have a material impact on Japan.

On the other hand, one of Japan's strengths is that it can utilise its high technological capabilities and broad manufacturing base in decarbonisation. Japan's competitiveness in decarbonisation-related intellectual property (IPR) is estimated to be one of the highest among major countries in areas such as hydrogen, automobiles and storage batteries, semiconductors, information and communications, food, agriculture, forestry, and fisheries. The increase in global greenhouse gas emissions in recent years has been largely driven by emerging economies, and global reductions cannot progress without reducing emissions in emerging economies. The development and commercialisation of Japanese decarbonisation technologies will not only contribute to decarbonisation in Japan, but is also expected to be in global demand. For Japan, which depends on foreign countries for many of its resources, building good relationships with emerging countries, which include many resource-rich countries, through decarbonisation technology assistance will also strengthen Japan's economic security. Moreover, such support will also lead to an increase in exports of services in the form of royalty receipts. Japan's technology exports are increasing year by year, with IPR royalty receipts exceeding JPY 6 trillion in 2022 (Figure 4).

“Japan's weaknesses and strengths in promoting decarbonisation”

Figure 4: Receipt of IPR royalty etc.


Source: Ministry of Finance
Period: Annual data from 2001 to 2022

To conclude, Japan's structural problems, such as decarbonisation, coping with a declining population, low productivity, and national security, need to be addressed over the long term. In some aspects, a single initiative can contribute to solving multiple issues. For example, an initiative to address a declining population could lead to energy conservation and efficiency improvements (productivity) for decarbonisation.

In looking at the future of the Japanese economy, we intend to carefully watch and assess the long-term impact of each individual initiative by the government, industries or businesses, and the small changes in the economy that result from them.

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