



## Issues Presented in the Paris Agreement

### Interview with ARIMA Jun, Professor at the University of Tokyo's Graduate School of Public Policy by ABE Junichi, Editor-in-Chief, *Chuokoron*

--- *The parties to the United Nations Framework Convention on Climate Change adopted a new international framework for measures against global warming called the Paris Agreement at their 21st meeting (COP21) held in Paris, France in December 2015. Why is global warming a problem in the first place?*

**ARIMA Jun:** The greenhouse gas (GHG) emissions are continuously increasing, which is causing gradual increase of global average temperature. While there are still some skepticism about global warming, the majority of scientists gathering at the Intergovernmental Panel on Climate Change (IPCC) are of the view that anthropogenic GHG emissions are the cause of global warming. We must tackle global warming based issues with this assumption.

The global environment, such as ecosystems and climate systems, and global economy could be damaged if the average temperature continues to rise with the growing GHG emissions. We must stop their increase and then reduce emissions in some way.

All the countries share this view, but its actual implementation is extremely difficult.

For example, we drive cars, watch TVs and use personal computers. All the economic activities including power generation, manufacturing goods and their consumption entail GHG emissions. In other words, GHG emissions are inseparably linked with human activities. Their reduction inevitably incurs economic cost.

Furthermore, when a country reduce its GHG emissions bearing economic cost, its benefit is globally shared and no country could be excluded from enjoying such global benefit. This will inherently encourage the tendency of “free riders” expecting others to take action while doing little themselves. Under such condition, it is extremely difficult to work out an international agreement.

### A Bottom-Up Framework Participated in by Advanced and Developing Nations Alike

--- *Speaking of international frameworks on measures against global warming, the Kyoto Protocol was adopted in 1997. How does the latest Paris Agreement differ from the Kyoto Protocol? What is its significance?*



ARIMA Jun, Professor at the University of Tokyo's Graduate School of Public Policy



**Arima:** The Kyoto Protocol was an attempt to address the global warming issues by obliging only a limited number of developed countries to reduce their GHG emissions. This led to the withdrawal of the United States on the ground that such framework could give adverse effects to their economy. Furthermore, China, which had become the largest emitter in the world, had no obligation whatsoever under the Kyoto Protocol. For these reasons, the Kyoto Protocol could cover only 23% of GHG emissions under its obligation at the point of 2010. It was apparent that the Kyoto Protocol would never serve the solution of global warming issue.

Under the Paris Agreement, both developed and developing countries pledge their mitigation targets and report their progress, which will be reviewed by all countries. In other words, the Paris Agreement constitutes an international framework with the participation of all countries. This is a major departure from the Kyoto Protocol, whose coverage was very limited.

In addition, the nature of the framework has also changed significantly. The Kyoto Protocol was a top-down framework where the United Nations had managed emission quotas and allotted them to developed countries. On the other hand, the Paris Agreement is a bottom-up framework where countries bring their own targets based on their respective domestic conditions.

*--- Will countries address the prevention of global warming seriously, even though the reduction targets lack legal binding force?*

**Arima:** It is true that the mitigation targets are not legally binding under the pledge and review regime. However, all countries are supposed to work hard to achieve their respective targets. Unless they make steady progress towards their achievement, they will lose face. We call it “name and shame”. We could also argue that the absence of mandatory targets could make it easier for countries to adopt more ambitious targets. Otherwise, they would only low level targets which could definitely be achieved.

On top of that, this is probably the only way to create a framework for full participation. The United States will never join a framework expanding the Kyoto Protocol with obligatory targets. China and India would not participate in such a framework either.

As a matter of fact, this framework based on the pledge and review is close to the Voluntary Action Plan on the Environment that the Japan Business Federation (Keidanren) worked out to address the global warming issue. We could call the Paris Agreement an international version of the Voluntary Action Plan. Japan had been advocating this idea from the very early stage of this negotiation. I believe that Japan should share its successful experience over the years and its know-how with other countries.

What we should not forget is that the actual rules and modalities of the pledge and review mechanism will be defined from this point on. To make it truly effective, we should not be too lenient on large emitters, such as China and India. We must try to make this framework cooperative and facilitative, rather than a place for criticizing others. The pledge and review mechanism would live or



die depending on how its rules and modalities are defined. The Paris Agreement is not a terminal point. It's just a starting point.

## An Ambitious Target of a Temperature Increase of 1.5 Degrees C

*--- The pledge and reviews are realistic. At the same time, however, the Paris Agreement included the extremely high targets of “holding the increase in the global average temperature to well below 2 degrees C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 degrees C above pre-industrial levels.”*

**Arima:** Undoubtedly, these temperature targets are extremely ambitious. To be frank, I think there is little chance of achieving them. However, partly with influence of NGOs, there is a unique mood in this negotiation fora such as “the higher the level of ambition is, the better”. In addition, small island nations under the threat of global warming have been always insisting “ambitious and legally binding. Their voice carries a special weight in this fora since they will suffer the greatest damage from global warming while their emissions are minimal. In this way, extremely ambitious temperature target of 1.5 degrees C was included to accommodate their demand.

However, countries are deciding on their policies taking multiple factors such as the economy, employment and energy security into consideration. Global warming is not the only agenda. For example, hundreds of millions of people still live without electricity in India. In these conditions, India's top priority is to improve people's access to modern and affordable energy and thereby raise their standard of living.

The Paris Agreement has a mechanism called “global stocktaking” for bridging extremely ambitious top-down temperature targets and a pragmatic and bottom-up framework. The global stocktaking is meant to check discrepancies between compiled bottom-up efforts of countries and a mitigation pathway required to achieve top-down temperature targets and to make them reflected in target reviews every five years.

### Summary of the Paris Agreement

- Setting 2 degrees C as the common long-term target for global temperature increase and pursuing efforts to limit the increase to less than 1.5 degrees C
- Requiring all countries, including major emitters, to submit and update reduction targets every five years
- Committing all countries to report progress and undergo reviews in a manner that is uniform and flexible
- Positioning innovations as important
- Establishing a system for confirming progress around the world every five years (a global stocktaking system)
- Asking developing nations to supply funds voluntarily, in addition to requiring advanced countries to continue their fund provision

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However, it is extremely unlikely that the gaps between the progress and the targets, such as 2 degrees C and 1.5 degrees C could be filled by raising the targets for the respective nations through the UN negotiation. It is absolutely crucial to promote development of innovative technologies for narrowing these gaps. Such innovation will never occur in the meeting rooms of the UN negotiation. Only 10 or fewer countries are capable of such transformational innovations. They include Japan, the United States, Britain, Germany, France, China and India. Among them, some countries could form “coalitions of the willing” outside the UN in various fields of innovative technologies based on their respective interests.

*--- You mentioned India earlier. Isn't global warming a bigger problem in emerging nations and developing countries today?*

**Arima:** Emerging nations are aware of their large amount of GHG emissions. However, when we discuss the issue with China, they say that China has only become the largest emitter because developed countries relocated their production bases to China and there is demand for goods and services produced in China.

In a sense, that is true. For example, GHG emissions of the EU have marked considerable reduction compared with 1990. However, there is an analysis showing that their consumption-based emissions – emissions associated with the consumption of goods and services in the EU including those emitted in emerging nations such as China and India for producing goods exported to the EU – have increased from 1990 level. As a matter of fact, an approach focusing exclusively on emissions within the respective countries has serious limitation considering that trade and investment conditions are globalizing this much around the world. Ideally, we should pay more attention to consumption-based emissions. However, this requires comprehensive Input-Output analysis. Due to limitation of data, any calculation of consumption-based emissions is only provisional and therefore cannot be used as a basis of an international agreement. That is why we are focusing on production-based GHG emissions in respective countries. Nevertheless, we should always bear this point in mind.

Another point asserted by those countries is “historical responsibility”. Cumulative GHG emissions by developed countries from the Industrial Revolution to the present have been causing the current global warming problem. That is beyond doubt. However, developing countries will probably surpass developed countries when cumulative emissions at a future point, such as 2020 or 2030, are used for comparison. For that reason, we must think about future responsibility as well as historical responsibility.

## **Effectuation with Ratification by 55 Nations That Are Responsible for 55% or More of Global Emissions**

*--- We believe that ratification by countries, including emerging ones, is important. When do you think will be the stage when the Paris Agreement comes into effect?*



**Arima:** The Paris Agreement will come into effect when it is ratified by 55 contracting parties and their combined emissions exceed 55% of global total. Originally, 55% was not a criterion. But 55% was added as a criterion because the Japanese Minister of the Environment, Marukawa Tamayo, made a strong argument for it at COP21. Since the United States and China account for a little less than 40% together, the Paris Agreement could theoretically go into effect without their participation. In reality, however, I think they will ratify the Paris Agreement within this year.

The United States stuck to the agreement in Paris because U.S. President Barack Obama wanted to leave his legacy with only one remaining year in his term. Though an international treaty is, in principle, required to be approved by the Senate, the US administration could ratify the Paris Agreement with its authority because targets are not legally binding and the Agreement could be interpreted as an executive agreement for implementing already ratified treaty, the UN Framework Convention on Climate Change.

In Paris, China showed a positive stance for working out an agreement. China had been taking negative posture arguing that it could never say when its GHG emissions would peak out. However, their air pollution has become so grave that they need to take serious actions for the sake of political and social stability. This would also contribute to curving GHG emissions. In addition, China is causing friction with neighboring countries in places such as the Spratly Islands. Under these circumstances, President Xi Jinping had strong motive to project an image of making positive international contributions. In particular, working with the United States suits very well with China's diplomatic agenda of new global power relations.

## **Restart of Nuclear Power Plants Indispensable for Achieving the Japanese Target of Emissions Reduction of 26%**

*--- Japan has adopted a target of reducing greenhouse gas emissions by 26% from their fiscal 2013 level in the period through fiscal 2030.*

**Arima:** This is an extremely ambitious target to my mind. Japan adopted 26% reduction from 2013 level by 2030 as its target taking into consideration the US target (26-28% reduction from 2005 by 2025) and the EU target (40% reduction from 1990 level by 2030). However, I think Japan should have looked at the comparability of efforts rather than percentage figures. There is an analysis showing that the marginal abatement cost of Japan's 26% target is 380 U.S. dollars per ton, much higher than those of the US and the EU. I feel that Japan could have set a bit more feasible figure.

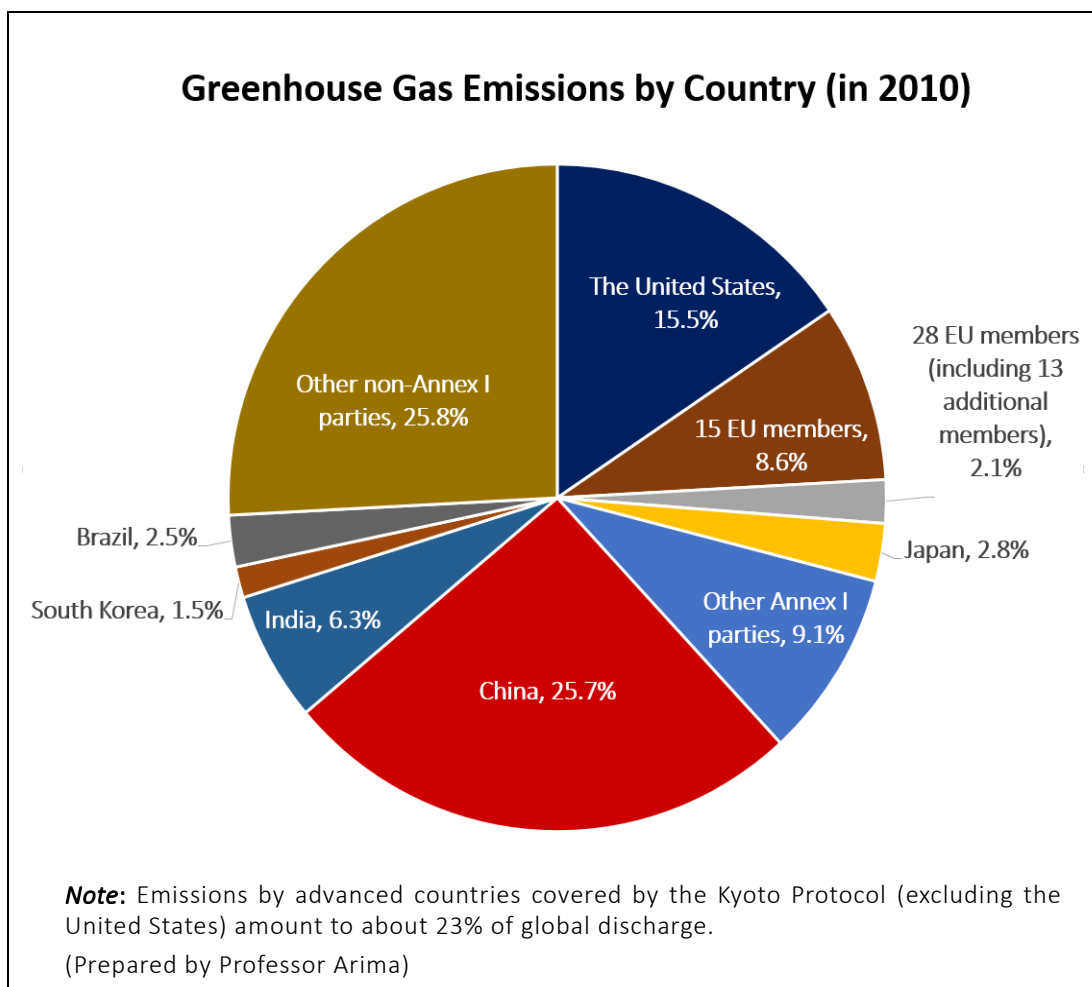
Maximum efforts are necessary for achieving this target. More specifically, Japan should work to achieve an energy mix underpinning this target, instead of trying to achieve a 26% reduction no matter what. The resumption of the operation of nuclear power plants is absolutely essential for achieving the energy mix.

All scenarios will fall apart unless nuclear power plants are restarted as expected. If the share of



renewable expands to 22-24% out of total power generation as planned, the electricity cost will considerably increase. The 2030 energy mix was designed to absorb this cost increase by saving import bills of fossil fuels through restarting nuclear power plants. If we try to achieve 26% target without restarting nuclear power plants, the electricity cost will considerably rise and this would become extremely heavy burden for Japanese macro economy. Without healthy macroeconomic conditions and corporate revenue, development of innovative technologies will also be seriously hindered. This will, in the end, be counterproductive for long-term GHG emissions reduction.

Since the accident at the Fukushima Daiichi Nuclear Power Plant, some people argue that we don't need nuclear simply because there is sufficient supply of electricity. But sufficient electricity is not enough when we consider the issue of global warming. GHG emissions will rise when coal power generation increases. On the other hand, electricity cost will rise tremendously when we use more renewable energy. Nuclear power generation is an indispensable option for simultaneously addressing global warming and energy security. It may be an unpopular policy, but the government must work on restarting the nuclear power plants from the viewpoint of long-term future of our nation.





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### **Arima Jun**

Born in Kanagawa Prefecture in 1959, Arima joined the former Ministry of International Trade and Industry of the Japanese government (now known as the Ministry of Economy, Trade and Industry) in 1982 after graduating from the Faculty of Economics at the University of Tokyo. He took charge of negotiations over the issue of global warming from 2008 to 2011 as the Deputy Director-General for Global Environmental Affairs. He assumed his current position in 2015 after serving as the head of the Japan External Trade Organization’s London office. Books by Arima include *Chikyu Ondanka Kosho-no Shinjitsu* (Truths about Negotiations over the Issue of Global Warming).

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