Japanese policymakers' and media perspectives on climate change policy: Does international contribution dominate the discussion?

政策決定者とメディアの観点から見た日本の気候変動政策－議論の中心は国際貢献なのか。

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Chapter 1: Introduction

1. Background to the research

Climate change is an issue which requires both domestic policies and international cooperation to reduce greenhouse gases emissions. It has been agreed at the UNFCCC negotiations (UNFCCC a) that major economies would implement domestic policies to lower electricity consumption and increase efficiency, and to use more renewable energy sources instead of relying on fossil fuels such as coal and oil. In international cooperation, all major emitters should agree to mitigate their emissions, and developed countries are expected to help developing and vulnerable countries by technology transfer, providing finance and know-how. Japan, as one of developed countries that shoulders historical responsibility for global increase in emissions, has been participating in the international negotiations and also treating climate change as one of important fields for official development assistance. Another way of international contribution has been scientific research on climate change and providing data to enhance understanding of the global climate.

In the domestic policy, the situation has been complicated by the nuclear power shutdown after the Fukushima accident, which increased reliance on fossil fuels. Non-participation in the second commitment period of the Kyoto Protocol was the decision that made domestic environmental groups and observers from other countries question whether the government is truly motivated to do something about climate change. International treaty guaranteed some minimal level of obligation, even in case of the Kyoto Protocol which lacked punitive measures for non-compliance, and from which Canada could simply walk away when meeting its target became too difficult. Under the Kyoto Protocol Japan was required to lower its domestic emissions by 6% of 1990 levels in five years between 2008 and 2012. After 2013, there has been no outside mechanism that would enforce a level of mitigation required for Japan. With the exception for the European Union, no other major emitter has any such obligation.

With troubles with nuclear power, the government decided to revise its mitigation target from internationally acclaimed 25% of 1990 levels to mere 3.8% of 2005 levels, which equals to increase by 3.1% above 1990 level and about 9% increase in comparison to the Kyoto target. These ratios may seem insignificantly small, but in reality they mean quite large impact globally. The Climate Analytics, which is a non-profit tracking climate change actions in various countries, estimated that this complete reversal of Japan's policy would increase global emissions gap by 3.4% by adding another 256 MtCO2 e/year to the atmosphere (Climate Analytics). "Emissions gap" was first pointed out in the UNEP report, and it means the gap between what is required to do in order to prevent dangerous climate change and what countries already promised to do (UNEP). International NGOs came up with an extremely harsh evaluation (ECO 2013): "The new target allows Japan to revert to business-as-usual by 2020. Forget about climate - welcome to the race to the bottom. (...) What missing in Japan is political will and a

heart to care; in its place, a soulless industrial lobby".

Domestic environmental groups have been disappointed with lowering the mitigation target, and they pointed out that the domestic regulations are not enough (Kikonetwork 2013 a). Moreover, Japan have been relying on buying offsets from abroad and the government instead of regulating the industry by imposing emission trading scheme, gave the initiative away to business groups that advocate voluntary mitigation action with no governmental supervision. In the past there were problems related to information disclosure on emissions that led to litigation cases started by environmental groups, and renewable energy was not taken seriously as a tool to reduce domestic emissions. Dependence on nuclear power came with a huge cost to climate change policy when the Fukushima accident happened. Still, the environmental groups such as Kikonetwork, CASA, JACSES, Friends of the Earth Japan, WWF Japan, ISEP and others argued that the current level of commitment to mitigation was too low, and that it was possible to enforce nuclear phase-out with even 17-18% reduction target in mitigation policy (CASA).

The new target caused also consternation among researchers, and one of leading Japanese policy researchers working for the National Institute for Environmental Studies[1], admitted that it was not clear how the government came up with the 3.8% number and what were their assumptions about projected economic growth and energy consumption. Officially, the 3.8% was intended to be temporary and with assumption that no nuclear power would be used, but researchers gathered at COP19 pointed out that the number is too low, even with no nuclear condition. However, despite the fact that the climate change bill proposed by the DPJ government in 2009 had not been passed in the Diet in 2010, some elements of it such as carbon tax and feed-in tariff remained on the agenda despite the energy crisis, and they were successfully implemented in 2011-2012. However, the LDP government rarely spoke about climate change, and there is an impression that the issue has disappeared from policymakers' agenda.

The new target announced during 2013 COP19 meeting in Warsaw caused widespread criticism among not only NGOs, but also other participants of the negotiations. Even the Japanese delegate Hiroshi Minami acknowledged that most of the developing countries were very disappointed with the move[2]. This change in international pledge was a proof to some observers that the bottom up approach advocated by the United States and Japan in the COP negotiations is not a good model if pledges can be dropped at will at any time. On one side, the government could expect "special treatment" and understanding because of changes in domestic policy caused by the nuclear energy problems. On the other side, Japan is a developed country with vast capabilities to cope with such

[1] Interview with dr. Junichi Fujino, senior researcher at National Institute for Environmental Studies, 18.11.2013 COP19, Warsaw.

[2] Press conference with the Japanese delegation at COP19, November 15, 2013.

problems, and it may be questioned whether Japan was still in the position to ask other countries to increase their level of ambition when its own target is quite low.

However, at the same time Japan announced a new diplomatic strategy with generous finance for developing countries, and it also promoted the unique bilateral scheme JCM for developing countries. Through that scheme, projects aiming at lowering greenhouse gases emissions would be counted as offsets for achieving Japan's domestic mitigation target. The new type of cooperation is quite welcomed by developing countries, which until now relied on the bureaucratic and ridden with methodological issues Clean Development Mechanism. Because there are so few countries participating in the second commitment period of the Kyoto Protocol, there are much less countries that would be eligible for launching projects in developing countries. Another issue is that in the case of CDM, majority of offsets projects were hosted by China and India, and other countries which are also interested in participation had much less chances to compete with these two. The JCM is tailored to increase participation of those previously overlooked developing countries, and it is a unique initiative on a global scale.

The delegation to COP19 also talked about launching a new satellite for gathering data needed to improve climate models and out understanding of climate change processes. During the 2013 negotiations they tried to improve Japan's presence by launching numerous side events to promote Japan's initiatives. It was the first time the Japan Pavilion was established to gather international participants interested in Japan for daily series of events. Only few countries have been establishing their own Pavilions at negotiations (the EU, the US, China, and OPEC countries), and the fact that Japan decided to have their own at the time of difficult announcement of the lower mitigation target, showed that there was a need to do a "damage control" and show to the world that Japan indeed cared about its reputation and wanted to showcase various initiatives and projects.

This careful approach differed greatly from the behavior of annually criticized by NGOs developed countries such as Canada and Australia, whose presence at COP meetings have been minimal to say the least. Although the Japan Pavilion may have been not as attractive place as the China Pavilion, which was more focused on advertising Chinese culture than anything else, it was a quite active place with 34 events and 27 organizations involved in their organization in the period of less than ten days. Focus on technology contribution through the JCM and promotion of this initiative was the most prominent among all activities. Other issues mentioned was Japan's contribution to develop methodologies to evaluate greenhouse gases (MRV standing for Measurement, Reporting and Verification) in developing countries and establish there national mitigation plans (also called NAMA: Nationally Approved Mitigation Actions), Japanese climate change research and contribution to the IPCC, research networking, contribution to mitigation in Asia, forests protection (REDD+), adaptation support, and contribution to Climate and Clean Air Coalition. Statements by Minister of Environment Nobuteru Ishihara made at the plenary meetings also regarded Japan's technological contribution and

global and domestic initiatives towards Low Carbon Society.

The COP19 example indicates that Japan's response to climate change on domestic and international level are complex and going beyond simple labels of leader or laggard. It could be expected that the issue has lost its importance due to problems with energy mix following the Fukushima accident and also due to the lack of clear signal of commitment to mitigation from other countries taking part in COP negotiations. The weak target combined with strong commitment to international contribution triggers a question whether climate change has been losing importance or whether attention to the problem remains stable in Japan.

2. Significance of climate change for Japan's policy

After over twenty years of ongoing negotiations, climate change has become known as one of top environmental issues without an easy solution both at the level of creating a new treaty applicable to all major emitters, and at a domestic level of a single country. The situation has changed from the times of negotiations of the Kyoto Protocol, and no longer are developed countries the only actors responsible for greenhouse gases emissions. On top of that, the major emitters such as the United States, China or India are not involved yet in any binding commitments. However, with the upcoming COP21 summit in Paris, which is supposed to bring a new and upgraded version of an international treaty, there is a hope that an agreement will bring long awaited incentives for states to tackle the problem.

For Japan, the lack of international agreement which would include the United States and China has been one of main reasons for being reluctant with domestic mitigation. It seems unfair that Japan, while being already one of top efficient countries, would need to further engage in costly regulations, while there are no such steps from the main emitters. Another issue is the energy policy problem triggered by the nuclear accident in Fukushima in March 2011, because of which nuclear power has become no longer considered as a viable option for climate change mitigation. It is important then to understand, why climate change remains important for Japan in this situation.

One of the reasons why climate change issue is important for Japan is that the country will experience serious environmental impacts in coming decades. Hijioka (2011) assessed that impacts of climate change in Japan would be on a large scale in upcoming 20 years even with a new treaty and mitigation efforts on global scale. Figures from the Japan Meteorological Agency show that annual average air temperatures nationwide increased by a rate equivalent to 1.15°C per century between 1898 and 2010 (JMA), which is higher than the global average temperature rise of 0.74°C over the last century (IPCC 4th Report). Studies conducted under the Ministry of Environment showed higher risk of floods and water related disasters, loss of biodiversity and habitat, and negative impacts on agriculture and human health (Hoshino, 2013). Taking into account that Japan is going to be impacted by climate

change, it is necessary that the issue remains on policymakers' agenda. Not only adaptation measures will be needed, but also mitigation steps to halt global warming from stronger impacts in future.

Another reason is that mitigation policy has been proven to enhance sustainability. Campagnolo et al. (2013) researched whether implementation of climate policy scenarios would help enhancing sustainability, or if there is a trade-off between climate policy and socio-economic development. What they found was that climate change policy improves environmental component of sustainability, while economic and social components are affected negatively but marginally. Thus, sustainability increases in all their scenarios. They also concluded that if countries such as the United States, Canada, Japan and Russia did not mitigate as in scenarios, their sustainability would decrease and also on global level there would be a negative impact.

Symons (2011:275) pointed out that mitigating greenhouse emissions would bring considerable benefits also for energy security. In this way, mitigation and attaining energy security could go hand in hand, despite the fact that traditionally they were considered as contradictory due to higher prices of low-emission sources counter the low-cost of energy security policy. As far as international contribution goes, he said that by applying scientific and financial resources to provide low-emissions energy infrastructure in developing countries, it would help to repay so called 'climate debt' that advocates of climate justice call for, in which developed countries have historical responsibility to deal with the problem. It has become a consensus at the UNFCCC negotiations following the IPCC 4th report and G8 meeting in 2008 that global greenhouse gases should drop by 50% by 2050 in order to avoid dangerous climate change. Developed countries such as Japan are required to decrease their emissions by about 80% by 2050. It is a long-term policy goal, and it needs focus and support from policymakers because climate change is a public problem, and government is required to set targets and execute their achievement, not to rely on voluntary actions of companies.

The climate change issue has highlighted the fact that linear economy[3], which is focused on growth but failing to address environmental destruction, leads to serious problems which can be described as "global externalities" in the world economy. While it is beneficial for many countries to cooperate than to each country separate pursue their own policies, especially that, in countries of high efficiency like Japan, it is more expensive to pursue mitigation in in comparison with other countries. However, in order to achieve higher sustainability and energy security, Japan needs to expand renewable energy and focus on long-term policy which is beneficial for environment. As professor of environmental law at the Nagoya University, Yukari Takamura pointed out: "If Japan's energy efficiency is so good, the new

[3] The idea of linear economy is opposite of circular economy, in which resources are used as little as possible, focus is on renewable resources, eco-design and clean production, consumption respecting environment, using waste or processing it in not-harmful way.

international agreement will be favorable for Japan, and the government should have more interest in climate change issues"[4].

Focus on long-term climate change abatement means a need for energy sources change with less dependence on fossil fuels and also nuclear power, which proved to be so costly for Japan. Advocates of low carbon growth, which means economy that does not rely to a high extent on fossil fuels, claim that the way forward is using decentralized energy sources. It is opposed to the current system with centralization of vital resource that is energy, its control by large bureaucracies and institutions, and dependence on technocratic elites. In Japan, centralized energy system appears under large regional power companies monopolies, which are against electricity market liberalization reform pushed by proponents of renewable energy. However, promotion of decentralized energy, and change the regional monopolies system, energy conservation are needed for successful action against climate change.

3. Research question and hypothesis

It could be expected that the nuclear crisis would act as a catalyst and bring an abrupt change in climate change policy, as mitigation efforts depended on the ratio of nuclear power in Japan's energy mix. Withdrawal from international commitments and shifting attention from international contribution towards dealing with domestic issues did not happen as it often explained. Indeed, Japan withdrew from the Kyoto Protocol, but this decision was made in 2010, several months before the tragic earthquake that triggered the Fukushima disaster. However, the government confirmed its commitment to providing technology, finance and scientific expertise, and also engaged in promoting the new and unique bilateral approach to mitigation in developing countries.

Domestically, the situation seems to have deteriorated because of change in mitigation target, but on the other hand renewable energy has started to be taken more seriously. For advocates of strict industry regulations, there are many challenges as well as a room for further improvements. Non-governmental organizations, despite their demands that developed countries provide assistance to developing countries in the name of their historical responsibility for causing climate change, criticize focusing solely on international contribution with neglect to domestic mitigation efforts. Is it true that the focus in Japan has shifted from domestic efforts to international contribution in order to make up for the inevitable rise in domestic emissions? Is the assistance a way to "apologize" to developing countries and to improve the national reputation? Or perhaps, the situation is quite different, and level of attention to international contribution is not any higher than it was it the past and the debate on national efforts evolved from focus on climate change into something else?

[4] Interview with prof. Yukari Takamura, December 16, 2013, Kyoto.

On one hand, it could be argued that Japan has reached a barrier hard to overcome with its already high efficiency causing high costs of further improvements; with the need to supply electricity when nuclear power is shutdown; and the sense of unfairness when it is required to mitigate emissions despite relatively small share in global emissions in comparison with the biggest emitters the US and China, which do not need to do anything. On the other hand, despite energy efficiency being a bottleneck, in the situation when nuclear power needs a replacement, now more than ever there is a chance for shift towards renewable energy and "low carbon society". The new treaty is to be adopted in 2015 at COP in Paris, and it is unlikely that climate change would disappear from global political agenda any time soon. In this situation, it is important to understand how the domestic debate in Japan has been shaped and whether the attention to domestic action as well as to international contribution have been diminishing or perhaps replacing one another.

The purpose of this research is to investigate changes in the national debate on climate change in Japan, and to check level of attention to various issues within it. The main question is whether international contribution has been dominating the debate in Japan. It is especially interesting to check what changes in the national debate have been brought by the Fukushima accident since it was a catalyst for energy policy issues.

In order to investigate the national debate, I examine what happened in policy, in statements made by policymakers and also in level of attention given to climate change in mainstream media. Features of high interest in climate change are head of state advocacy, national commitments to domestic efforts and statements at international forums, commitment in aid programs and positive media coverage. My hypothesis is that attention to both domestic mitigation and international contribution, have declined in recent years, and both Japanese policymakers and media showed similar patterns in their lack of attention. Such situation could be explained by the necessity to focus on domestic rather than on global threats, and also by diminishing international interest in already the two decades lasting, stalemate-prone UNFCCC negotiations. In case of relations between policymakers and media, I suspect that media coverage tends to follow policymakers because of the tendency to neutral and fact-based reporting in Japanese media, and also the top-down relations between sources of information about climate change and journalists. Relations between policymakers and media attention to climate change could be explained by implementing the agenda setting theory, which attempts to find out why some policy issues get attention, while others are neglected and how actors influence each other's list of top priority issues.

4. Methodology

In order to understand the domestic debate on climate change, the research starts with providing the background information on Japan's greenhouse gases emissions, energy policy and energy efficiency issues. The next step is to explain developments in domestic climate change policy and in foreign

policy. I look also into performance at international negotiations seen by international civil society groups, which gives an insight into how the most fervent advocates of radical climate change action perceive level of commitment displayed by the Japanese delegation to COP meetings. At this level of the research the main method is examining the official documents and also interviews with researchers and NGOs staff in order to provide a broad overview of various issues that encompass tackling climate change.

Next, I focus on policymakers' attention to climate change between late 1980s and first half of 2014. In order to find out how Japanese Prime Ministers have talked about climate change until now, 130 statements made between 1996 and the end of September 2014 were analyzed. There were four types of statements: 1. domestic speeches about climate change policy; 2. parts of policy speeches made at the Diet that were about climate change; 3. speeches made at multilateral international summits; and 4. opening speeches at press conferences. In this analysis, both length of the statements and their content were evaluated in order to find out when there was the most attention to climate change, and which issues were discussed by Prime Ministers. Moreover, I checked whether international contribution played bigger role in these public statements than domestic climate change policy.

To evaluate which Prime Minister was the most vocal about climate change, length of each speech was counted in English words. The database at the PM Office website was checked for statements by using keywords "climate change" (kikouhendo) and "global warming" (ondanka). Statements available in English and only in Japanese were both checked. For statement length evaluation, speeches available only in Japanese were translated into English by the author. If a speech referred to several subjects, only the part on climate change was counted. Statements made at bilateral meetings were not included in this analysis because text of speeches was not available for all of bilateral meetings, and in some cases the Prime Minister's Office and MOFA websites provide only joint statements instead of transcripts of speeches. In case of press conferences, only opening statements were counted because they were clearly a part of Prime Ministers' advocacy, unlike their answers to questions. Counting their answers to questions would be misleading because they could not be evidence of PM attention to climate change because the initiative of mentioning a topic was not on Prime Ministers' side.

In case of legislators' attention, I evaluate meetings and discussions held in the Diet on the subject of climate change. I also look into legislators' participation in environmental international cooperation through GLOBE network and the developments in climate change legislation. Attention to climate change during elections to the House of Representatives and the House of Councilors is also an important indicator of level of importance put on the issue. In order to assess level of political attention, I examine election manifestos of all political parties in chronological order and compare which issues were brought up and which party was the most active climate change countermeasures advocate.

Because the bureaucracy tends to dominate the previous research on climate change policy, I give attention in this research to Prime Minister, legislators and political parties.

The third part of this research is about media coverage of climate change issue in Japan, and it was influenced by the idea of agenda setting theory dating back to the research by McCombs and Shaw (1972), Rochefort and Cobb (1994), Dearing and Rogers (1996), McCombs (2004) and others. The theory focuses on how news coverage both reflects and shapes the priorities of governmental officials.

In order to check how attention to climate change has changed, I selected one newspaper to see the coverage scale (Asahi) and editorials from four main newspapers (Yomiuri, Asahi, Mainichi and Nikkei). The period of time for this research was from 1985 to the end of May 2014. Because of the volume of coverage and the detailed methodology, for scale evaluation I looked into only one newspaper, which is the limitation of this research. Keywords used in search for articles were “climate change” (kikohendou) and/or “global warming” (ondanka). In my sample, I excluded local news not from Tokyo area because local news are mutually exclusive, meaning that people do not see local news from other places. In calculating the volume of coverage, I counted not number of articles, but their length quantified by number of kanji characters. This method allows more precise measurement of level of attention paid to the issue. In the sample I included articles which belong to three groups: 1. Climate change science and impacts; 2. International developments, which mean the UNFCCC negotiations and mitigation efforts in other countries; 3. National policy, divided into domestic efforts and international contribution. Articles that included keywords but did not belong to any of these groups were discarded. In case if an article contained several topics, for example a part of science and a part on international negotiations, I counted each fragment into separate category to ensure the most accurate evaluation. In analysis, I evaluate level of attention given to each group of articles and try to find out how the attention to domestic mitigation and international in media coverage.

5. Previous research

The background of this dissertation consist of previous research on three issues: climate change policy in Japan, media and climate change, and agenda setting research. The following three sections give an overview of these topics.

5.1 Japanese climate change policy

Previous research on Japan’s climate change policy can be divided into studies on domestic policies and research on foreign policy, which often included also background of domestic developments. In case of domestic mitigation, previous research explained the political process that led to the current shape of climate change legislation, drawbacks coming from policies reliant on nuclear power and the post-Fukushima accident dilemma, and the difficulties surrounding tougher regulations choices such as implementation of carbon markets. Domestic constraints are the reason of limitations to the role of leader in international negotiations.

Kameyama (2003, 2008) and Kiyoaki (2010) reviewed the political process giving emphasis on the role of bureaucracy and Prime Ministers in climate change initiatives. Wu (2009) considered Japan as environmental leader arguing that the rationale behind it is to create a strong international image and demonstrate to be a responsible global actor. The author claimed that there had been a shift from reluctance towards the global warming negotiations under the UNFCCC framework to involvement under the Kyoto Protocol.

Tiberghien and Schreurs (2007, 2010) analyzed symbolic meaning of the Kyoto Protocol for Japan and its impact on the decision about ratification, which was made despite struggles between the three ministries (METI, MOE and MOFA) and influential opponents of the treaty. The authors argued that the Kyoto Protocol was more for Japan than just an international agreement, and it was a symbol of global warming and the Japanese leadership in tackling this problem. Even opponents that pointed out how expensive economic cutbacks would be had difficulty to reframe the Kyoto Protocol and change its symbolism.

Valentine et al. (2011) explored the dichotomy between commitment to domestic climate change measures under the DPJ government and the decision announced at 2010 international negotiations COP16 in Cancun about non-participation in the second period of the Kyoto Protocol. Through surveying various stakeholders, they came to a conclusion that there was no support, especially from influential stakeholders, for sacrificing cheaper energy in order to finance mitigation goals. They also claimed that despite the election manifesto promoting climate change as one of top issues, there was no indication that there would be a shift from what the previous LDP government had done towards more ambitious regulation.

Matsushita (2011) was rather skeptical about whether Japan could be called as "environmental-advanced-nation". He claimed that although when discussing Japan's climate change policy and international contributions in this field, it was often portrayed as progressive country, but there was a doubt that it is true. Matsushita talked about the slow pace in development of renewable energy and necessary changes which should be made in the policy announced in 2009-2010 to accelerate shift to the low carbon society.

Jones and Yoo (2009) described existing policy measures up to 2009 explaining that the existing voluntary measures, which were the basis of implementation of the Kyoto Protocol, are not enough to achieve the long term target of 60-80% reduction by 2050. The paper advocated emission trading and carbon tax as the solution. However, it did not address the political problems with introduction such measures. This issue as investigated by Rudolph and Schneider (2013), who compared political problems in implementing emission trading in Japan before and after the Fukushima disaster. There have been a voluntary emission trading scheme on a small scale in Japan since 2005, but is not

effective because of the small number of participants, insufficient targets due to bottom-up target setting, and offsets that were generally accepted. Thus, they argued, the existing measures had not led to any substantial emissions reduction. In the study, the public choice theory was used to examine behavior of political actors, and to try to find out what the problems with emission trading in Japan was and how the Fukushima disaster impacted chances of future implementation of more ambitious policy measures. They concluded that it was unlikely that the government would pay attention to emissions trading after the disaster because environmental issues are not important for voters; political parties have limited influence, it is hard to establish consensus on emission trading; and industrial interest groups are more influential than environmentalists. As for the impact of the disaster, Rudolph and Schneider claimed that the Japanese style of policy-making process remained solid with bureaucracy domination over legislators and imbalance of power between the strong Ministry of Economy, Trade and Industry with connections to the industry and the biggest political party LDP, and the relatively weak Ministry of Environment.

Skea et al. (2013) compared Japan's climate change and energy policies to the UK and Germany after the 2011 disaster. Paper showed how Japan had the greatest need for nuclear energy from these countries, and that the nuclear power was considered as the only means for not relying on import. Post-Fukushima period offered chance to involve the public in policy process and to look into decentralized renewable energy and energy conservation.

Pajon (2010) described Japan's climate change diplomacy as 'ambivalent' and 'unique approach' saying that it showed willingness to act during the negotiations and ratification of the Kyoto Protocol, and its international cooperation on climate change especially in the Asian region is also significant. However, the predominance of the industry interests resulted in a heavy reliance on flexibility mechanisms and carbon offsets to reach the Kyoto emissions reduction target, and on a strong lobbying strategy to change the rules of the Kyoto regime. The author pointed out that the successful history of Japanese industry in terms of energy-efficiency was a double-edged sword when it came to implementing a climate change prevention policy, and it justified Tokyo's reluctance to commit to ambitious reduction targets. However, Japan considers its efficiency and pollution control model as successful one and exports it to developing countries. As a result, Japan appears as a leader in the field of international cooperation on climate change, especially in Asia.

Ohta (2009) attempted to find an answer why Japan had been reluctant to take leadership role in climate change negotiations. He said that the reasons were: unfavorable marginal abatement costs in comparison with other countries due to high energy efficiency; and lack of strong and stable political leadership, which allowed well-organized economic interests and the economy ministry to pursue an industry-oriented policy. He mentioned that Japan, if we take into account its ecological vulnerability to impacts of climate change, but also high costs of mitigation, would be likely to be an intermediate or

support state in negotiations. States that are likely to be leaders and pushers are those that have high ecological vulnerability and lower mitigation costs.

5.2 Media and climate change

One of examples of general research on climate change in public agenda was study done by Corfee-Morlot et al (2007), in which they examined how the problem moved from the bottom to the top of international political agenda by looking at science, politics, public attitudes and media. Gavin (2009) said that technical details of climate change policy are not easily adaptable to articles aimed at general public. He also talked about newsworthiness, saying that climate change issue often lacks its key elements such as human interest, personalization, scandal, surprise, compelling visuals, drama and clarity. “Stories like Hurricane Katrina, which are dramatic and can be cast as harbingers of things to come in a future of warming oceans, do not happen every day” (Gavin 2009: 772), and natural disasters are not associated with climate change by scientists in a straightforward manner. Moreover, people do not pay attention to slow processes, and it is difficult to keep attention high in case of gradual changes.

Rise and fall of environmental media was examined by Mazur (1998) who looked at media coverage of various environmental topics. His research was close to the issue-attention cycle described by Downs (1972), who said that issues rise and fall from public agenda, often unresolved. Downs argued that dramatic media coverage may capture public attention, but if it continues for a long while, it may threaten certain groups of people and tire others. That is the reason why media tends to have a short attention span and prioritizes providing newer and more exciting news to maintain their audience.

Mazur and Lee (1993) noticed that in case of environmental news, quantity of coverage is more important than the quality meaning that the more often media talks about environmental issues, the more likely it would increase public concern. According to their research, content of news reports tend to matter less. However, in case of climate change, “balanced views” content could have a damaging influence on public concern. Problem of balanced coverage was showed in study done by Boykoff and Boykoff (2004), who checked articles from four top American newspapers between 1988 and 2002 and found that most articles gave as much attention to opinions of climate change skeptics as to opinions of the scientific consensus supporters.

One of previous research on climate change media coverage in Japan was the COMPON project. It is an international research network, and its name COMPON stands for “Comparing Climate Change Policy Network”, and it also means in Japanese “fundamental”. Their research examined media coverage and included also surveys to determine national reactions to climate change. The study on Japan examined media coverage in three major Japanese newspapers: Nikkei, Asahi and Yomiuri between 1997 and 2010. They counted all articles including those that were not actually about climate

change but they contained keywords, so it is not accurate representation of attention to climate change issue itself. Despite this weakness of the study, the COMPON project shows general trends in coverage and also compared trends in various countries. From their international comparison we can say that peaks in attention to climate change in Japan vary slightly from general trends in other countries. The most attention in Japanese newspapers was in the mid-2008 when the G8 summit was held in Hokkaido, and it was one year after peaks in majority of other countries, in which attention was linked to release of the movie “Inconvenient Truth” (showed in Japan about half a year later than in Western countries) and the Nobel Prize awarded to the IPCC and Al Gore for their work on climate change. The second peak in attention in Japan occurred in 1997, and it was much higher than in other countries because the COP3 conference was held in Kyoto. Two other peaks: 2001 (ratification by Japan and withdrawal by the United States) and in 2005 (the Kyoto Protocol entry into force) had similar media attention patterns globally.

COMPON research also explored the debate on environmental tax, emission trading and nuclear power in Japan in the Asahi newspaper. In order see how attention changed, they measured number of articles containing “climate change” and/or “global warming” with keywords on each of those three policy measures between 1985 and 2010 and also looked if reporting was supportive or not. Their conclusion was that reporting on eco tax and emission trading was “in dispute style” while in case of nuclear power had been gradually accepted.

Yoshida mentioned how the business group Keidanren had placed advocacy ads in national newspapers to discourage from implementing environmental tax (November 2005), from policy to reduce CO_2 emissions (March 2009), from setting an ambitious mid-term target (May 2009) (Yoshida 2011). He also compared editorials on governmental decision to set 15% (2005 levels, equal to 8% of 1990 levels) mid-term target in June 2009. Yomiuri was supportive of the decision but Asahi and Mainichi were critical.

Segawa (2009) analyzed editorials from three national newspapers: Asahi, Mainichi, Nikkei published between 1987 and 2007 which contained “global warming” in their titles. Main subjects were environmental tax, domestic emission trading, renewable energy, nuclear power and bureaucracy.

Another example of research on media coverage of climate change in Japan is the research by Asayama and Ishii (2011), who looked into how the International Panel on Climate Change (IPCC) was portrayed in national newspapers. They divided media image of the IPCC into several groups such as “scientific authority”, “politicized institution” and “group of advocating scientists”, trying to find out the characterists of the Japanese reporting on climate science.

Sampei and Aoyagi-Usui (2009) looked into how national media campaign influenced public awareness in the period between 2005 and 2007. In that case, mass media campaign was used by the

national government as policy tools. They investigated the Japanese newspaper coverage on global warming between 1998 and 2007, and its influence on public opinion. They found via opinion polls carried out during the national media campaign, that there was an increase in public concern.

Bing (2007) carried out a media coverage research about environmental issues focusing on global warming and desertification. In this study, five national Japanese newspapers were checked on their coverage of global environmental news between 1987 and 2007. The conclusion was that when climate change received a substantial coverage, the issue of desertification was neglected by newspapers.

5.3 Agenda setting research

Previous research on agenda setting is one of the guidelines in this study for examination of attention given to climate change by policymakers and by media. Agenda-setting research aims to find out why some policy issues get attention, while others are neglected. Agenda according to Kingdon (2010) is "the list of subjects or problems to which governmental officials, and people outside of government closely associated with these officials, are paying some serious attention at any given time". Agenda setting means "a process in which certain public problems are identified, recognized, and defined, and specific solutions or alternatives are generated, considered, and attached to these problems. Due to the limited attention span and limited information-processing capacity of government, the lists of problems and solutions are usually very short" (Liu et al. 2010:71). Agenda setting theory attempts to answer why some policy issues get policymakers' attention while others are neglected. Public problems rise and fall on public and governmental agendas, often independently of the state of a problem, as shown in research by Downs (1972), who said that attention to issues raises suddenly and then gradually declines.

Initially, research focused on relations between policymakers, media and the public (McCombs and Shaw 1972), as mentioned in the section dedicated to the previous research on media attention. Many researchers claimed that it was policymakers that have the influence on media. Donsbach said that studies find that the majority of news stories are source-generated, with government and industry officials having the strongest impact on the news agenda (Donsbach, 2008: 142). Entman (2009) proposed the "cascading waterfalls" model of influences between policymakers, media and the public, in which administration, other elites, media, news frames and public create levels in network of informal influences. Each level is set up in a pecking order with administration at the top of this "cascading waterfall", and although the top-down influence is strong, there is also feedback influence going bottom-up.

Bennet (1990) claimed that journalists tend to follow policymakers. He used an indexing hypothesis, saying that "mass media news professionals (…) tend to 'index' the range of voices and viewpoints in both news and editorials according to the range of views expressed in mainstream governmental

debate" (Bennett, 1990: 106). Shehata and Hopmann (2012) mentioned that the empirical proof for the indexing theory is mixed, so media tend to follow policymakers but "they are not doing it slavishly" (Shehata and Hopmann, 2012:177). They also researched the issue of climate change by comparing the US and Swedish press coverage. Despite different attitudes of American (doubt and debate) and Swedish policymakers (consensus), media coverage in those countries was similar, which meant that there was weak influence of policymakers on how climate change was framed in media (Shehata and Hopmann, 2012).

On the other hand, there are studies that show how media coverage shapes political reality, starting with the groundbreaking research by McCombs et al. (1972) on election coverage and its influence. Robinson (2001) talked about two aspects of interaction between media and policymakers. One of them is known as the "CNN effect" in which increased coverage by media puts pressure on policymakers and causes a political action, and another is "manufacturing consent" phenomenon in which media reflects views of political leaders and government. Robinson concluded that when there is a disagreement among political elites, agenda-setting power of media increases.

Coleman et al.(2010) talked about agenda setting to be "the process of the mass media presenting certain issues frequently and prominently with the result that large segments of the public come to perceive those issues as more important" (Coleman et al., 2010: 147). There is a first-level and second-level agenda setting. First-level means that the more coverage issue receives, the more important it looks to people, and this research examined it in the previous sections of this chapter. The second-level agenda setting is about attributes and tone the media use in describing a problem, and it is referred to as "framing".

Kingdon (2010) focused on governmental agenda and roles played by various stakeholders and political processes. He said that government's agenda is set by problems, politics and visible participants. In his framework, there are three streams: problem stream, policy stream and politics stream. Firstly, climate change must be recognized as a critical problem. People define conditions as problems by comparing current conditions with their values concerning more ideal states of affairs, by comparing their own performance with that of other countries, or by putting the subject into one category rather than another (Kingdon, 19). Issues get attention via indicators such as in case of climate change: the 'Keeling curve' of greenhouse gases emissions data revealed by long-term monitoring; rising costs of energy, new technology available, new markets open, or new scientific knowledge. Another way of raising interest is via triggering/focusing events, such as COP international negotiations climate summits, IPCC reports, extreme weather events, scandals, protests, international agreements, creation of new institutions, scientific discoveries, prominent books and movies such as 'Silent Spring', 'Inconvenient Truth', 'The Great Global Warming Swindle'. The third important trigger of attention is feedback about existing policies, both internal from government and external through public

opinion polls, citizen complaints, interest groups pressures, opinion leaders.

Politics stream in Kingdon's framework means that in order to put an issue on governmental agenda, there need to be a favorable political environment, which is created by developments in political sphere such as elections, national mood and campaigns organized by interest groups. Politics works independently from problem recognition/development and developing policy proposals, the latter being the third stream in the framework. According to Kingdon, promises made by political parties and campaigners make some impact although limited. Organized interests can block or adopt something, and they rarely initiate they own agenda. In case of a conflict between national mood combined with elected politicians vs organized interests, national mood and politicians prevail according to Kingdon.

The crucial thing is if there are visible participants of policy process among governmental officials, who gain a lot of publicity and are actively seeking solutions to climate change. Such figures are called by Kingdon as policy entrepreneurs, and they may be elected officials, career civil servants, lobbyists, academics, or journalists who are willing to invest their resources in pushing issues. Chances are better if an entrepreneur pushes an issue on the governmental agenda; and worse if there is nobody doing that. In case of climate change, an example of political entrepreneurs' action was Al Gore and James Hansen's testimony to the US Congress in 1988. In the multiple streams framework, the three streams (problem recognition, politics and available policy solution) must join and enter a political window, which is an opportunity to successfully establish a solution. Policy window is an opportunity for advocates to push their pet solutions or push attention to specific problems, but such opportunities are scarce.

Previous research on climate change policy that included Kingdon's approach to agenda setting was conducted by Fisher-Vanden (1997), who used a variation the multiple streams framework in analyzing US response to climate change, namely prominence of response options. Steffen Brunne (2008) also used the framework to investigate German emission trading scheme, and concluded that the theory is not sufficient to explain that particular case study.

Pralle (2009) focused on policymakers' agenda setting and climate change, but instead on looking into case studies, she considered what political strategies could raise salience of the problem. She said that issues without easy solutions may fail to attract attention, and people are less likely to worry when they feel that there is nothing to be done. Another issue is that people are less likely to pay attention to slow processes rather than to dramatic events. Climate change cannot be solved with a single policy, and governments are required commit to series of long-term measures. For climate change to stay on governmental and public agendas, the public and government need to be convinced that we can do something about climate change. It means that the framing of the issue is crucial. In order to help increase saliency of climate change, Pralle recommended putting emphasis on the scientific

consensus and on public concern; emphasis on local impacts, so people don't feel that the issue is disconnected from their daily lives; emphasis on health issues; including moral and ethical perspective of the problem such as responsibility of developed countries; framing solutions in terms of energy, job growth, and social security; and showing the costs of doing nothing.

6. Thesis structure

The dissertation is divided into six chapters. The first chapter is the Introduction, and in the following Chapter 2, I look into domestic policy in international rankings, Japan's greenhouse gases emissions status, energy policy and issues related to renewable energy, and energy efficiency. Finally, I focus on chronological overview of mitigation policy.

Chapter 3 describes what initiatives were undertaken on the international level, and focuses also on the assistance to developing countries and scientific cooperation. Major events in climate change diplomacy are outlined together with initiatives taken by the government at several levels: multilateral via participation in the UNFCCC convention and the Kyoto Protocol, regional and bilateral initiatives. Also Japan's engagement in the post-Kyoto negotiations and its evaluation by civil society groups is described. Finally, Chapter 3 focuses on international contribution through finance, the new initiative Joint Crediting Mechanisms and international contribution that regard climate change science.

Chapter 4 discusses changes in policymakers' attention to climate change in Japan with regard to international contribution and domestic measures. Firstly, I look into public statements made by the Japanese Prime Ministers between 1996 and 2014 and analyze them by their quantity and quality. Next, I look into legislators' attention to climate change and describe climate change legislation developments, involvement of the Japanese parliamentarians in climate change legislation on international level, and the inquiries about climate change submitted by the opposition to the government. I also analyze attention to climate change in election manifestos of political parties and compare their focus on international contribution vs. focus on domestic measures.

Chapter 5 focuses on media coverage of climate change. The scale of attention to this issue in one of top national newspapers is analyzed. The coverage is divided into several groups that estimate attention to climate change science and impacts, international negotiations and developments in climate change policies in other countries, and Japan's domestic and foreign climate change policy. After looking into trends in media attention in scale of coverage, I attempt to investigate attention to Japan's domestic mitigation efforts and international contribution. The last chapter concludes the dissertation and compares attention given to domestic mitigation policy and international contribution by policymakers and by media.

Chapter 2: Japan's domestic climate change performance and policy initiatives

1. Introduction

In this chapter I will describe how Japan has responded to climate change in domestic policies. Firstly, I look into domestic policy in international rankings, Japan's greenhouse gases emissions status, energy policy and issues related to renewable energy, and energy efficiency. Next I focus on chronological overview of mitigation policy.

2. Overview of domestic performance

Describing Japan's domestic climate change policy means tracking record for many issues since this policy is a broad term that encompasses various measures. In general, climate change policies belong to one of two groups: mitigation of greenhouse gases, or adaptation to environmental changes linked to climate change and already experienced or to be expected to occur in future. Mitigation focuses on decreasing reliance on fossil fuels for electricity generation and it encourages use of precautionary principle of avoiding causing harm even if there might be some level of uncertainty about the degree of harm than could be caused. Adaptation means building resilience to impacts of climate change that are already occurring. In case of Japan, mitigation has been taking the central place of climate change policy because of its historical role as developed country in causing anthropogenic global warming.

There are several international rankings on climate change policies and environmental policies, which give an interesting insight in how Japan's domestic policies compare with other countries. One of such rankings is the Climate Change Performance Index 2014 made by the German Watch (German Watch and Climate Action Network Europe), which ranked Japan as 50^{th} in 2014. The bottom of the index was taken by Saudi Arabia as $61^{st,}$ Denmark was ranked as 4^{th}, and the first three places were left empty to emphasize the fact that no country's efforts are sufficient to achieve global target of less than 2^{0} Celsius increase in temperature compared with pre-industrial levels. The evaluation was based on several indicators: emissions level, emissions development (current trends evaluation), renewable energy and policy. Their reason for rating Japan's performance as "very poor" was poor policies to expand renewable energy, lower than expected scores in efficiency, and international climate policy marked as very poor.

Another ranking was published in the end of 2012 by PricewaterhouseCoopers' Low carbon economy index (PricewaterhouseCoopers), in which they look at 2010-2011 at progress in shifting economies towards low carbon development. In this index, Japan was also placed at the bottom, but unlike the German Watch ranking which considered also renewable energy and international policy performance, PwC index looked only at dependence on fossil fuels, carbon intensity and emissions changes between 2000 and 2011. In case of Japan there would be a significant impact of increased reliance on fossil fuels in 2011 which would impact its low rank in the index.

There are also several ranking that give an insight into status of environmental policy at whole. The 2012 Global Green Economy Index made by an international consultancy Dual Citizen (Dual Citizen). They measured and compared national green reputations and performance. In their perception survey they polled non-governmental practitioners working in climate change policy, cleantech, carbon markets, think tanks, academia, and sustainable tourism, and got responses from 1,440 people from 73 countries. In the performance evaluation, they checked leadership (by measuring head of a state's advocacy for green issues, positive media coverage of national green economy, national positions and statements in international forums, and commitment to sustainability in aid programs), policy (current and 2020 target of renewable energy share, adoption of best practice policy, national emissions trending, progress towards renewable goals), cleantech investment, and sustainable tourism. The first interesting finding was that perception and performance are two different things, and countries with actual good performance are not perceived as green leaders at all. In case of Japan, it was in top 10 green reputations of 27 countries. The perception level of leadership was high and it was ranked as 6th. Surely, this result would have been much different if the ranking had been made after the COP19 summit, during which Japan announced a low mitigation target and gained a lot of criticism. When it comes to leadership performance, Japan was not ranked among top 10 countries, neither it was for policy. Similar difference was also in perception and performance in case of cleantech investments (8th in perception, not in top 10 in performance).

In the 2014 Environmental Performance Index developed by Yale and Columbia University, Japan was ranked as 26th of 178 countries, and but in Climate and Energy area was 86th (Yale and Columbia University). They rated performance between 1990 and 2010, so the nuclear accident that triggered bigger consumption of fossil fuels cannot be blamed for a low score. The main reason is relatively low level of improvement in carbon intensity (ratio of greenhouse gas emissions produced to GDP) in comparison with other countries. It could be argued that it is because Japan had already quite low carbon intensity in 1990 in comparison with other countries. In fact, countries that by 2010 achieved the similar level of carbon intensity which Japan had in 1990, scored much higher than Japan in this ranking. That is why it would be unfair to treat this index as an example of poor performance by Japan.

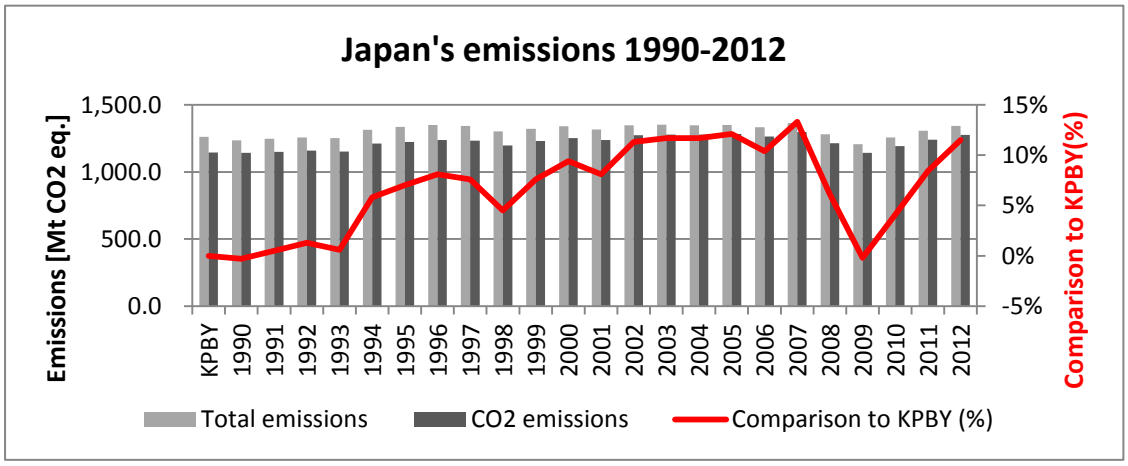
Japan's energy policy choices have serious implications for the world energy market and climate change especially that it is the world's third largest economy with CO2 accounting for about 95% of all greenhouse gases, of which 89.9% is emitted as a result of energy use (NIES 2012). Adaptation policy is relatively new in comparison to mitigation, even though there have been studies on climate change impacts in Japan, such as research programs under the Ministry of the Environment (MOE 2012) the Research Program on Climate Change Adaptation (RECCA). Work on creating a National Adaptation Plan has started in 2012 on the basis of the Basic Environmental Plan revised in April 2012 (Ministry of the Environment). Because of strong international expectations that major emitting countries need to pursue domestic mitigation policy on which is based the climate change regime, Japan as the six

largest emitting country (WRI) is required to pursue mitigation policy. For this reason, domestic policies development in this section considers only greenhouse gases mitigation policy. However, before looking into the domestic policy, it is important to understand developments in Japan's greenhouse gases emissions, energy efficiency and choices in energy sources.

3. Greenhouse gases emissions in Japan

On the global scale, Japan is the six largest emitter of greenhouse gases with 3.48% of global share (WRI, World Bank Emissions). Despite the rapid increase in emissions from developing countries, Japan has remained to be one of the largest emitters and as one of developed countries have the historical responsibility to mitigate its emissions. Figure 1 shows the developments in total emissions and in CO_2 emissions, which are the major source of greenhouse gases in Japan. The graph shows the change in comparison to the Kyoto Protocol base year (KPBY). The biggest source of greenhouse gases in Japan is CO_2 from fuel combustion accounting for 95.8% of emissions in 2012 (MOE 2014a). This is why energy policy choices are important for climate change mitigation. The graph shows an increase in emissions by 2007 and a sharp decline following the 2008 financial crisis which resulted in drop in manufacturing activities. The increase from 2009 was firstly driven by increased production when economy recovered and later by increased reliance on fossil fuels following the nuclear accident. Energy industries increased their emissions by 57.4% in comparison to 1990 (MOE 2014a), and it has been the main driver of increase in emissions in Japan.

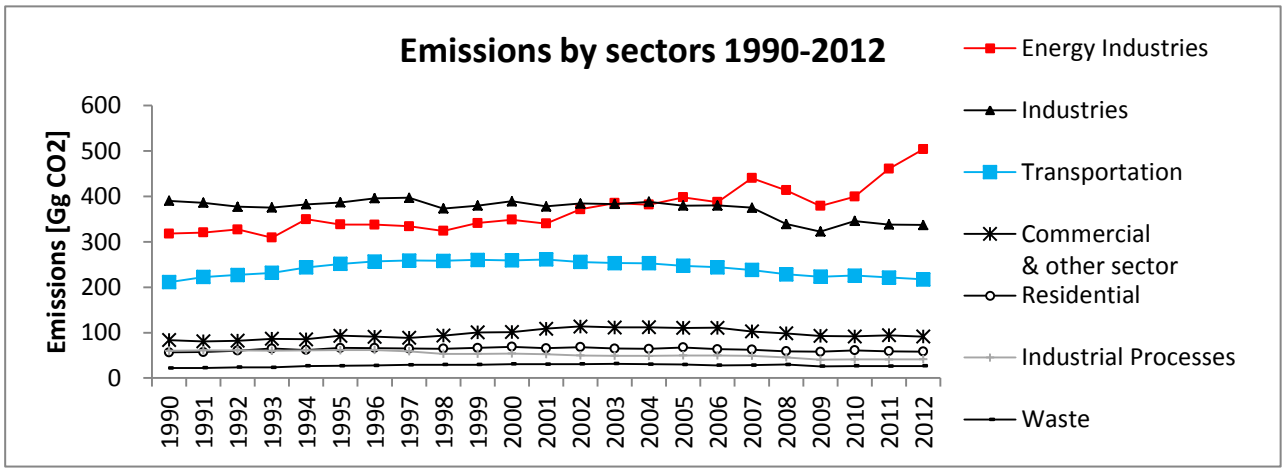
Figure 1: Japan's emissions 1990-2012



Source: Based on numerical data from the Greenhouse Gas Inventory Office of Japan (MOE 2014a).

Figure 2 shows which sectors contribute the most to Japan's emissions. We can see that while manufacturing has slightly decreased its share, power industry continued to increase theirs even before the nuclear accident, despite the increased reliance on nuclear power that was promoted as the main strategy to deal with climate change domestically. Research by Kikonetwork, a Japanese climate change policy advocacy group showed that half of Japan's emissions come from about 150 big companies, majority of which belong to power and steel industries (Kikonetwork 2014 a).

Figure 2: Emissions by sectors 1990-2012



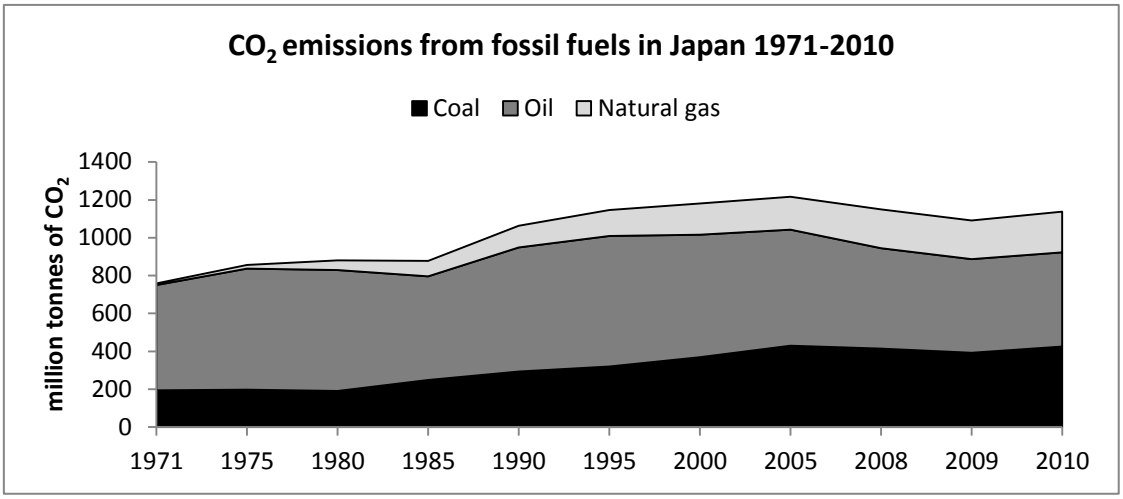
Source: Based on numerical data from the Greenhouse Gas Inventory Office of Japan (MOE 2014a).

Concentrating on emissions only is not sufficient to be able to tell whether Japan is doing well or not in its mitigation policy. Pielke noticed that concentrating on consequences of a problem, such as greenhouse gases emissions is not effective, and that it is better to look into causes of the problem which are economic growth leading to higher energy consumption and use of carbon-intensive technologies (Pielke, 2010). It led him to formulate "the iron law of climate policy" in which he concluded that because voluntary contraction of economic growth is not possible, there are only two ways left: switching to less carbon-intensive energy sources and improving energy efficiency. Firstly, let's look into Japan's energy sources and then focus on energy efficiency issue.

4. Energy policy

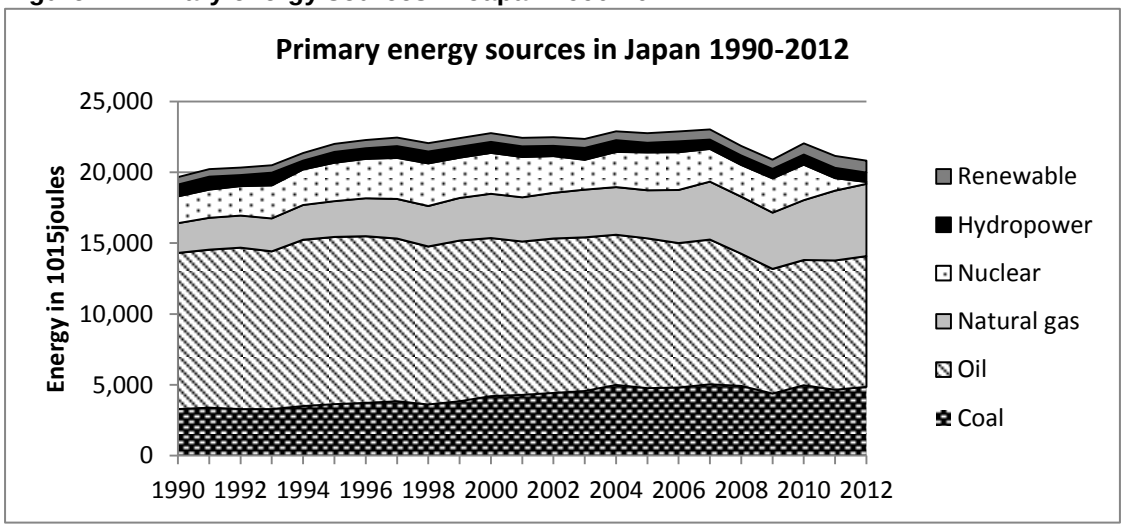
Before the oil shocks, Japan depended on fossil fuels for 94% of the primary energy sources (Energy White Paper 2013). Because of the energy security reasons, the policy following the 1970s was to decrease reliance on oil from the Middle East, and as a result emissions from oil decreased (Figure 3). To replace oil, Japan has increased import of coal from its reliable supply in Australia and natural gas from various sources. Overall, emissions from fossil fuels have increased in Japan since 1970s despite the proactive nuclear policy. The following three figures give an overview of energy situation. Figure 3 shows sources of energy in Japan since 1990, which is the base year for reducing emissions in the Kyoto Protocol. Before the Great East Japan Earthquake and the subsequent Fukushima nuclear accident occurred in March 2011, the energy mix consisted of 31.3% nuclear power, 63.1% fossil fuels, 5.1% hydropower, and 0.5% renewable energy. Based on the government's Strategic Energy Plan formulated in 2010 (METI 2014 b), the aim was to increase nuclear power by adding new 14 nuclear power plants by 2030 to tackle climate change. After the safety inspections following the Fukushima accident, power utilities could not restart nuclear power due to strong public opposition, and Japan's dependency on fossil fuels increase for the first time in three decades above 90%. In August 2014 there were only two nuclear reactors in operation (METI 2014 c)

Figure 3: CO_2 emissions from fossil fuels in Japan 1971-2010



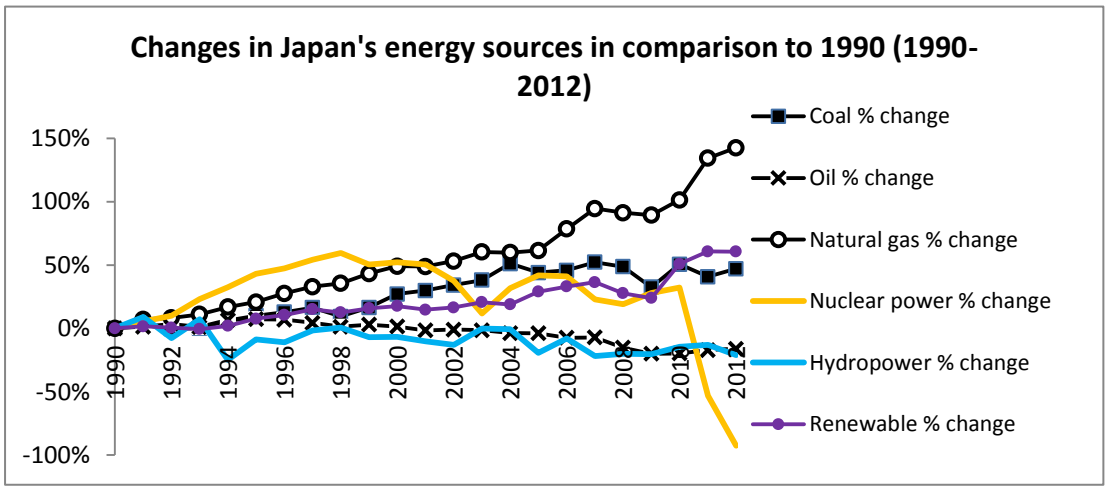
Source: IEA 2012

Figure 4: Primary energy sources in Japan 1990-2012



Source: METI 2014 a.

Figure 5: Changes in Japan's energy sources in comparison to 1990 (1990-2012)



Source: METI 2014 a

Figure 4 shows primary energy sources composition, and Figure 5 presents changes in Japan's energy sources in comparison to 1990. The nuclear accident boosted increase in natural gas and coal imports and also in renewable energy production, which has risen greatly after the Feed-in Tariff introduction in 2011. Increased imports of coal and natural gas have driven up costs for power companies, which in 2012 doubled from 2010 levels and exceeded 7 trillion yen (Nawata). The higher costs caused an increase in electricity prices, which were already a source of anxiety for the industry opposing any policy that would cause an increase in electricity prices. Higher electricity prices were also a result of renewable energy subsidies through the feed-in tariff introduced in 2011, and that is the reason why the Japanese industry was against the scheme[5]. There is a concern that higher energy costs could contribute to the trend of heavy industry relocating overseas, and that is what the Keidanren (Japan Business Federation) wants to avoid. To what extend high electricity prices in Japan are a problem is debatable because in the international comparison, in 2013 Denmark, Germany, Italy and Spain has much higher electricity prices than Japan (Tsutsui et al., 2014), but Japan has higher prices than in South Korea, Canada, the U.S., France and the U.K. The industry is most likely to compare with the South Korea and the U.S., since these are the countries they compete with to a bigger extend than with Europe.

Increased imports of fossil fuels triggered an interest in domestic exploration of sea-bed methane hydrate so called "burning ice" (Anderson), much to dismay of environmentalists, who protest against increasing amount of fossil fuels. In December 2013, the Ministry of Economy, Trade and Industry said in draft policies published on its website that climate change policy is given as a reason, beside stable supply and cost reduction, to switch on nuclear power (Watanabe, 2013). A new energy plan was approved in April 2014 (ENECHO 2014), designating coal as important long-term electricity source without setting specific targets for renewable energy. The policy also underlines the importance of gives nuclear power in Japan's energy strategy. As of September 2014, the nuclear safety watchdog Nuclear Regulatory Authority allowed to restart two reactors (The Guardian).

Environmental groups in Japan oppose both coal and nuclear power saying the government was ignoring lessons of Fukushima and attempting to prevent the renewable energy revolution. NGOs campaigns such as "Don't go back to coal" (Sekitan) and "E-Shift" (E-Shift Campaign) are examples of public actions to oppose reliance on energy sources that threat the environment and public safety and do not help to prevent global warming. The problem with nuclear power has got a lot of public focus unlike the coal issue. Japan is the 4th biggest consumer of coal in the world and its reliance on coal has increased by 47% in comparison to 1990 (IEA 2012). The increase in natural gas was much bigger, but from the perspective of climate change policy, natural gas is the least problematic of fossil fuels, as it emits twice less of CO_2 than coal.

[5] Interview with Mr. Koh Nakajima from Keidanren, 20.11.2013 at the COP19 summit in Warsaw.

From the international perspective, it can be argued that Japan's coal consumption is insignificant because it is only about 7% of what China burns (IEA 2012). Japan's coal plants technology is much more efficient (RITE). However, environmental groups argue that there is nothing like "clean coal" (Sierra Club), and at 2013 COP19 international summit, scientists from well-known world's energy and environment research institutions including two Japanese scientists declared that increased coal consumption makes impossible to keep the global temperatures rise below 2°C (Scientists COP19). They referred to the fact that while exploration or all known global fossil fuels reserves would add up to the atmosphere 3,863 Gt CO_2, the share of coal in it would be 2,191 Gt CO_2. The "2 degrees budget" on which countries agreed to at the UNFCCC negotiations allows an increase in emissions up to 1,050 Gt CO_2 (IPCC 2011). In the declaration of the scientists at the COP19, they said that "Even the most efficient coal-fired power plants emit more than about 15 times the amount of CO2 per unit of electricity compared with renewable energy systems, and more than twice the amount of efficient gas fired plants. It is misleading to speak about "high efficiency low-emissions coal combustion technologies" unless equipped with CO_2 capture and storage (...). Avoiding dangerous climate change requires that the majority of fossil fuel reserves need to stay underground. This is particularly true regarding coal for power generation. Coal is the fossil fuel that can most easily be replaced by near zero carbon alternatives, whereas the liquid fossil fuels used in transport are much harder to substitute".

In case of Japan, after the nuclear power shutdown, the government shorted the environmental impact assessment period required before building a new thermal power plant (METI a). In the past, two coal plants that were supposed to be built in Fukushima prefecture in 2009 were stopped after a critical environmental assessment by Ministry of the Environment (Asahi Shimbun 2006). Ministry of the Environment pointed out that with loosed regulation and the new plans of the biggest power company TEPCO to build three more coal power plants, even with use of the most efficient ultra-super critical coal technology, Japan's emissions would go up by 1%. That increase would make many of low-carbon efforts futile and the 2050 goal of 80% emissions reduction not achievable (Asahi Shimbun 2013 a). However, currently there are 25 projects of coal-fired power plants construction in Japan according to Kikonetwork advocacy group (Kikonework 2014b), and 8 of them are to be completed before 2020, which is against the goal of decreasing emissions in future.

5. Renewable energy

What about the renewable energy in Japan? Increasing renewable energy is the main way to address climate change issue, next to improvements in energy efficiency. Renewable energy advocates such as the WWF calls for a global energy shift with a target 100% of renewable energy by 2050 (WWF Report 2011).

We could even say that the first policy that had features of "climate change policy", even though climate change was not even on a public agenda as an issue, was the 1974 Sunshine Program (RIST) started by the Ministry of International Trade to promote energy conservation and development of

alternative energy which would help to build Japan's resilience to oil shocks.

The Sunshine Program did not cause an increase in renewable energy on a scale that it could be treated seriously as a part of the energy mix. Nothing much had happened until 2003, when renewable energy started to grow at an annual rate of 8% after introduction of the Renewable Portfolio Standard law also known as RPS law (JREPP). According to the RPS Law electric companies had to use a certain percent of electricity generated from renewable energy, but the low rate of renewable energy required of power utilities was reason for sluggish growth. However, after the introduction of the Excess Electricity Purchasing Scheme for Photovoltaic (PV) Electricity in 2009, the growth of renewable power increased at an annual rate of 13%. Still, the target of that policy was only surplus electricity from solar power, and its impact was limited.

The law that really helped to speed up growth of renewable energy was the Act on Special Measures concerning Purchase Renewable Energy by Electric Company with FIT (Feed-in Tariff), which was decided in March 2011 by the Cabinet Council, passed in August by the Diet and took effect in July 2012. According to this law, electric companies purchase electricity generated by renewable during certain period and with certain fixed tariff decided by METI, which is much higher than in the RPS Law, and it is not limited to solar energy but it also covers wind, hydro-power, geothermal and biomass. Moreover, electric companies cannot refuse to make grid connection with supplier of renewable power. The feed-in tariff has been a positive turn in Japan's energy policy with the start of investments in renewable energy in Japan on a bigger scale. Actually, it was the shutting down of nuclear power that made renewable energy to have been taken more seriously. There are voices saying that had this shift begun 10 years ago, renewable energy would have been a bigger part of the energy mix by now (Edahiro).

In rankings of countries with the biggest renewable energy capacities in 2013, top countries with the biggest renewable power generation capacity (excluding large hydro power) were China with 118GW, the U.S.: 93, Germany: 78, Spain: 32, Italy: 31 and India: 27 (REN21). According to the Renewables Japan Status Report 2014 (ISEP 2014) compiled by an advocacy group ISEP, in the end of FY 2012, Japan had renewable energy capacity of 17GW, which accounted for 4% of energy mix. If we compare these capacities on per capita basis (see Table 1), then Japan is ahead of China and India, but has significantly smaller renewable energy per capita than Germany, Spain, Italy and the United States.

Table 1: Renewable energy capacities per capita basis

Country	Renewable energy capacities (watts)	Population	Renewable energy share per capita
Germany	78,000,000,000	80,783,000	965.5497
Spain	32,000,000,000	46,507,760	688.0572

Italy	31,000,000,000	60,782,027	510.0192
United States	93,000,000,000	320,099,000	290.5351
Japan	17,000,000,000	127,070,000	133.7845
China	118,000,000,000	1,367,420,000	86.2939
India	27,000,000,000	1,264,750,000	21.34809

Source of data: REN21 (renewable energy), Wikipedia (population in December 2014).

Half of Japan's capacity achieved by the end of 2013 was added after the introduction of the feed-in tariff in 2011, and solar PV systems accounted for about 95% of newly introduced renewable energy. From 2012 to 2013 solar market grew by 350% and because of the boom in solar energy, Japan gained a high position in solar power capacity (4th in the world in REN21 2014 ranking). Also in in renewable energy investments there was a big change, and Japan was in 2012 third world investor (excluding R&D) with US$ 28.6 billion investments, following China (US$ 54.2 billion) and the United States (US$ 33.9 billion). However, according to the Japan for Sustainability nonprofit organization, although the new large investments could result in a total generation capacity of 20 MW, which is equivalent to two nuclear power plants, but only 10% of new installations were operating in 2013 (Matsubara, 2013).

Japan's 17GW in renewable energy capacity, 4% in energy mix and no clear target may seem unimpressive when compared with for example Germany, which is often used for policy researchers as a reference for Japan (Watanabe, 2012). The decision about phase-out nuclear energy by 2022 made by the German government after the Fukushima accident in 2011 caused envy and respect for bold decision-making among anti-nuclear renewable energy advocates in Japan. Indeed, the German government made an effort to map out the way towards energy shift by setting gradual renewable energy targets: by 2020 18% in gross final energy consumption (35% in electricity consumption); 2030 30% (50%), 2040 45% (65%), 2050 60% (80%). Already in 2011, 12.5% of Germany's gross final energy consumption (20.3% of electricity generation) was from renewable sources. It is not only renewable energy that is given a priority in Germany because they also set mitigation targets to be 40% by 2020 (1990) and 80-95% by 2050 (Böhme et al., 2012).

There are many issues that slow down the development of renewable energy in Japan such as the electricity market reform, which would break the regional monopoly-based electricity market and to encourage competition with new supplies that could provide renewable energy; limits to grid capacity, finding available land, waiting lists for components and a shortage of qualified technicians.

One of the most important issues is a renewable energy target that could prioritize renewable energy development and lead to a shift in energy supply. Under the DPJ government in 2009 Japan got the target of increasing renewable energy up to 10% by 2020 based on the Bill of the Basic Act on Global

Warming Countermeasures (bill introduced by Prime Minister Hatoyama with the 25% mitigation target). This 10% meant boosting renewable energy capacity to about 36GW, mainly solar (28GW), wind (5GW), and bio-power (3.3GW) (REN21). However, the 10% target changed became uncertain when energy policy objectives were put under scrutiny after the nuclear accident in 2011. The government presented several energy policy options with various ratios of nuclear power, renewable energy and mitigation targets. The strong public opposition to nuclear power made the DPJ government to promote zero nuclear option in the September 2012 "Innovative Strategy for Energy and the Environment"(METI 2014 d). Renewable energy targets were outlined in "Green Policy Outline", which aimed for full-scale introduction of renewable energy with 30% of the total power generation as an introduction target by 2030.

However, the after the DJP lost elections, the new LDP government rejected this idea. After inauguration of the second Cabinet by the LDP leader Shinzo Abe, the new Prime Minister announced in January 2013 at a meeting of the Industrial Competitiveness Council a "zero base review" of the energy policy (PM Office 2013), and its priorities were stable energy supply and low costs. As a result the energy plan approved in April 2014 did not indicate any specific targets for renewable energy. The founder of the renewable energy-focused nonprofit Tetsunari Iida[6] said in an interview that there are main problems with the renewable energy governance, such as the lack of transparency of policy process, no public participation, and lack of urgency for energy shift and dealing with climate change. He stated that in Japan focus is on state-led big projects, which is an old way of doing business. It is difficult to reform the electricity market because “monopoly is the business model for Japanese power plants, which rely on clean coal propaganda and don’t want to invest in renewable energy”. The actual ambition on renewable energy interests groups was to have a renewable energy target of 20%, but it became 10% under the DPJ government and it was difficult to increase it later on. He commented that the feed-in tariff, which by many sources was described as a “generous tariff”, is still a low ambition, mainly because the council deciding on the price was influenced by the industry lobbyists. The council consisted of five people making decisions and three of them were connected with the Keidanren (Japan Business Federation) and against renewable energy. Similar information on the problem with the council expressed the managing director of NGO CASA (Citizens’ Alliance for Saving Atmosphere and the Earth), Mitsutoshi Hayakawa[7]. The high price of renewable energy in feed- in tariff was a result of lobbying efforts, but still there are obstacles on the part of power plants and strict rules about land use.

A study “Sustainable Zone Report 2012” on the status and trends of renewable energy supply in each municipality in Japan the status released in the end of 2012 (Matsubara, 2013), showed that 11 prefectures have a share of over 10% renewable energy supply for electricity generation and 52

[6] Interview with Tetsunari Iida, Institute for Sustainable Energy Policies, January 15, 2014.
[7] Interview with Mitsutoshi Hayakawa, Citizens’ Alliance for Saving the Atmosphere and the Earth (CASA) at the COP19 international climate change summit in Warsaw, Poland November 21, 2013.

municipalities rely on 100% renewable out of 1,719 municipalities in Japan. It is not much now, but there are many examples though of positive changes in Japan, for example three years after Japan's nuclear meltdown, Fukushima Prefecture announced it will transition to 100% renewable energy by 2040 (Fukushima Prefecture). Currently, Fukushima gets 22% of its energy from renewable sources. Nagano Prefecture has also pledged to switch to 90% renewable energy by 2050 (Nagano Prefecture). Also, there have been positive impacts of the feed-in tariff and carbon tax policies. Although the advocacy groups complain that the revenue from carbon tax lacks transparency[8], the tax revenue is supposed to be allocated for mitigation of CO_2 through renewable energy and enhancement of energy saving tax. In the first year after the introduction[9], the revenue was JPY 39.1 billion (US$ 358.6 million), and after the 3-step increase in the tax in the period of 3 years, the annual revenue is supposed to be about JPY 262.3 billion (USD $3.31 billion). The same study that estimated tax revenue looked also into CO_2 reduction effects to be caused by the policy, and they estimated it to be at the level of -1.5% to-2.2% (6 to 24 million CO_2) in 2020 compared with 1990 levels. From the climate change policy perspective and for the sake of more sustainable and reliable energy sources, it is crucial then to continue with the feed-in tariff and carbon tax. The lacking component now is setting up a vision for developing renewable energy in next decades.

6. Energy efficiency

Evaluation of whether a country uses its energy in a most efficient way is useful when approaching climate change issue. However, using only high efficiency without considering changing energy sources is not enough measure, because it leads to the Jevons Paradox (Jevons, 1865), which is a phenomenon of energy-efficiency rarely leading to net energy reduction. In this case, efficiency improvements make things worse by actually encouraging higher energy consumption. Despite high efficiency in Japan energy consumption per capita increased between 1973 and 2012 by around 20%) and total energy consumption by 40% even with energy conservation measures after the nuclear accident (World Bank Energy).

Without a doubt, Japan is one of the most efficient economies, but there is even a strong image of Japan being the most efficient country in the world, especially when it comes to industry. Being the most energy efficient in the world has been used by the industry to claim that the best way to deal with climate change is by industry's voluntary action not by regulations. An example of that is the report by Keidanren published in November 2013 which emphasizes "Japan's superior energy efficiency compared to other countries" and voluntary measures as the best way for national and international climate change policy (Keidanren b). The official data (MOE 2014) emphasizes that in comparison to 1990 the industry decreased emissions by 13.4% by 2012, and other sectors grew. This contributes to

[8] Interview with carbon tax specialist Jiro Adachi, JACSES (Japan Center for Sustainable Environment and Society) at the COP19, Warsaw, Poland, November 16, 2013.
[9] Ministry of the Environment quoting the study by the Mizuho Information Research Institute, COP19 side event, November 20, 2013.

the firm belief that the Japanese industry increased greatly its efficiency since 1990s.

There were major improvements in efficiency by the industry after the oil shocks in 1970s. The oil crisis was the reason not only to look into various sources of energy to decrease dependency on oil, but also to increase efficiency by industry, which was imposed by the Energy Conservation Law introduced in 1979. According to METI statistics, energy efficiency has increased since 1970s by 40% (measured in primary energy use per real GDP) (Morikawa, 2014). However, environmental groups in Japan doubt that nowadays the industry is indeed the most efficient industry in the world, claiming that when we compare CO_2 emissions per GDP by sector, which shows efficiency of each sector, it becomes apparent that energy efficiency of the Japanese industry is similar to other OECD countries (Kikonetwork). They conclude that Japanese record of the best energy efficiency is achieved due to energy conservation in residential and transport sectors.

CAN International, which is a global umbrella organization for non-profit groups engaged in climate change policy advocacy, examined Japan's submissions to the UNFCCC and stated also that the country's high efficiency is achieved by residential and transport sectors, not by industries. They noticed that the UNFCCC submission did not include data after 1990, that industrial efficiency stagnated since 1990, and some industries such as cement have actually got worse. CAN International concluded that it was time for Japan to stop saying that "they are squeezing a dry towel" and that because of high efficiency there was no room for further improvements (CAN International 2007).

The International Energy Efficiency Scoreboard published in 2012 by the American Council for an Energy-Efficient Economy's ranked Japan has 4th most efficient country following the U.K., Germany and Italy out of 16 largest economies (ACEEE 2012). They declared that none of these top countries was as efficient as they should be. In 2014 the same group updated their study and Japan was ranked as the 6th, following Germany, Italy, the whole European Union, China and France (ACEEE 2014). This study may seem surprising, especially because of the high ranking of China. They concluded that Japan scored high in national policy because of its mandatory energy savings goal and committing more spending on energy efficiency measures in proportion to its GDP than any other country analyzed. They said that Japan continues to have the highest efficiency of electricity production from thermal power plants, and it also scored high in transportation category. As for areas of improvement, they pointed out that Japan should increase buildings efficiency and in industrial energy efficiency, which may be a surprise because of the strong commitment to efficiency in industrial sector, but it was explained by Japan's low percent of combined heat and power in its power capacity and a relatively high level of energy intensity in industry.

Another piece of information on energy efficiency is the data of the International Energy Agency (IEA) on energy intensity (which measures efficiency), shows that from the early 1980s Italy had a higher level of efficiency than Japan, and that Germany has surpassed Japan in 2007. To summarize the

information, it is not as simple as to declare that “Japan is the most efficient country in the world” because energy efficiency is related to various sectors, and there has been a lot of progress in other OECD countries that had been lagging behind Japan after its post-oil shocks improvements, but focused on efficiency in recent years.

7. Chronological overview of developments in domestic mitigation policy

At the time when international attention started to focus on climate change in the end of 1980s, Japan had already gathered a vast experience in dealing with domestic environmental issues, such as heavy industrial pollution that caused Minamata and itai-itai diseases (Imura et al. 2005: 78), development of pollution-abatement and increasing energy efficiency which was intended to reduce the country’s dependency on fossil fuels. Environmental policy was developed due to public pressure and successful lawsuits against polluting companies (Encyclopedia of Global Warming). It started in 1970 with legislation of six environmental laws, then followed by establishing of the Environmental Agency in 1971 (upgraded to the Ministry of the Environment in 2001), and finally in 1994 by legislation of the Basic Environment Law which called for pollution control, energy conservation and recycling.

Since the establishment of the Environmental Agency, for 20 years the main focus had been pollution abatement, but climate change appeared on the political agenda after Prime Minister Noboru Takeshita’s participation in the Toronto World Conference on Changing Atmosphere in 1988 (Kameyama 2003). However, there was no progress in domestic policy for a decade following that event, and Japan’s involvement related to climate change action was more in the sphere of foreign policy. There has been no domestic policy on this issue until 1998, when the Global Warming Prevention Headquarters, a council under the Prime Minister Office established after COP3 summit in Kyoto in December 1997, developed the Guidelines for Measures to Prevent Global Warming. Signing the Kyoto Protocol, under which Japan agreed to 6% emission reduction target relative to 1990 levels in 2008-2012 first period of commitment, was the trigger for establishing domestic measures. These Guidelines were later included into the Law Concerning the Promotion of Measures to Cope with Global Warming, which was passed also in 1998 (MOE a). The main objective of the legislation was to establish a plan on how to achieve the 6% Kyoto target.

The international climate change summit hosted by Japan was the trigger not only for policymakers’ action, but also it prompted industry to come up with their own voluntary initiatives (Keidanren Voluntary Action Plan on the Environment, Keidanren a). Announcement of voluntary measures was intended to avoid governmental regulations such as carbon tax or emissions trading (Kameyama, 2003). In 1997 the Top Runner Program was introduced, and one year later it became a part of the Energy Conservation Law imposing on industry mandatory energy efficiency standards based on the most efficient, top performing products in the market. Before the program, government was imposing mandatory efficiency standards for appliances and cars, but they were not sufficient because they

were rarely revised and based on negotiations with industry (UN).

Japan had signed the Kyoto Protocol in 1997, and it was ratified in 2002. In March 2002 the Global Warming Prevention Headquarters prepared again the Guidelines for Measures to Prevent Global Warming calling on industry for a voluntary cut of 7% and households 2% (Global Warming Prevention Headquarters). The main focus was on technology development and citizens' efforts, not on regulations. In case of energy policy, the Guidelines included modest measures to promote renewable energy, increasing efficiency of fossil fuels and promotion of nuclear energy. In May 2002 the Law Concerning the Promotion of Measures to Cope with Global Warming was revised to implement the Kyoto Protocol. In general, it was similar to the Guidelines plus incentives for fuel efficient cars and imposing energy saving in new buildings. There were no compulsory measures such as carbon taxes, despite the debate on introducing such measure. Instead of putting a price on greenhouse gases emissions, the government started focusing on boosting nuclear, use of forest sinks and buying offsets through the Kyoto Protocol flexibility mechanisms.

When the Kyoto Protocol entered into force in 2005, it became obvious that with current policy Japan would be unable to meet the 6% target, since the greenhouse gases emissions had increased by 7.3% in comparison to 1990 levels (NIES), and to achieve 6% target Japan would need to reduce emissions by 13.3%. The revised policy continued to rely on industry voluntary action, increased use of nuclear power, better energy conservation, promotion of new sources of energy, and stronger regulation on fluorocarbons. A positive step forward was imposing obligation on industry to disclose their emissions, for which NGOs had been pushing for several years with lawsuits and lobbying (Japan for Sustainability, 2006). To encourage citizens' participation the Cool-Biz campaign launched in 2005, and the government was contemplating promotion of biofuels. To meet the gap between the actual increase in emissions and the Kyoto Protocol target, the government prepared a large budget to buy offset credits through the Clean Development Mechanism (MOE 2007). The law revised again in 2008 to further accommodate a broader use of offsets from abroad and domestic forest sinks via Japan Verified Emission Reduction (J-VER).

Until that point, the cornerstone of Japan's climate change policy had been voluntary actions of industry. However, there was an increased interest abroad in putting a price on carbon emissions by introducing emission trading schemes, with the European Union launching the EU ETS in 2005, New Zealand and Switzerland started their national programs in 2008, in UK there was discussion on the similar issue ended with launching emission trading in 2010, and there were several sub-national programs in New South Wales (Australia), Alberta (Canada) and North-eastern and Mid-Atlantic regions of the U.S (UN). In Japan, voluntary program was introduced also in 2005 (JVETS Japan's Voluntary Emission Trading Scheme). Unlike in the EU ETS or even in municipal emission trading schemes in Tokyo (started in 2010) and in Saitama Prefecture (2011), which managed to impose

obligations on industry, the Japanese national scheme relied on voluntary participation, which remained low (JVETS), and because of low participation it was difficult to have an impact on mitigation.

International climate change negotiations after the Bali summit in 2007 put pressure on major emitter countries to come up with mid-term mitigation targets, which would be the basis on the second commitment period of the Kyoto Protocol. Discussion in Japan led to proposing 15% of 2005 levels target by the LDP government under Prime Minister Taro Aso in June 2009 (PM Taro Aso). The target was criticized as low because in comparison to 1990 base year it would mean about 8% reduction because emissions grew between 1990 and 2005. However, the opposition DPJ proposed more ambitious number of 25% of 1990 levels (DPJ 2008).

In September 2009 the newly elected DPJ government announced their mid-term target to be 25% by 2020 and long-term target 80% by 2050, and this domestic mitigation target was registered in January 2010 at the UNFCCC as the second Japan's target after the 6% under the Kyoto Protocol. The government submitted also to the Diet in March 2010 the Bill of the Basic Law on Climate Change (DPJ 2010). The new law proposal included the 25% target, but with a condition that major emitters participate in a fair and effective new agreement, long-term target 80% by 2050, renewable energy target 10% by 2020, introduction of emission trading scheme, carbon tax and feed-in tariff (FIT) system for expansion of renewable energy, and also electricity market liberalization that would break the current regional monopolies of power companies. However the climate bill did not pass the Diet in 2010 firstly because of the political problems that made Prime Minister Yukio Hatoyama resign in June 2010, and then in December 2010 because of lack of political consensus regarding the bill.

In December 2010 the DPJ government decided to postpone discussion about emission trading scheme to the next year, claiming that industry had already tough time with accepting the carbon tax, which successfully prevailed at the political agenda. In the discussion about emission trading, already several concessions were made such as making easier conditions for power companies and heavy industry. In case of power utilities, it would allow limiting emissions per amount of energy produced not limiting total emissions, which allows producing more electricity and subsequently increase of emissions. Industry wanted to increase amount of exempted companies from emission trading and they negotiated that with MOE.

Because of nuclear crisis in the following year, the climate change bill faced unavoidable failure as the policy was said to be relying on increase in nuclear power, and subsequently it was withdrawn during the November 2012 dissolution of the House of Representatives. Emission trading scheme, liberalization of electricity market and 25% mid-term target became problematic to gain political support, but despite the failure of the bill and energy crisis, carbon tax and FIT were implemented. In August 2011 FIT passed the Diet and started in July 2012. The generous tariff promoted a widespread use of renewable energy by forcing the power industry to buy electricity from renewable sources for a

period of 20 years. As a result of this policy move, within one year of implementing the policy solar energy installations doubled and have been continuing to grow, although their total share of Japan's energy sources remains low (3.8% in 2012, ISEP 2013). As for the carbon tax, the DPJ government managed to introduce it in October 2012. Its purpose was not to change behavior nor to restrict economic activity, but to raise revenues for investments and innovation. The subjects of the tax are CO_2 emissions from fossil fuels used in thermal generation and cars, and the tax rate will be incrementally increased up in three stages for three and a half years.

The nuclear energy crisis following the earthquake and Fukushima accident in 2011 prompted the government to scrape the 25% mitigation target. At this point, Japan had already announced before Fukushima accident the non-participation in the second commitment period of the Kyoto Protocol during COP16 in December 2010. The need to change the energy mix became a major issue for Japan's climate change policy, which already suffered a major drawback when the climate change bill failed in 2010. In April 2011 Minster of Environment Matsumoto Ryu held a press conference and said that they consider revision of climate change bill proposal with 25% target. Because of the withdrawal from the second commitment period of the Kyoto Protocol there was a risk that after the first commitment period expires in the end of financial year 2012, Japan will be in climate change policy vacuum with no target and no incentives to mitigate greenhouse gases. Several options were presented on how to review the target, and finally after inauguration of the second Cabinet by the LDP leader Shinzo Abe, the new Prime Minister required the Ministry of the Environment to undertake a "zero base review" of a bill on the Basic Law on Global Warming Countermeasures, which was withdrawn during the latest ordinary session of the Diet.

At the municipal level, climate change policies may look slightly more active than on national level. The climate change law required all governments of prefectures, cities and villages to establish and implement integrated plans for climate change. Both Tokyo and Saitama came up with emission trading schemes (in 2010 and in 2011, respectively), and the Tokyo Metropolitan government official said in an interview about the scheme, which was the first in the world applied to greenhouse gases, and about the 25% mitigation target by 2020 (of 2000 levels) that "We are serious to achieve this. It is a little bit different from the national government"[10]. Japan's Ministry of the Environment published a survey in March 2012, about levels of local implementation (as of October 1, 2011) of the Law Concerning the Promotion of Measures to Cope with Global Warming. The survey reported that about 77% of all local government entities in Japan had formulated their own administrative and business action plans to reduce greenhouse gas emissions, which was an increase of 100 entities from the previous year. However, this number increased only to 78.6% in October 2013 (MOE b). While Japan did not have any legal obligations or mitigation target from April 2013 until November, which meant a

[10] Nishida, Yuko, Bureau of Environment Tokyo Metropolitan Government, interview at the symposium "Legal Possibilities to Strengthen Renewable Energies", April 19, 2012, Osaka, Japan.

“policy vacuum”, it had an impact on municipal efforts. Ministry of the Environment found out that in October 2012, 27 out of 148 municipalities and 10 prefectures did not have climate change policies (Asahi Shimbun 2013b). From these prefectures who had, waited for government’s initiative, and only Nagano Prefecture announced a policy in March 2013. On the positive side, Ministry of the Environment data revealed that 15 prefectures set equal or even more ambitious mitigation targets than the Prime Minister Hatoyama’s 25% target. Miyazaki Prefecture boldly decided to go for 52%.

The main problem after the Fukushima crisis was to set up a new national mitigation target, and the Ministry of the Environment insisted that Japan needed to present a numerical target at the COP19 summit in Poland in November 2013, and according to the media coverage (Asahi Shimbun 2013 c) recommended 6-7% mitigation compared to emissions levels of 2005, which when we take into account that Japan’s emissions rose by about 7% between 1990 and 2005, would mean stabilization of emissions at roughly the same level as in 1990.

The Ministry of Economy, Trade and Industry was against the target recommended by MOE, saying that it was impossible to set any target because the ratio of nuclear power generation to the country’s overall electricity requirements could not be assessed. However, a new target of 3.8% compared to 2005 levels (increase of 3.1% in comparison to 1990 levels) was announced at the time of COP19 Warsaw climate change negotiations meeting in November 2013 (MOE 2014b). The compromise target was said to be a provisional figure based on the assumption that no nuclear reactors would be operating, and they may be reviewed in future according to Hiroshi Minami, Japan's chief negotiator at the UN talks (UNFCCC c.).

However, if Japan, which is currently responsible for about 4% of global emissions, keeps the low 3.8% target, it is estimated that worldwide emissions would increase by 0.7% by 2020 (Jeffery et al., 2013). Surely this type of a negative contribution is not something to aim for. At the same international venue of COP19, Environment Minister Nobuteru Ishihara announced that Japan had achieved the 6% target and that including the forest sinks (accounting for 3.8% of reduction) and the Kyoto Mechanisms credits bought from abroad (5.9% of reduction) Japan’s greenhouse gases emissions decreased by 8.2% (METI 2014 a.).

8. Conclusion

This chapter focused on domestic developments within climate change mitigation and energy policy in Japan. As the six largest emitter in the world, Japan has experience an increase in greenhouse gases emissions since 1990 despite its commitment to the Kyoto Protocol. The main source of emissions is power sector, thus it is important to shift energy sources from fossil fuels to achieve abatement. Due to the nuclear power crisis, the policy focus shifted to coal, much to dismay of environmental groups. Renewable energy growth had been sluggish prior to the accident, but since 2011 investments grew exponentially. Due to the feed-in tariff and carbon tax policies, the renewable sector is likely to

continue growth, but it is necessary to carry out electricity market reform to break regional monopolies and ensure a more sustainable energy market. Japan's high energy efficiency has been used as a reason for industry to oppose mitigation policy and promote merely voluntary actions. However, the efficiency achieved due to oil shocks has not progressed since 1990. Within the climate change policy developments, the main reason for concern is the failure of the climate change bill in 2010, and withdrawal from the mitigation and renewable energy targets. However, the current 3.8% of 2005 levels may be solely temporary target and is due to review prior 2015 Paris COP21 summit.

Chapter 3: Climate change in foreign policy

1. Introduction

In this chapter major events in climate change diplomacy are outlined together with initiatives taken by the government at several levels: multilateral via participation in the UNFCCC convention and the Kyoto Protocol, regional and bilateral initiatives. Firstly, I give an overview of major events within foreign policy. Next, I look into events before and after the Kyoto Protocol entered into force. Japan's engagement in the post-Kyoto negotiations and its evaluation by civil society groups follows in the next sections. I also focus on international contribution through finance and the Joint Crediting Mechanisms scheme. Lastly, I describe initiatives within international contribution that regard climate change science.

Chronological development of the foreign policy is outlined in the Table 2. Majority of Japan's efforts to address climate change via foreign policy have been done through the participation in international negotiations.

Table 2: Developments in the Japanese foreign policy

	JAPAN'S DIPLOMACY
1993	UNFCCC ratified by the Diet (United Nations Framework Convention on Climate Change)
1997	Japan hosted COP3 summit in Kyoto and agreed to 6% mitigation target Kyoto Initiative with US$8 billion ODA loans and personnel training program
2001	• Resolution of the Diet to ratify Kyoto Protocol and call for the US not to withdraw from the treaty • Visit to Japan by High Level EU Mission on Environment concerning the Kyoto Protocol • Japan-US High-Level consultations on climate change
2002	Ratification of the Kyoto Protocol despite the US withdrawal
2003	• Talks with Russia to influence Russia to ratify the Kyoto Protocol • U.S.-Japan High-Level Consultations on Climate Change
2005	• Kyoto Protocol enters into force after Russia's ratification in 2004 • China-Japan Climate Change Dialogue
2006	China-Japan Climate Change Dialogue
2007	• "Cool Earth 50" initiative: reduce GHGs by half by 2050 in Japan and globally proposed by PM Abe Shinzo at the Asian leaders' meeting in May and at the G-8 summit in Heiligendamm; also proposal of "3 principles" in designing an effective post-2012 international framework • Statement at the Security Council open debate on energy, security and climate, with promotion of the following initiatives:

	➢ Asia-Pacific Partnership on Clean Development and Climate (APP) ➢ At the East Asia Summit at Cebu in Philippines announced Japan's cooperation initiative for clean energy and sustainable growth for East Asia region ➢ Tokyo International Conference on African Development (TICAD) process, which has given greater attention to issues of energy and environment as well as adaptation to the effects of global warming • Japan-U.S. High-Level Consultations on Climate Change • High Level Dialogue between Japan and Republic of Korea on Climate Change
2008	• Fukuda Vision introduced by PM Yasuo Fukuda at the Davos Forum: long-term target 60-80% by 2050, $10 billion fund for developing countries to tackle climate change • Japan hosted the G8 Summit in Toyako, Hokkaido, climate change high on the agenda, proposed 50% by 2050 as a global target ➢ This target was agreed upon at the 2009 G8 L'aquila Summit, and developed countries promised to reduced their emissions by 80% by 2050 and aim for 50% cut globally • Survey mission to Tuvalu and the Republic of the Fiji Islands to investigate the possibility of cooperation to help Tuvalu adapt to climate change • Joint Announcement on Enhanced Cooperation in Environment and Climate Change Issues between Japan and the Lao People's Democratic Republic • TICAD: Japan-UNDP Joint Framework for Building Partnership to Address Climate Change in Africa
2009	• PM Hatoyama announced the 25% by 2020 of 1990 emissions baseline mid-term target for Japan at the UN meeting in New York 25% with condition that major emitter will participate in the international agreement • Tripartite Policy Dialogue among Japan, People's Republic of China, and Republic of Korea and the Japan-People's Republic of China Climate Change Dialogue
2010	• Series of High Level Dialogues between Japan and the Republic of Korea • Japan hosted the Aichi-Nagoya Ministerial Meeting of the REDD+ Partnership
2011	Japan's Vision and Actions toward Low-Carbon Growth and a Climate-Resilient World at COP17
2013	Announcement of revised mid-term target (3.8% of 2005 baseline) and ACE Action for Cool Earth diplomatic strategy at COP19 in Warsaw: ➢ US$16 billion in assistance to developing nations over a three-year period ➢ Launching in 2017 of a satellite GOSAT-2 to monitor nation-by-nation and megacity-by-megacity GHG emission levels

➢ US$110 billion yen of public and private finance over five years for R&D in energy and environment ➢ Hosting Global Energy and Environment Innovation Forum annually with participation of leading persons ➢ Double number of partners in the JCM scheme over the next 3 years

Source: MOFA d.

2. Japan at the international climate change negotiations

2.1 From the UNFCCC to Kyoto Protocol entry into force

Before the climate change regime was established in the form of the UNFCCC agreement, Japan was not active in the field of global environment. Yu-Jose (2004) explained that after a period of inactivity, during the economic bubble period, there was a pressure on Japan to do something about it, and in 1987 the Upper House of the Diet passed a resolution declaring that Japan should take initiatives on global environmental issues and assume leadership in sustainable development. Global environment was an area "where its active role will not be impeded by constitutional restrictions, such as Article 9, and historical memories of WW2"(Yu-Jose, 2004:24). Japan's involvement in international climate change regime dates back to the first political international meetings on climate change, such as the Hague summit in 1989 starting from which several European countries and Canada were calling for negotiations to establish a climate change convention. However, at that time Japan held a similar position to the United States opposing such an agreement (Jamieson, 2014).

Things changed a little when it came to the UNFCCC negotiations, during which Japan played a mediator role (Kameyama, 2003; and Pajon, 2010). According to Kameyama, the government was willing to take action on climate change because of a key phrase at the time: kokusai koken" (international contribution) (Kameyama, 2003:139). The most important issue was to ensure the United States participation in the UNFCCC treaty because it would not be effective without the biggest emitter, and also the Japanese industry opposed mitigation without the U.S. participation as the American industry was their competition. During negotiations Japan sided with the JUSSCANNZ coalition, which consisted of Japan, the United States, Switzerland, Canada, Norway, and New Zealand. These countries were in similar situation that made them demand less stringent targets than those requested by European countries. Japan, Norway, and Switzerland had already high efficiency level, and the United States, Canada, and Australia highly depended on fossil fuels. To keep everyone in the game, Japan proposed a "pledge and review" approach instead of commitments, but this idea was criticized as an avoidance to commit. Bodansky evaluate Japan's role as not as influential mediator as it was hoped because "it was the UK that finally drafted the compromise wording on emission targets" (Bodansky, 1993: 491).

The COP3 conference on Kyoto was a major turning point in perception of Japan's involvement in the international response to climate change. Schreurs argued that the Japanese government's global leadership on climate change issues in the 1990s reflected a calculated attempt to garner greater international legitimacy (Schreurs 1996). Pajon claimed that the decision to host the conference was to make a huge, visible international contribution (Pajon, 2010:37). Oshitani went even further and stated that: "The real purpose of hosting COP3 was not in fact related to any environmental issue but rather to the Japanese government's ambition to join the UN Security Council as a permanent member" (Oshitani, 2006:98). The most likely explanation of why Japan wanted to host the conference is a combination of various factors (Kameyama, 2004): the Environmental Agency wanted to raise public awareness about the issue, the Ministry of International Trade and Industry was interested in getting support for policies to improve energy efficiency and increase nuclear power, and the Ministry of Foreign Affairs strived for international contribution, boosting image of the country, and exercising leadership that would help with the Security Council permanent membership.

At the COP3 negotiations, Japan announced plans to offer a substantial ODA for environmental issues through the Kyoto Initiative. Kameyama described how there was more pressure on the government from both industry and from environmental groups in 1997 than during the UNFCCC negotiations regarding mitigation commitments (Kameyama, 2003:142). Before the conference, ministries came up with proposals regarding mitigation target. The Environment Agency advocated 6-7% reduction, the Ministry of Foreign Affairs proposed 5%, but the Ministry of International Trade and Industry opposed to larger commitments and declared that 0% stabilization is enough. The compromise was 2.5% mitigation target with which Japan went to the COP3 negotiations.

At the conference, European countries wanted 15% mitigation for all developed countries, and the Japanese delegation opposed that idea saying that different targets for each country would be fairer than "one fits all" approach because we need to take into account past efforts to improve energy efficiency. The government supported some of the U.S. proposals like participation of developing countries, and according to Miyaoka, the Ministry of International Trade and Industry (MITI) "used "coalition" with US as an excuse to make proposals that would emasculate the cc regime and as a means of receiving support from the US to differentiate national targets" (Miyaoka, 2004:74). Pajon said that domestic actors used foreign pressure to advance their own interests (Pajon, 2010: 40), and it could be seen not only on the said of mitigation-resistant industry and MITI side, but also on the side of more environmental oriented actors.

In the end, Japan entered the negotiations with 2.5% target, and exited with 6%, which was both perceived as defeat by industry that was against "unfair and excessive costs", and as a success by the proponents of more ambitious climate change action. There were some critical opinions of researchers about the role of Japan in the conference. Fisher said that Japan did not want big reduction

commitments before the Kyoto conference, and later shifted its position because the European Union was pushing for more (Fisher, 2003:189). Pajon claimed that Japan was trapped in the responsibility as a host and could not have avoided a commitment because of the presidency role at the conference. (Pajon, 2010). Newell stated that there was no leadership on Japan's part because: "Even though Japan accepted the UNFCCC before enforcement, it did so only after the U.S. had ratified it. (…) Even in the [Kyoto Conference in 1997(…), in spite of being a host, Japan failed to display leadership by calling for only a 2.5% reduction in emissions by 2010." (Newell, 1998:29). Regardless of divergent positions within ministries, Japan accepted responsibility and participated in efforts to make the treaty enter into force.

Since the COP3 conference, Japan aligned itself at the UNFCCC negotiations with the Umbrella Group, which consists also of Australia, Canada, Iceland, New Zealand, Norway, Russia, Ukraine and the United States. These countries were proponents of wide use of flexible mechanisms, including forestry sinks, and no punitive compliance procedures in the agreement. They have been skeptical of strict "target and timetable" approach favored by the EU and AOSIS (Alliance of Small Island States). It was the opposite of what the EU advocated for: greenhouse gases reduction should be achieved through domestic action (change in energy sources and increased efficiency), not through use of forest sinks, and there should be some punishment for those that do not meet targets.

Japan was especially focused on forest sinks because there was still an ongoing debate on the scope of inclusion of this measure in the Kyoto Protocol. According to IGES paper, the government planned to cover 5.5 % of 6% Kyoto target through forest sinks and actions outside country (flexible mechanisms) (IGES, 2000). The reason for such an interest in getting offsets was because there was a perception that the 1990 baseline year for emissions reduction in unfair for Japan due to its prior achievement in energy efficiency (MITI, 2003). In case of the European Union which had to reduce emissions by 8% under the Kyoto Protocol, the drop in emissions was to a great extent thank to the restructuring of Central and Eastern European industry done since 1990, so the baseline year 1990 was beneficial for Europe. Not only that, but also the EU members agreed to the 'EU bubble' structure of the Kyoto goal, which allowed some European countries to increase their pollution as long as total EU emissions meet their target. The authorization of the EU bubble was then a side-payment, agreed between richer EU members to get reluctant EU members 'on side'. It could be then argued that it was much easier for the EU to be a "leader" and advocate of deeper emission cuts than for Japan that had no energy-intensive domestic industry collapse going on like in the Eastern Europe.

Forest sinks were then vital option to meet the Kyoto target without having to change industry structure, and they became an important point during the ratification process. However, the Japanese NGOs demanded that the government should amend its position on forest sinks to avoid creating loopholes, on compliance to include compliance measures in the treaty, and on flexible mechanism, which should

exclude nuclear power and forest sinks (Kikonetwork, 2000). They also called for early ratification despite the withdrawal of the United States in 2001 (Kikonetwork, 2001), and were critical towards the government for using the forest sinks inclusion as a condition for joining the treaty in negotiations with the EU (Asaoka, 2001a).

Japan's ratification of the Kyoto Protocol may seem against odds, because the opponents of the mitigation commitments were more influential than the proponents (Tiberghien, and Schreurs, 2007). One of explanations may be that "Japan's decision to ratify cannot be explained by the balance of interests, bureaucratic positions, electoral politics, or foreign relations alone" (Tiberghien and Schreurs 2010: 140). "Japan ratified the Kyoto Protocol because Japan had hosted (chaired) the conference where the Kyoto Protocol was drawn up. For Japan, it was a question of face. To have withdrawn support for the Kyoto Protocol would have meant losing face" (Tiberghien and Schreurs 2010:155). The fact that the treaty bore the name of a Japanese city had symbolic meaning of action on global warming, Japan's foreign policy prominence and leadership (Tiberghien, and Schreurs, 2007:81).

Despite the symbolic meaning, the government was ambiguous about the ratification, which worried the environmental groups (Kikonetwork, 2001b) critical also about changes about forest sinks and compliance measures made in the draft of the treaty to ensure participation of Japan, Canada, Australia and Russia (Asaoka, 2001b). According to the research by Tiberghien, and Schreurs (2007), the fact that Prime Minister Koizumi was ambiguous with the EU and United States helped in convincing the EU to include forest sinks in the treaty and also to drop the idea for punitive measures for those that did not meet targets. However, Japan did not manage to get including nuclear energy under the Clean Development Mechanism.

After the ratification, the future of the treaty was still not sure. In order to enter into force, more than 55 countries that together account for more than 55% of greenhouse gas emissions needed to ratify the Kyoto Protocol. Japan and the EU took part in influencing Russia to join the treaty, and in 2005 the agreement finally entered into force.

2.2 Initiatives since the Kyoto Protocol entry into force beyond the UNFCCC framework

Beyond the Kyoto Protocol participation, Japan has undertaken several initiatives related to climate change on regional and bilateral level. One of them was participation in the Asia Pacific Partnership on Clean Development, which was launched in 2006 and ended in 2011 (APP). The partnership involved the United States, Australia, Canada, India, China, South Korea, and Japan. The difference between the UNFCCC regime and the US-led APP is that the former aims for a legally-binding multilateral framework that covers a wide spectrum of issues, and the APP was voluntarily and technology-oriented without any binding targets. Japan participated in both because the government wanted to harmonize conflicting viewpoints of domestic actors and to accommodate international partners (van Asselt et al, 2009), and the APP was supposed to be complimentary to, not a

replacement of the UN-led agreement.

Under the APP the public-private projects regarded energy intensive sectors such as production of steel, aluminum and cement, coal mining, “cleaner fossil energy”, more efficient buildings and appliances, power generation and renewable energy. Due to a strong focus on fossil fuels and limited impact of the APP on improvements in actual emissions of partner countries, this initiative worked more as a forum for energy-intensive industries to exchange ideas on best practice in their sectors without a strong environmental agenda. In the end, some of the projects were cancelled and the APP concluded its work in 2011.

There are other regional cooperation initiatives in which Japan took the role of an organizer. On them is the cooperation with East Asia through the East Asia Low Carbon Growth Partnership Dialogue (MOFA East Asia). It aims at developing strategies on low carbon growth, on how to use market and technology and how to enhance networks in the region. There have been two meetings until now in April 2012 and in May 2013, during which the government promoted the Joint Crediting Mechanism (JCM) initiative. The details about the JCM are explained later in this chapter in the section about assistance to developing countries. Another initiative of the government is the Strategy for Low-Carbon Growth and Climate Resilient Development cooperation with Africa announced at the Tokyo International Conference on African Development (TICAD) in 2011 (MOFA 2011), which objective is sustainable and low-carbon growth in Africa, and it focuses on ODA and technical cooperation.

On bilateral level Japan engaged in talks with China, the United States, Korea and the EU. Cooperation with China and the United States on climate change is important because these two countries are the biggest emitters of greenhouse gases and they have not committed to any legally binding targets. Environmental cooperation with China started in 1994 with the Japan-China Environmental Conservation Cooperation Agreement (MOE Japan China), and climate change entered the agenda around the time when the Kyoto Protocol entered into force. China was the biggest supplier of offset credits for Japan under the Clean Development Mechanism, as it will be further explained later in this chapter. Cooperation with the United States and the EU was based on meetings with exchange of opinions as well as joint scientific initiatives (see section on scientific contribution).

2.3 Involvement in the post-Kyoto negotiations

The post-Kyoto negotiations process was started during the COP13 in Bali, and its goal has been to set up a new treaty under which mitigation commitment would include the biggest emitters and developing countries. Starting from 2007, Japanese Prime Ministers came up with several diplomatic initiatives to tackle climate change. In 2007 Prime Minister Shinzo Abe announced the Cool Earth 50 initiative, which stated that emissions should be reduced by half by 2050 in Japan and globally. At that time there was pressure on developed countries to come up with mid-term targets of mitigation by 2020, but there was no such target in PM Abe’s proposal or in the next “Fukuda Vision” proposed by

the next Prime Minister in 2008. Japanese NGOs were worried (Asaoka, 2008) that while Japan was leading the discussion on "differentiation" between what is expected from developed and developing countries, the government did not set any details about reductions in Japan nor about long-term finance for developing countries. They were critical also about the government pushing for sectoral approach in interest of power and steel industries, while using "Cool Earth Partnership" as leverage. PM Fukuda's commitment to emission cuts 60-80% by 2050 was a good initiative showing that Japan stays focused on climate change; and it was announced at the G-8 summit held in Japan in 2008. Domestic[11] and international environmental groups welcomed it while asking for a mid-term target which should be in line with the -25-40% range agreed at the Bali conference (Kikonetwork 2008).

Announcement of mid-term targets was at that time critical for showing the world leadership on climate change, and such an announcement was finally made in 2009 by Prime Minister Hatoyama pledging at the UN meeting in New York to reduce emissions by 25% by 2020. This commitment contained a condition that Japan would do that if all major emitters participate in a legally binding treaty. Initially, it was hoped that the second commitment period of the Kyoto Protocol would include all major emitters, but many countries including Japan perceived the Kyoto Protocol as unfair and ineffective. This disillusion with the treaty caused the failure of the COP15 in Copenhagen, and later withdrawals by Canada, Japan and Russia. The current negotiations aim to set up a new treaty at the COP21 in Paris in 2015, and in them Japan advocates for:

1. Participation of all major emitters (treaty applicable to all);
2. Bottom-up calculation of national targets followed by pledge and review approach instead of strict mitigation goals established by consensus of all countries;
3. Sectoral approach, which means setting targets for various sectors that would allow showing high efficiency in certain sectors

When quitting the Kyoto Protocol announced in December 2010 (MOFA 2010), it was explained that the treaty covers only a small part of global emissions thus it was not fair, nor effective. Problems related to offsets and the second commitment period, are addressed further in this chapter in section about the assistance to developing countries. After the withdrawal and in the next year after the nuclear accident, the government confirmed that Japan was still ambitious on climate change and willing to work on the 2020 agreement (MOFA 2011), while advocating for initiatives outside the UN such as the JCM scheme. There was no mentioning about the 25% target in 2011 and 2012 at international meetings, and the government stated that it was difficult to clarify the target because of the undecided structure of energy mix. The new target was finally announced at the COP19 in Warsaw in November 2013 and gathered a lot of criticism from NGOs and delegations of other countries. At the

[11] Main Japanese NGOs active on the issue of climate change are JACSES, ISEP, Kikonetwork, WWF Japan, CASA, FoE Japan, Greenpeace Japan

same time, Japan announced a new diplomatic strategy based on development assistance and a broad use of the bilateral JCM scheme.

2.4 Japan's performance at the COP negotiations through the lenses of civil society

International NGOs involved in climate change policies advocacy are the most severe critics of the progress in COP negotiations. At every climate change summit, the Climate Action Network (CAN), which is a coalition of over 500 NGOs worldwide, gives the mock 'Fossil of the Day' awards (Fossil of the Day) to countries which perform the worst during the UNFCCC negotiations and try to obstruct the negotiations. In fact, it is quite rare for Japan to be nominated. In recent years the 'winners' were mainly Saudi Arabia, the United States and Canada. Surely, being the Fossil does not mean that a country totally disregards the urgency of climate change action, as the award is subjective and reflects popular views that tend to paint things in black and white. But it does prove some insight into international perceptions of which country is seen as a forerunner of climate change politics and which one is not.

Judgment by the NGOs is not enough to actually measure performance because what they evaluate are statements and promises made during international meetings, and sometimes that can be misleading. Also, the NGOs tend to focus more on obstructive behavior and mishaps than to notice good performance. Nevertheless, it is interesting to see how CAN perceived Japan's performance at the negotiations, and when they treated Japanese delegation's statements as undesirable for the negotiations process. It may also shed some light on whether international contribution initiatives were acknowledged by NGOs, even though they tend to focus on negative things more. In order to check how NGOs evaluated Japan, all the editions of ECO newsletter and CAN International press releases from international summits between 2001 and the end of 2013 were examined.

The first time Japan appeared among recipients of the infamous Fossil of the Day award in 2001 during the summit in Marrakech. NGOs complained about "the gang of four" nicknaming Japan, Russia, Canada and Australia for their unwillingness to compromise despite having already achieved what they wanted, namely including forest sinks as offsets in the Kyoto Protocol. Japan got its first Fossil for trying to delete several previously agreed upon articles of the negotiated text. CAN International issued an open letter to the Japanese delegation on "outrageous behavior" that would weaken compliance and also criticized Japan's proposal of dumping CO_2 in oceans. During the same summit Japan received one more Fossil for attempts to weaken compliance measures and public participation, and to remove conditions of using sinks (submission of sinks inventories and compliance adoption). NGOs accused Japan of forging an alliance with Russia to obstruct negotiations.

During several following meetings, Japan's performance got much less criticism. In fact, in 2002 NGOs even gave a rare praise in their comments saying that there had been positive technology developments with HFCs, one of greenhouse gases in Japan. The next year COP9 in Milano brought

Fossil nomination for the group of developed countries, Japan included, for not supporting exclusion of GMOs from forest sinks, but group “shaming and naming” is not as severe as being a lone “winner” of the mock award.

During the 2004 COP in Buenos Aires, CAN International ranked countries according to their performance: leadership in negotiations, emission trends and target fulfillment, national policies, contributions to funding, and long term targets. 6 points out of 10 went for the EU for its leadership, and Japan got the second position with 3 point for the contribution to funding. However, according to the ECO newsletter, at the same summit during a METI side event, a Japanese official proposed long term commitment after the first period of the Kyoto Protocol (2013-2040 or 2030-2040) instead of short-term targets because renewable energy and energy efficiency technologies cannot result in deep emission cuts implying that it would be better to rely on nuclear power and wait for CCS (carbon capture and storage) technology to be commercialized around 2030-40.

In 2005, during Montreal talks, the Japanese delegation got three Fossil awards: for saying that it would not go ahead without the US in the post-Kyoto regime, which by the way was a reasonable thing to insist upon; for proposal about forest sinks with a minimum standard by which all countries would automatically comply; and for reluctance (shared with the EU) to put an end date on discussion of new targets for developed countries. In the 2006 COP12 in Nairobi feedback, NGOs frowned upon Japan’s threat to “shrink its commitment” for the second commitment period if forced to make a quick decision regarding future obligations.

The real flood of Fossil awards happened the next year during the 2007 talks in Bali, during which Japan got nominated six days in a row, and three times it received even multiple awards during one day. At first the reason for criticism was the statement that it was time to move beyond the Kyoto Protocol, which could be interpreted as indication that the treaty should be scrapped. Japan also proposed a sectoral approach on bottom-up basis, market-based approach and public-private partnership, but no binding emission reduction targets were mentioned. NGOs raised alarm that Japan was trying to go to its old “pledge and review” proposal (mentioned way back in early 1990s), in which each country can decide what action to take rather than negotiating absolute binding targets that are needed to solve the problem. Another problem pointed out was that the delegation wanted to include nuclear power in the CDM. The last issue that raised doubts among observers was taking part together with several other countries of the Umbrella Group in blocking reference in the summit outcome text (the Bali Roadmap) to the 25-40% cuts suggested as suitable for developed countries by the IPCC.

The climate change strategy prepared by the government to present at the 2008 G8 summit in Hokkaido was reviewed by CAN too, which nicknamed it as Blurred “Fukuda Vision” saying that it is not enough for the host of the G8 meeting. The reason for such a harsh comment was that the government had postponed a mid-term target announcement, and instead it played “a numbers game” by

disguising lack of ambition in shifting the base year from 1990 to 2005. Japan said that it would match the EU's target of 20% by 2020, using the sectoral approach. EU's target was 20% of 1990 levels which equaled to 14% of 2005 level for the EU (and after excluding offsets it would become 11%). The reason why is because in the EU emissions declined between 1990 and 2005, so the level of emissions reduction still needed to be achieved by 2020 from 2005 levels perspective is lower than from 1990 levels perspective. However in Japan, emissions increased between 1990 and 2005 period, so a target is compared to 2005 levels (which were higher than 1990 levels) it is less ambitious target than if it were compared with 1990 levels. If Japan adopted similar to the EU 14% (2005) as a target, in comparison to 1990 it would have been only 8% (in the EU case it was 20%), and after excluding offsets, it would have become only 4%. NGOs asked how the government can say that it would take a leadership at G8 with only 8% target, which was only 2% deeper than the 6% Kyoto target.

What climate change policy advocates wanted at that time from Japan was to set a mid-term target of 25-40% reduction from 1990, long term target of 60-80% (also of 1990 levels), plus domestic emission trading and/or carbon tax. This is the reason why CAN International criticized at that time METI publication, which showed that with maximum technology application and "sectoral approach" only 4% below 1990 would be possible. On one hand, NGOs were afraid that: "Japan's advocacy for a sectoral approach is being used as a means to lower the level of ambition of Japan's mid-term goal". They said that sectoral approach could mean one of two things: 1. Bottom-up approach in which we calculate mitigation potential within countries; 2. Calculating mitigation potential of certain industrial sectors worldwide, aiming towards "aspired" reduction goals. In both cases, it would mean non-binding commitments, which would lead to low ambition. On the other hand, the delegation insisted that sectoral approach would not replace national targets, principle of common but differentiated responsibilities and acknowledged that there is a gap between bottom-up approach outcome and the science requirement (25-40% by 2020).

During the 2008 COP14 in Poznan Japan received again several Fossils such as for example for no announcement about mid-term target, although much less than the previous year. The awards reflected NGOs approach to PM Fukuda's climate change strategy, and were given for rethinking mitigation commitment and declaring that 1990 baseline year was not fair and proposing that the world should move on from the 1990 baseline; for an attempt to weaken its goals when Japan noted that the goal of 50% reduction by 2050 was nonbinding, and the baseline was "the current level", not 1990; and for a lengthy speech on "showering and bathing". CAN concluded that while "lifestyle innovation" such as voluntary personal hygiene adjustments were great, but they would not reduce Japan's emissions by 85% by 2050 (1990), which was the goal for developed countries proposed by the EU. Another source of criticism was the comment made by an official that it cannot be expected that Japan would become "the ATM for the world", and it is surprising that the comment caused criticism because Japan had been one of the most involved countries in proving climate change-related funds (Cool Earth

Partnership is a good example) and environmental ODA. Criticism would be more adequate if Japan was refusing to provide any finance, but in this case, CAN passes a judgment on a comment without revealing its full context.

2009 was also a year in which Fossil awards were plenty for Japan, but just as 2008, 2009 was a year when climate change was placed quite high on political agenda in Japan. The role of NGOs giving Fossil awards was to push for more commitment and point out everything that possibly could be criticized. They started off with following up on domestic developments in Japan, where in March 2009, an advisory committee to the government presented options for the mid-term target, soon to be presented at the international workshop in Bonn. The options ranged from +4% to -25% of 1990 level. Surely, NGOs agonized over including the +4% option when the IPCC 4th report said that that developed countries should reduce emissions by 25-40%. Another issue was the way how the committee presented those options emphasizing costs of mitigation such as GDP loss, unemployment, and impacts on households with showing any benefits of taking action.

During the Bonn meeting ECO newsletter reported that the main Japanese opposition party DPJ had proposed the target of -25% on 1990 levels by 2020. Meanwhile in Bonn the delegation may not be able to keep up, announcing that there would not be any target until June. The target announced by PM Aso in June 2009 obviously brought disappointment to advocates of radical action since it was a modest 8% below 1990 levels, presented though by the government as a robust 15% below 2005 levels.

In June, CAN International reported about a meeting in Hokkaido with Pacific Islands and the declaration made with Japan "We are islanders – towards an eco-friendly and rich Pacific". The declaration talked about the need to make deep cuts in emissions globally, and Japan offered aid of US$510 million, which was an increase of about US$430 million from the previous year. NGOs pointed out that when three weeks after the meeting Japan announced the Aso target of 8% (of 1990 levels, equal to 15% of 2005 levels), only 2% more than the Kyoto target, so it was not an example of deep cuts. ECO newsletter concluded that the aid "achieved its aim: island leaders have kept conspicuously quiet on the subject". Another comment on the new target came with the Fossil award and words referring to the high dependence on offsets procurement from abroad: "Japan seems determined to suck up all the hot air available in the market – a transparent attempt to avoid making reductions at home. Ukraine seems happy to provide this development assistance." They also criticized the delegation for joining Australia and Canada in blocking the discussion on the scale of emission reductions; for trying together with Russia to wriggle out of a strong compliance mechanism; for trying together with New Zealand to remove numbers for aggregate developed countries targets; for arguing together with Canada that more than one base year from which to measure emission reductions would be better for clarity; for using uncertainty as an excuse to ignore historical responsibility; and lastly for being in the group of developed countries which did not give any constructive finance proposals (at

that time only Norway and Switzerland did so). To lighten things up, we must acknowledge that Japan was also in the group of countries that were at that time awarded “The Ray of the Day” award for rejecting obstructive demands made by Saudi Arabia regarding loss and damage.

It could be expected that the 2009 Hatoyama Initiative would calm down international NGOs, since it was the most internationally recognized Japanese initiative. However, CAN International was still able to find something to complain about and pointed out that Japan’s submission was not clear nor strong enough as expected because it lacked information on how much of proposed finance would be new and additional. During the Copenhagen summit in the same year, they again pointed out that the previously declared finance was shown as a new one when the Cool Earth Initiative was renamed as the Hatoyma Initiative despite containing the same funds.

Another sticky issue was Japan’s position on the second commitment period. At that time, Japan was still in for the next period, and there was no talk about withdrawing from the treaty. However, the NGOs and climate-vulnerable countries like the AOSIS group and African countries supported the idea of making the next commitment period be only 5 years, instead of 8 years like the EU and Japan proposed. The reason behind the shorter period was that locking targets for 8 years does not give opportunities to review them if scientific evaluation by the IPCC required it. Another issue was that the Japanese delegation insisted that carbon capture and storage (CCS) projects should count as the CDM projects. CCS technology is supposed to be applied at coal power plants, and according to CAN International approving it under the CDM would mean that the developed countries could “experiment” with still unproven technology outside of their countries and hold no responsibility when things go wrong; also it would lead to subsidizing fossil fuels industry instead of investing in clean energy projects. The last reason for yet another Fossil award was the suspicion that Japan had been opposing a second commitment period and refusing the proposed the chair’s text as a basis for negotiations.

In comparison to lively commentary on Japan’s participation in negotiations in 2007-2009, Bonn talks and COP16 in Cancun held in 2010 brought much less lengthy descriptions on the country’s proposals. Firstly, CAN International reported that Japan was blocking discussions in Bonn by requesting together with Russia that the UNFCCC prepare a technical paper analyzing the environmental impact of the pledges, despite the fact that it was common knowledge that the pledges are not consistent with keeping global temperatures rise below 2°C. The Cancun summit brought two Fossil awards for the same “crime”, and Japan was nominated “for trying to kill Kyoto Protocol” by rejecting the second commitment period and undermining the negotiations.

After the Fukushima accident, it could be expected that international NGOs change their expectations towards Japan. At first, they congratulated with PM Kan announced in the Diet in June 2011 that for the time being Japan is keeping the 25% target, but they were also disappointed about rejection of the second commitment of the treaty and worried about some groups aiming to delete the 25% target from

the climate change bill.

At Bonn talks in June 2011, Japan got criticized for “failure to learn from the Fukushima accident”, when the delegation insisted on including nuclear energy in the CDM. The same situation happened in October 2011 during talks in Panama. During Durban talks in the end of the year, NGOs noted with regret that Japan, Canada and Russia had not changed their positions on the Protocol. In 2012, there was not much talk about Japan in the context of international negotiations, and again it was nominated twice for refusing to participate in the second commitment period together with Canada and Russia; and once during Doha talks “for no pledge, no urgency, no money” when the delegation kept quiet about mitigation target and made no financial commitments. In 2013 Warsaw talks, NGOs nominated Japan again for slashing mitigation target from 25% of 1990 levels to 3.8% of 2005 levels, which meant increasing emissions by 3.1% of 1990 levels. CAN International also noted that it was the first time since 1996 that the Japanese Environment Minister did not meet civil society at COP negotiations.

3. International contribution through finance for developing countries

Providing financial assistance to developing countries has played a big role in Japan’s policy to tackle climate change. Internationally there has been a lot of pressure from the United Nations and environmental groups for increased assistance to developing countries for both climate change mitigation and adaptation measures. Estimates what is needed vary[12], but they send a clear message that countries such as Japan should help poorer countries to make a leapfrog development to low carbon society, avoiding the path that industrialized countries took in the past and which resulted in the exponential increase in greenhouse gases. The funds offered by developed countries until now are rather small in comparison with demands, with the Green Climate Fund that is supposed to raise US$100 billion a year still in the process of mobilizing resources (Green Climate Fund), but indisputably Japan has been one of the top contributors.

Table 3 shows the overview of the main assistance initiatives undertook by the Japanese government and their scale in comparison to global commitments. By looking at the scale of financial commitments of Japan, we can see that it has been a large donor and has been setting up financial goals for aid throughout the two decades of the international regime. By now, Japan’s Fast Start Finance has been one of the biggest sources of finance, and Japan is leading in providing assistance, followed by the United Kingdom, Germany, the United States, and Norway (Climate funds).

[12] Only for adaptation needs, the UNFCCC (UNFCCCb) evaluated costs at US$28-67 billion per year by 2030, but the World Bank (World Bank) announced that US$ 70-100 billion per year by 2030 is necessary, and the needs could go up to US$100-450 billion a year (Montes 2012).

Table 3: Japan's climate change finance to developing countries

Assistance initiative	Period of time	Funds	Scale of global contributions
Increase in environmental ODA (climate change not a priority) announced in 1992 at the Earth Summit in Rio (MOFA a)	1992-1996	Pledged: increase environmental ODA to about $US 10 billion Delivered: US$13.3 billion (on average US$2.6 per year)	Earliest global environmental ODA data: 2001-01 US$7.8 billion (OECD)
Kyoto Initiative (COP3 talks in 1997) within the Initiative for Sustainable Development (MOFAa)	1998-2006	Pledged: 2.4 billion in loans a year in ODA Delivered US$8 billion announced in 2005 (MOFAb)	In 2006, global climate change aid spending was around US$5 billion (OECD DAC)
Multilateral funds	2003-2012	Adaptation Fund (US$0.01 million), Forest Carbon Partnership Facility (US$14 million), GEF4 (US$100.69 million), GEF5 (US$162.61 million), Least Developed Countries Fund (US$0.25 million) (Climate Funds Japan)	Adaptation Fund (US$226 million), Forest Carbon Partnership Facility (US$388 million), GEF4 (US$955 million), GEF5 (US$776 million), Least Developed Countries Fund (US$907 million) (Climate Funds)
Cool Earth Partnership (January 2008) (MOFA 2008)	From December 2009 to the end of 2012, but replaced in the end of 2009 by the Hatoyama Initiative	Pledged: US$ 10 billion Delivered: US$ 2.5 billion by December 2009 (Kikonetwork 2010a)	In 2007-09 OECD climate-related finances were about US$8 billion (OECD DAC)
Japan's Fast Start Finance, also known as the Hatoyama Initiative (December 2009) (Delegation of Japan)	2010-2012	Pledged: US$15 billion (US$11 billion of public finance and the rest in private finance) Delivered: US$ 16.9 billion (Minami)	In Fast Start Finance US$35 billion was provided (Climate Funds Report)

		(US$ 13.5 billion of public finance and US$3.4 billion of private finance)	
ACE: Action for Cool Earth (ACE)	2013-2016	Pledged: USD$ 16 billion (US 13 billion in public finance)	US$35 billion in aid pledges expected from developed countries

In order to understand the features of Japan's climate change assistance, let's look at the biggest initiative the government has undertaken so far. Japan was one of the biggest donors under the Fast Start Finance, a framework established by the Cancun Agreement, which was the first attempt by the UN to organize climate change aid from developed countries on a larger scale. There were 37 countries contributing to the fund, and Japan was the largest contributor beside the United States, the United Kingdom, Norway and Germany (Kuramochi et al., 2012). Together these 5 countries delivered about 80% of the fund. Developed countries were required to meet the Monterrey commitment to deliver 0.7% of national income as ODA, but Norway managed to do so.

The Japanese contribution consisted mainly of ODA, and there were more loans than grants (49% loans, 15% of aid were grants, 36% described as other financial flows). The Japanese climate-related spending has increased after the fund had been established, but there were no new sources of funding but "dedicated budget contributions". Japan was similar in this approach to the rest of the biggest contributors with the exception of Germany that mobilized new sources of finance. It is difficult to compare the content of each country's contributions because "different governments consider different types of finance to constitute FSF, so self-reported figures are not directly comparable between countries" (Kuramochi et al., 2012).

Even though the Japanese contribution was one of the largest among developed countries, we need to consider its content. The high share of loans in one issue, and another is that it is also not clear whether the contribution is "new and additional" because a significant share of Japanese Fast Start Finance contribution reflects pre-existing pledges to development assistance initiatives, such as the Cool Earth Partnership. The principle of additionality means that funds should be more than existing national ODA and are not counted as ODA commitments. Kuramochi et al. (2012) noticed that there is some ambiguity around the role of private finance because the figures provided by the government seemed to include it despite the previous declaration that only public finance in counted in the contribution. The issue of additonality is not a problem only within Japan's contribution, and there has been criticism that developed countries could choose in the fund what counts as climate change finance (Climate Funds Report).

Japan's additionality issue was discussed also by Hall (2009), who looked back to the period of setting up the rules for the Kyoto Protocol. He noticed that Japan "found itself isolated by its stance on financial additonality at the COP6 negotiations in November 2000" (Hall, 2009: 181). He explained that there was a domestic pressure to decrease ODA budget, and the government proposed at the international meeting that ODA should be allowed to finance Clean Development Mechanism projects, which means that developed countries would be allowed to buy their emission credits through ODA. This controversial idea was criticized by other countries, who pointed out that that climate-related project would replace ODA projects instead of being additional. From Japan's point of view, using ODA money to finance offsets would mean no need for another budget for climate change. However, including such a rule would worsen development assistance.

What about the distribution of funds? The majority of public funds contributed by Japan went to projects in Asia-Pacific region (70%), and the main recipients were India (28% of the public funds) and Indonesia (26%) (Climate Funds Japan). The focus of development assistance on middle-income countries in case of climate change is consistent with the Japan's ODA strategy. There have been some efforts to increase share of ODA for the LDCs (it increased from 19.8% in 2007 to 25.7%, which accounts for US$4 billion, in 2011; OECD 2013).

However, one of priorities of the Fast Start Fund was to increase finance for adaptation, especially in the most vulnerable countries, but in case of Japan 73% went for mitigation mainly in fast growing Asian countries. Official figures (MOFA c) describe the level of assistance to vulnerable countries at US$2.1 billion (16% of the total amount) with aid for Africa US$1.6 billion, Small Island Developing States: US$240 million, and Least Developing Countries: US$950 million. Climate Funds Update (Climate Funds Japan), which is independent website providing information on international climate finance initiatives, estimated the finance provided to low-income countries to be 9.8% of the fund.

In the top 13 recipient countries that received assistance from Japan of more than US$100 million, 5 countries have high vulnerability and low level of readiness to deal with climate change (above 120 score in ND-GAIN index of 177 countries), and others are at much lower risk(ND-GAIN Index). Vulnerability to climate change has not necessarily been the major factor in allocation of climate change assistance projects, and adaptation to impacts of climate change accounted for only US$1.38 billion of the almost US$17 billion fund (MOFA c).

According to IGES/WR/ODI report, many Japanese loans went for infrastructure development projects such as urban transport projects. Many of these large-scale projects address many objectives, so climate was not the single objective (Kuramochi et al. 2012). Grants distribution was more balanced than loans, which aimed for mitigation mainly, and they went for adaptation, mitigation and projects related to forests protection (REDD+). A controversial issue is the inclusion of "clean" fossil fuel power plant construction projects such as the natural gas combined cycle power plant in Uzbekistan (JICA

2010) because there is no clarification whether this type of projects should be included, but it raises questions whether fossil fuels-related projects are acceptable under the regime that aims to facilitate the shift to low-carbon economy.

Coal-related projects are a bigger issue within the Japanese foreign climate change policy. According to the study “Banking on Coal” (Coal Report 2013) published by the German environmental NGO Urgewald, the Polish Green Network, the international NGO network BankTrack and the CEE Bankwatch Network from 2005 to mid-2013, 89 commercial banks poured a total of 118 billion euro into the coal mining industry. The lion's share of finance (71%) was provided by only 20 banks. Japanese private banks were among the top of coal mining financers, with over US$4 billion provided in loans between 2011 and mid-2013. The most funds for coal projects were given by Mitsubishi UFJ Financial Group (US$1.6 billion) and Sumitomo Mitsui (US$1.3 billion). Ironically, just like other top 20 banks funding the dirtiest fossil fuel, the Japanese banks also express their concern about global warming and commitment to “low-carbon economy”. The study quotes the contradicting CSR statements with the actions that undermine sustainability. Japan was not the only country funding coal projects; American banks financed projects worth over US$16 billion and Chinese invested US$14 billion. In this ranking, Japanese banks had 6th position, following the United States, China, the United Kingdom, France and Australia. When it comes to state-led coal projects funding, the Japan Bank for International Cooperation (JBIC) provides the biggest amount of finance for coal projects in the world, with US$11.9 billion loaned between 2007 and mid-2013 (Natural Resources Defense Council).

According to the research done by an environmental group Natural Resources Defense Council, in that period of time over US$59 billion of public finance went into coal projects through development banks and official assistance. The NGO stated that this use of public finance exacerbates climate change. Several countries have announced to end public financing of coal projects (the United States, Denmark, Finland, Iceland, Norway, Sweden and the United Kingdom). However, Japan has been a major investor in coal projects overseas (US$19.7 billion), followed by the United States (US$8.9 billion) and Germany (US$6 billion). The research included three Japanese institutions: JBIC (Japan Bank for International Cooperation), NEXI (Nippon Export & Investment Insurance) and JICA (Japan International Cooperation Agency). About 74% of Japan’s spending went to coal power plants, and the rest was used for coal mining.

Figures on coal funding provided by the World Resources Institute (Yangm et al. 2012) are more conservative, but the time frame of their assessment is unclear: Between 2005 and 2011, Japanese public spending on coal abroad was estimated at around US$10 billion, the United States spent about US$5 billion and China US$3 billion. Japan funded 27 projects, and was the biggest financer of coal plants in Asia. Meanwhile, in July 2013 the Obama’s administration committed to end coal financing (Bloomberg). In Japan, there has been no development towards restricting overseas coal projects, and in July 2014 JBIC announced a $202 million credit line for Vietnam Electricity to purchase Japanese

equipment for a coal-fired power plant (Institute for Energy Research). JBIC claims that the coal projects are only to install the most efficient technology in countries that have few other alternatives than coal.

According to the World Coal Association, the most efficient state of the art coal-fuelled power plants emit up to 40% less CO_2 than average coal power plant (World Coal Association), which is still more than other sources of energy. It could be also argued that coal is not the energy for all. Currently, there are more than 1.3 billion people without access to electricity, and there are about 1200 coal power plants being planned in 59 countries (Yangm et al., 2012). According to the World Resources Institute, coal-fired power plants are the largest contributor to greenhouse gas emissions and further increase will push us towards 6 degrees of global warming with serious consequences (Yangm et al., 2012).

Worldwide and in Japan environmental NGOs demand banning all new coal projects and claim that new investments should be focused on renewable projects. Currently coal is the biggest source of world's electricity and second after oil source of primary energy. Justification of pushing for more coal is it is a cheap source of energy, but there is a huge cost to people and environment both from coal-mining process and coal-fuelled power plants. NGOs oppose the "myth of clean coal" saying that there is no such a thing. The Japanese NGOs together with international environmental groups demanded that the government stops financing coal projects abroad in August 2013 (Kikonetwork 2013b) and in February 2014 (Kikonetwork 2014c), pointing out that coal projects such as in Indonesian Batang area in addition to concerns about CO_2 emissions, the coal power plant projects puts at risk livelihoods and health due to mercury water contamination. NGOs reported that the protests by local people against the JBIC projects in July 2013 at the Japanese embassy in Jakarta led to violent action by police and proved that the project lacks “social acceptability” which is one of the requirements for development projects. The same objections were raised by Greenpeace which condemned Japan’s “coal diplomacy” (Sekitan 2014). Their report claimed that the Japanese government has promoted the Batang plant as a showpiece in Japan’s worldwide efforts to help its own corporations beat Chinese companies for international coal plant contracts. Indonesia is also an important source of coal for Japan, and between 2009 and 2013 Japan was the third largest importer of coal from Indonesia. Greenpeace mentioned that not only the Batang plant will release to atmosphere 432 million tons of CO_2 in its operation lifetime of 40 years, but there will be many toxicants such as coal ash dumped into waterways since the Indonesian law does not prohibit that.

4. Joint Crediting Mechanism (JCM): a substitute of the domestic mitigation?

Since April 2013 Japan has been out of the Kyoto Protocol – a decision that raised many critical voices abroad and in the country. Meanwhile, the Japanese government has developed a new initiative through which Japan could manage to get carbon offsets despite non-participation in the second commitment period of the Kyoto Protocol. In the Protocol, flexible mechanisms (Joint Initiative to trade offsets with other developed countries and Clean Developed Mechanism targeting developing

countries) were the source of offsets for Japan. As mentioned in the previous section of this chapter, Japan managed to achieve its Kyoto Protocol target to a big extent thanks to the flexible mechanisms, which covered 5.9% of the 6% emissions reduction. Japan announced in the end of 2013 that its greenhouse gases emissions decreased by 8.2% in comparison to 1990 through the use of carbon offsets and forest sinks (MOE 2013a). The use of carbon offsets was crucial for achieving the target, since domestic emissions have been on a rise.

When the decision about withdrawal from the Kyoto Protocol was made in 2010, the government had to come up with a way to supply offsets from another source than the flexible mechanisms, and the bilateral offsetting scheme was set up (New Mechanisms Information Platform). The scheme bears two names, depending on a country to which is being marketed to, but the name "Joint Crediting Mechanism (JCM)" is used more often than "Bilateral Offset Credit Mechanism (BOCM)".

According to the study by Kuriyama et al. (2013), as a result of COP18 decisions, the amount of credits Japan could buy in the second commitment period would decrease by 40% of what Japan got in the first commitment period. Kyoto mechanisms play a critical role for Japan to achieve its reduction target, and the majority of units were bought by the electric utilities and steel industry (320 million t-CO2 of Kyoto units over 5 years period, total credits bought 420 million t-CO2). In the second commitment period, 80% of units would be supplied by China, and it would lead to a biased market structure. It is understandable that the government preferred to create a new scheme as the important source of external credits instead of doing the Clean Development Mechanism projects in China that is perceived as a big competition to the Japanese industry anyway. Under the Kyoto Protocol flexible mechanisms, Japan got offset credits through the Clean Development Mechanism (90.86%) and the Joint Implementation (9.14%). In the CDM, about 60% of 777 projects were hosted by China (Kyoto Mechanisms Information Platform), and the rest was located mostly in Asia and Latin America. Kuriyama suggests that "a point of concern is the near complete dependence on one country, China, for the annual approximate 42 million t-CO2 of CER supply post-2012. In the event that CDM projects in China should under some circumstances be extensively suspended, Japan could potentially loose around 80% of acquirable CERs for KP-CP" all at once in the fragile and unstable supply structure. The estimation results again highlight the importance of creating new mechanisms, such as the JCM/BOCM" (Kuriyamaet al, 2013:11).

The Japanese government calls the scheme "unique on a global level"[13], and it certainly is because emission reduction credits would be issued by Japan, which has no precedent because under the Kyoto Protocol it was an international body that issued credits. These credits cannot be used in international trading, but the aim is to make it tradable. It would cover the period until new UN-led

[13] Japanese delegation press conference at COP19, November 15, 2013.

treaty comes into force, which would be most likely in 2020, depending if the COP21 in 2015 in Paris is successful. There is a hope that the JCM could be included in this new agreement. As a new scheme outside the UN framework, there is an issue of international recognition and credibility. According to a Ministry of Environment official (Mizuno, 2013), when the government introduced this scheme during a COP meeting or international meetings, there were many critical voices, but during bilateral meetings with countries, there was a lot of interest and will to participate. The same official stated one year later in January 2014 referring to the Framework for Various Approaches under the UNFCCC that "It is often mentioned in newspapers and I'm always surprised when they do that, that there is a problem with JCM being approved by UNFCCC. During COP18 it was decided that FVA can be applied, so UNFCCC knows about JCM already" (Mizuno, 2014).

By September 2014, twelve countries have signed bilateral agreements with Japan under the JCM: Bangladesh, Cambodia, Costa Rica, Ethiopia, Indonesia, Kenya, Laos, Maldives, Mexico, Mongolia, Palau, and Vietnam (New Mechanisms Information Platform). The government announced in December 2013 that Japan planned to o double the number of partner countries over the next three years (ACE).

There have been feasibility studies from 2010 in about 30 middle-income developing countries, and consultations with interested countries started in 2011 together with model projects carried out by the Ministry of Economy, Trade and Industry (METI) and Ministry of the Environment (MOE). Since 2013 the JCM started operations firstly by establishing rules and registration of projects with partner countries. Between 2010 and 2012, majority of feasibility studies were done in Asian countries (86%, top countries: Indonesia, Vietnam and India), with much smaller amount of studies in Africa (6.5%) and in Latin America (5.4%), and a miniscule amount of attention given to the Eastern Europe. Later on the studies and model projects concentrated on the countries with which Japan signed bilateral agreements. The Japanese government supports feasibility studies, investment costs and verification costs. Both ministries METI and MOE are involved in the projects METI is involved in financing as a part of a technology diffusion support program of New Energy and Industrial Technology Development Cooperation (NEDO). MOE supports half of investment costs provided that half of reductions should be transferred to Japanese government (Fransen et al., 2013). The annual budgets for FY2014 are: US$61 million for METI projects, which was more than in 2013 (US$38 million), US$12million for MOE projects, which was US$1 million less than in 2013, but it is going to be an annual figure by 2016. MOE got also a substantial budget for "fund for expansion of low-carbon technologies" of US$42 million, which works as subsidy and is used in collaboration with JICA, plus US$18 million as a contribution to "leapfrog" development projects under the ADB Trust Fund. All the money mentioned above are intended for model projects under the JCM. These projects cover a variety of areas, ex. energy saving and renewable power, transport, waste management and water treatment (Fransen et al., 2013).

"The Basic Concept of JCM" states three objectives: 1. Low carbon technology transfer and mitigation

projects in developing countries that signed a bilateral agreement; 2. Using greenhouse gases emissions reductions as offsets to achieve mitigation target in Japan; 3. Contribution to the UNFCCC objective by facilitating global mitigation actions. As the Japanese government explains, the aim is to use experience gained during participating in the United Nations-led Clean Development Mechanism scheme. There are some procedural differences from the CDM in the new initiative. For example, unlike in the centralized CDM scheme, this one is de-centralized. It means that decisions would be made by joint committees consisting of governmental representatives from Japan and host countries. Under the CDM some project are difficult to implement, such as USC coal-fired power generation, but in JCM there would be no problem with that. In the Japanese plans, more bodies would be eligible to validate projects than in CDM, the same entity can also verify them (not possible in the CDM). They also try to make calculation of greenhouse gases emission reductions simplified than in the CDM. The JCM initiative would use MRV methods (measurement, reporting and verification), which would be developed by a joint committee. Validation and verification of projects would be carried out by third parties chosen by the joint committee. Developing countries can have agreements with other countries than Japan too, but projects need to count separately. In this way, they want to avoid registering mitigation projects under this scheme in another international mechanism to avoid double counting of GHG emission reductions. The JCM is described also as "a co-benefits approach to climate change". It means achieving at the same time two goals: alleviation of pollution and reduction of GHG emissions. It could be achieved by ex. energy efficiency improvement at thermal power plants, methane recovery and waste-water treatment in electricity generation, and improvements in public transport.

The governance and procedures of JCM resemble the Clean Development Mechanism (CDM), but there are some important differences, ex. the JCM allows to use technologies that were not supported by the UN to achieve energy saving such as nuclear power, coal technologies and large scale hydropower. Measuring, Reporting and Verification (MRV) process in energy efficiency was described as burdensome under the CDM (IGES 2013), but under the JCM it is less complicated. There is also a different approach to MRV of achieved CO2 reductions. In the CDM projects used as reference emissions of business-as-usual but it was not easy to determine that level. In the JCM they use energy efficiency as reference (not projected emissions levels), which is more measurable and transparent. Another difference is that while in CDM all projects were governed by one central secretariat of the UNFCCC, the JCM is decentralized scheme. Each country that signed Memorandum of Understanding with Japan establishes a Joint Committee with representatives of both governments.

South Asian countries have been so far the main partners in the JCM scheme, and their representatives at the COP19 were positive about the opportunities coming from cooperation with Japan[14]. They pointed out that there are many countries which would like to get more development

[14] There were many positive opinions about the JCM scheme by representatives of Mongolia, Indonesia, Laos, Vietnam etc. expressed at the side events related to the JCM at the COP19 international summit, Warsaw, Poland.

projects like in the Clean Development Mechanism, and that in their countries there are many possibilities for further reductions, which would be a "huge potential for JCM", and saying that the JCM allows not only create a credit for Japan but also a gain for their countries.

Japanese NGOs were critical about the promotion of the JCM scheme at the international negotiations venue and regretful that Japan did not show leadership by presenting a more ambitious target. They had concerns about how meaningful is it as an actual emission reduction action in the JCM scheme, especially because the scheme includes coal projects. There were feasibility studies and model projects on efficient use of coal in Vietnam, Indonesia, Mongolia and Kazakhstan. Coal promotion is also included in METI capacity building activities. The Keidanren argues that expecting that developing countries would stop using coal is not reasonable, and that somebody is going to build coal power plants there anyway, so it would be better if the plants were using the most efficient technologies that Japan already has[15].

The government provided data (METI b) that if all coal-fuelled power plants in the world were to be replaced with the ultra-supercritical Japanese coal technology; the global CO_2 emissions would drop by nearly the equivalent of Japan's annual emissions (about 1.3 billion tons). If we add to that estimated emissions reductions after implementing Japanese efficiency in steel industry and air conditioning, on a global scale it would be 300 million tons (20% of Japan's annual emissions) for steel-making and 100 million tons. It is true that Japanese coal power plants have the highest efficiency in the world, followed by Germany and the United States (RITE), but carbon-intensive coal is the only fossil fuel in which it had achieved so high efficiency. Consumption of coal is the most growing among all fossil fuels in the world with annual 4% growth and provides 40% of world's electricity needs (IEA Coal), so surely there is a need for more efficient technologies. It is debatable whether addition of new, even the most efficient coal power plants could mitigate global emissions and add to solution of climate change problem, since the scientists strongly recommend phasing out coal to avoid a dangerous climate change.

It could be argued that rather than reducing emissions worldwide, the aim of the JCM is to expand Japanese advanced low-carbon technologies, products, systems, services, and infrastructure worldwide with the climate change mitigation label[16]. If we look only at air-conditioning global market, only 10% of air-conditioning worldwide uses efficient technologies which are standard in Japan (Daikin), so there is an obvious incentive to promote the Japanese products. During a seminar[17] for business groups on the JCM, one corporate representative even said that the government should focus more on creating opportunities that could generate some profit, instead of focusing on carbon

[15] Interview with Mr. Koh Nakajima from Keidanren at the COP19 summit in Warsaw, November 18, 2013.

[16] Interview with Mr. Mitsutoshi Hayakawa from Japanese NGO CASA, November 18, 2013, COP 19 Warsaw.

[17] Meeting with Japanese companies "Latest information on the CDM in 2013 and subsequent efforts on Bilateral Offset Credit System", February 6, 2013, Tokyo, Japan.

credits.

Environmental NGO Friends of the Earth Japan pointed out that under the UN flexible mechanism, Japan was not allowed to pursue projects which included “clean coal”, nuclear power or big scale hydropower to dismay of the business groups (Friends of the Earth Japan). Export of infrastructure is also a viable policy for economic revival. The NGO criticized low level of environmental protection rules related to the projects under the JCM. WWF Japan released a statement (WWF Japan) in which they also criticize the type of projects included in the JCM, saying that they should not be counted as the Hatoyama Initiative and that the JCM is not recognized under the UN. They said that the JCM rules are made to suit the circumstances not to truly have emissions reduction as a priority, that it is a way to avoid domestic emission reductions while keeping the reputation of contributing to developing countries. Another concern, which actually the procedures outlined by the Japanese government try to address, is double counting when reductions achieved in developing countries are reported by them to the UNFCCC, but they are also reported by Japan as offsets to achieve domestic target. The NGO concluded that the scheme is a type of subsidy given to Japanese companies that not only does not prioritize environmental issues, but even from the standpoint of free trade it would result in unfair advantages against the WTO trade rules. Japanese NGOs do not agree that pursuing the JCM as foreign policy is a legitimate way to lower Japan’s impact on climate change, and advocate for more proactive domestic policy. On the other hand, the scheme have many advantages for the Japanese industry, which claims that there are many bottlenecks in domestic mitigation and that Japan already has achieved a lot in climate change measures mainly through energy efficiency.

5. Contributions through scientific research and scientific cooperation

The government makes efforts to promote the Japanese climate change science as country’s international contribution to tackle climate change. An example of it is announcement by the Japanese delegation to COP19 summit the plans to launch a new GOSAT-2 satellite in 2017 to monitor greenhouse gas emissions in Asia, and to focus on technology innovation through increased spending on it and even hosting annually “Global Energy and Environment Innovation Forum” (ACE). In this section I will discuss the role of science in Japan’s international climate change contribution. Japan has a very robust scientific infrastructure, which in 2013 ranked as 2nd in the world by total expenditure on R&D and number of patent applications (MEXT 2013). The government has been capitalizing on this scientific capacity by framing climate change as one of areas in which future science and technology development is expected from Japan (MEXT 2009).

Japan is one of the major providers of important climate change data on global temperatures records besides American NASA, NOAA (National Oceanic and Atmospheric Administration) and the UK Hadley Center. The Japan Meteorological Agency hosts the World Data Centre for Greenhouse Gases which gathers greenhouse gas emissions data from countries participating in the World Meteorological Global Atmosphere Watch Programme (World Data Centre for Greenhouse Gases). Another

noteworthy initiative is participation in the joint Global Carbon Project with aims to develop understanding of the global carbon cycle (Global Carbon Project). Japan's office of the project is located within the National Institute for Environmental Studies (NIES) in Tsukuba.

There are many research initiatives (list of examples in Table 2) which serve as contribution to expanding the global knowledge about climate change and are often showcased by the government at international climate change meetings. An example is the COP19 international negotiations summit during which several Japanese institutions (Remote Sensing Technology Center of Japan, Japan Meteorological Agency, Japan Aerospace Exploration Agency and the University of Tokyo) held a side event to present to the international public about the Japan's research for the IPCC 5th report (COP19 Side Events at Japan Pavilion). Several Japanese research institutions held booths to promote their research activities outside of the Japan Pavilion, which also made an impression of a strong Japanese presence at the negotiations.

Japanese scientists contribute also to the IPCC reports, which aim to address the current climate change research results. Top 3 Japanese institutions that have the biggest number of the IPCC contributors were Tokyo University, NIES (National Institute for Environmental Studies) and JAMSTEC (Japan Agency for Marine-Earth Science and Technology) (IPCC 4th Report). Japan has also hosted the IPCCC summit in Yokohama in March 2014. When we look at the international engagement of Japanese research institutions, COP negotiations are one of the most prominent venues to promote their research in a simplified version aimed at policymakers. There are at least 18 research organizations from Japan registered at the UNFCCC and non-governmental observers of the annual negotiations which is a substantial number of people talking about the Japanese research on climate change.

Japanese climate change policy researchers have been actively participating in international networks such as the International Research Network for Low Carbon Societies (LCS-RNet) and the Low Carbon Asia Research Network (LoCARNet). The LoCARNet is a network of researchers working on policies for low-carbon development in the Asia and LCS-RNet is a platform research institutions that contribute to individual countries' low-carbon policy-making. The initiative of LCS-RNet policy researchers networking was established following a decision at the 2008 G8 Environmental Ministers meeting in Kobe, Japan. Institutions participating in the network come from France, Germany, Italy, Japan, Korea, UK and India. At the LCS-RNet meeting in October 2011 in Cambodia at the ASEAN+3 Environmental Minister Meeting (EMM), the Japanese researchers proposed the establishment of a network called the "Low Carbon Asia Research Network (LoCARNet)". The launch of the LoCARNet was declared at the side-event of the "East Asia Low Carbon Growth Partnership Dialogue" held in April 2012 in Japan (LCS-RNET). Japan plays a central role in the network, as the secretary general of the initiative is one of the top Japanese researchers working for the National Institute for Environmental Studies and the Japanese Institute for Global Environmental Strategies (IGES) serves as the

secretariat.

Another research network in which Japan actively participates is the APN Asia-Pacific Network for Global Change Research. It is a network of 22 governments and was established in 1996. The organization gets funds from governments of Japan, New Zealand, Republic of Korea and USA, and the Japanese Ministry of the Environment together with the Hyogo prefecture to host the Secretariat.

Table 4: Japan's major climate change scientific projects and joint initiatives

Project name	Date	Institutions in charge	Description
GOSAT The Greenhouse Gases Observing Satellite (JAXA)	2009~.	NIES and JAXA	Greenhouse gas monitoring from space by the Ibuki satellite. World's first satellite dedicated to climate change research; contribution to the Global Climate Observation System (GCOS) under WMO and UNEP
Earth Simulator ES (JAMSTEC)	2002	JAMSTEC	Project for the Sustainable Coexistence of Humans, Nature and the Earth (global warming prediction) meteorological research the Earth Simulator: global climate models since 2002. Earth Simulator supercomputer in Yokohama which was the fastest supercomputer in the world at the time when it was built in 2002 (Earth Simulator)
Innovative Program of Climate Change Projection for the 21st Century KAKUSHIN (KAKUSHIN)	2007-2012	JAMSTEC, University of Tokyo and Weather Research Institute	Use of projection outcome data in impact assessments by the Earth Simulator ES2. KAKUSHIN was launched by MEXT after the IPCC 4th report with an aim of contribution to IPCC 5th report and providing scientific information for policy making.
Program for Risk Information on Climate Change SOUSEI (SOUSEI)	2012-2016	NIES, Japan Agency for Marine-Earth Science and Technology (JAMSTEC),	Provision of information for planning measures for climate change through modelling and simulations

		University of Tsukuba, Kyoto University, etc.	
Japanese stations in Antarctic: Dome F (Dome Fuji), Showa, Mizuho, Asuka (National Institute of Polar Research)	ongoing	National Institute of Polar Research	Ice core research to learn about the past climate fluctuations.
GRENE Arctic Climate Change Research Project "Rapid Change of the Arctic Climate System and its Global Influences" (GRENE)	2011-2016	National Institute of Polar Research (NIPR), Japan Agency for Marine-Earth Science and Technology (JAMSTEC)	Project is within the framework of the GRENE (Green Network of Excellence) Program funded by the MEXT. Over 300 scientists from 35 organizations are participating in the Project, tackling all aspects of the Arctic climate system; the atmosphere, ocean, cryosphere, land and ecosystems from a multi-disciplinary approach.
Global Precipitation Measurement (GPM) Core Observatory, JAXA Global Rainfall Watch (Global Precipitation Measurement)	2014	NASA (US), JAXA (Japan)	US-Japan satellite to observe and map global rain and snow patterns every three hours.
Tropical Rainfall Measurement Mission (TRMM)	1997	NASA (US), JAXA (Japan)	US- Japan satellite to measure precipitation in the tropics
EarthCare satellite (EarthCare)		ESA (Europe), JAXA (Japan)	Measuring clouds, aerosol and radiation impacts and the research improvement understanding of climate sensitivity, which is important contribution to the IPCC.

Dedication to research and development of low carbon technologies is also an important part of Japan's contribution because technology transfer has become an important part of climate change diplomacy. It is discussed further in section about the contribution outside the UN framework. Surely, develop logies is important not only for contribution to other countries – especially given that advanced

technologies are not easily transferred to developing countries; but for domestic application as well.

When it comes to research and development of new technologies, in November 2013 the government announced plans to invest $US110 billion over five years from private and public sources to develop environmental and energy technologies (UNFCCC c). That amount of new government money over five years into low carbon technologies would indeed be a fantastic contribution. But the devil is in the detail. How much of this money will simply be the government trying to take credit for money being spent by the private sector as a matter of course. Also, will some of these funds be spent on energy technologies which are not low carbon, such as coal to liquids? The problem may be in framing the energy technology as “low carbon” which leaves possibilities opened for “clean coal” fossil fuels use and nuclear power. What the environment and energy advocacy groups aim for is “sustainable energy”, and it is not clear yet how investments in research in this field will play out.

6. Conclusion

This chapter discussed various issues within Japan’s foreign climate change policy. The purpose was to find out the strong points and challenging issues within climate change diplomacy. The strengths of Japan are multiple: early participation in the UNFCCC process and the mediator role it played there; hosting the COP3 and efforts to ensure the treaty to enter into force; putting climate change on the agenda on various international forums such as G8 meetings or Davos Forum; seeking cooperation on climate change on bilateral level and outside the UN framework; being a generous donor of climate change assistance; offering a new framework in which developing countries could host projects when the UN-led CDM framework has become weaker; and robust contribution through climate change science. The weaknesses or challenging issues are: pushing for offsets and forest sinks to be included in the international treaty, and advocating for similar inclusion of nuclear and coal power; not being an advocate of ambitious commitments for developed countries at UN negotiations and instead looking for national interests; using misleading targets framing to make targets appear more substantial (2005 levels instead of 1990 levels); additionality issue within the foreign assistance; and finally providing public funding for coal-fired plants in developing countries.

Chapter 4: Japanese policymakers' attention to climate change

1. Introduction

This chapter discusses changes in policymakers' attention to climate change in Japan with regard to international contribution and domestic measures. The first section is dedicated to public statements made by the Japanese Prime Ministers between 1996 and 2014. Both quantity and quality of statements are analyzed. In the following section, I look into legislators' attention to climate change. I describe climate change legislation developments, involvement of the Japanese parliamentarians in climate change legislation on international level, and finally look into inquiries about climate change submitted by the opposition to the government. Next, I analyze attention to climate change in election manifestos of political parties and compare their focus on international contribution vs. focus on domestic measures. Finally, I look into the role of bureaucracy and their attention to climate change.

2. Public statements made by the Japanese Prime Ministers

Advocacy by a country's leader is one of key elements of putting climate change on the agenda by policymakers. The previous research by Kameyama (2003) and Pajon (2010) claimed that the beginning of climate change issue entering politics in Japan was linked with the personal interest of Japanese Prime Minister Noboru Takeshita. He attended in June 1988 the Toronto Summit Conference, also known as the World Conference on Changing Atmosphere during which all developed countries were urged to cut CO_2 emissions by 20% from 1987 levels by 2005. Prime Minister Takeshita was said to be surprised to find other participants discussing global environmental issues, and later on hemade climate change "his political hobbyhorse" (Pajon, 2010:23). According to Tiberghien and Schreurs (2010), he aimed to reinvent the Liberal Democratic Party (Jiminto) and change his image that was tainted by a political scandal. Because of that he influenced Japan's policy to announce a voluntary target to stabilize emissions by 2000 in 1990 and also the pledge made in 1992 to provide a substantial environmental assistance to developing countries.

As a result, climate change was put also on the agenda of Prime Minister Ryutaro Hashimoto, who was in power when the Kyoto Protocol was negotiated. Backing from Takeshita and Hashimoto helped the Environmental Agency to push its agenda despite METI disagreement on the target during 1997 negotiations. Prime Minister Hashimoto was also in the group of Diet members (24 from Lower and 11 from Upper House – all members of the GLOBE, Japan Global Legislators for a Balanced Environment) who wrote a letter to President Bush urging to cooperate on the Kyoto Protocol in 2001. On the other hand, Tiberghien and Schreurs (2010:151) described Prime Minister Koizumi as not interested in climate change because of his ambiguous statements made many people worry whether Japan would ratify Kyoto Protocol.

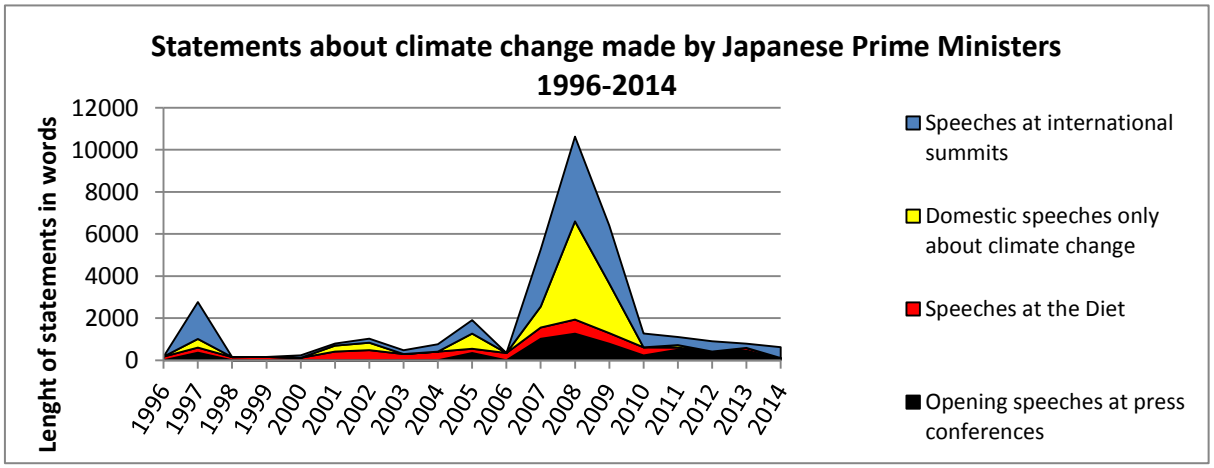
The previous research explored the involvement of Prime Ministers when climate change had just appeared on the political agenda. My question is how Prime Ministers talked about climate change

later on and whether their advocacy was linked more towards emphasizing the international contribution made by Japan or towards domestic efforts.

In order to find out how Japanese Prime Ministers have talked about climate change until now, 130 statements made between 1996 and the end of September 2014 were analyzed. There were four types of statements: 1. domestic speeches about climate change policy; 2. parts of policy speeches made at the Diet that were about climate change; 3. speeches made at multilateral international summits; and 4. opening speeches at press conferences. In this analysis, both length of the statements and their content were evaluated in order to find out when there was the most attention to climate change, and which issues were discussed by Prime Ministers. Moreover, I checked whether international contribution played bigger role in these public statements than domestic climate change policy.

To evaluate which Prime Minister was the most vocal about climate change, length of each speech was counted in English words. The database at the PM Office website was checked for statements by using keywords “climate change” (*kikouhendo*) and “global warming” (*ondanka*). Statements available in English and only in Japanese were both checked. For statement length evaluation, speeches available only in Japanese were translated into English by the author. If a speech referred to several subjects, only part on climate change was counted. Statements made at bilateral meetings were not included in this analysis because text of speeches was not available for all of bilateral meetings, and in some cases the Prime Minister’s Office and MOFA websites provide only joint statements instead of transcripts of speeches. In case of press conferences, only opening statements were counted because they were clearly a part of Prime Ministers’ advocacy, unlike their answers to questions. Counting their answers to questions would be misleading because they could not be evidence of PM attention to climate change because the initiative of mentioning a topic was not on Prime Ministers’ side.

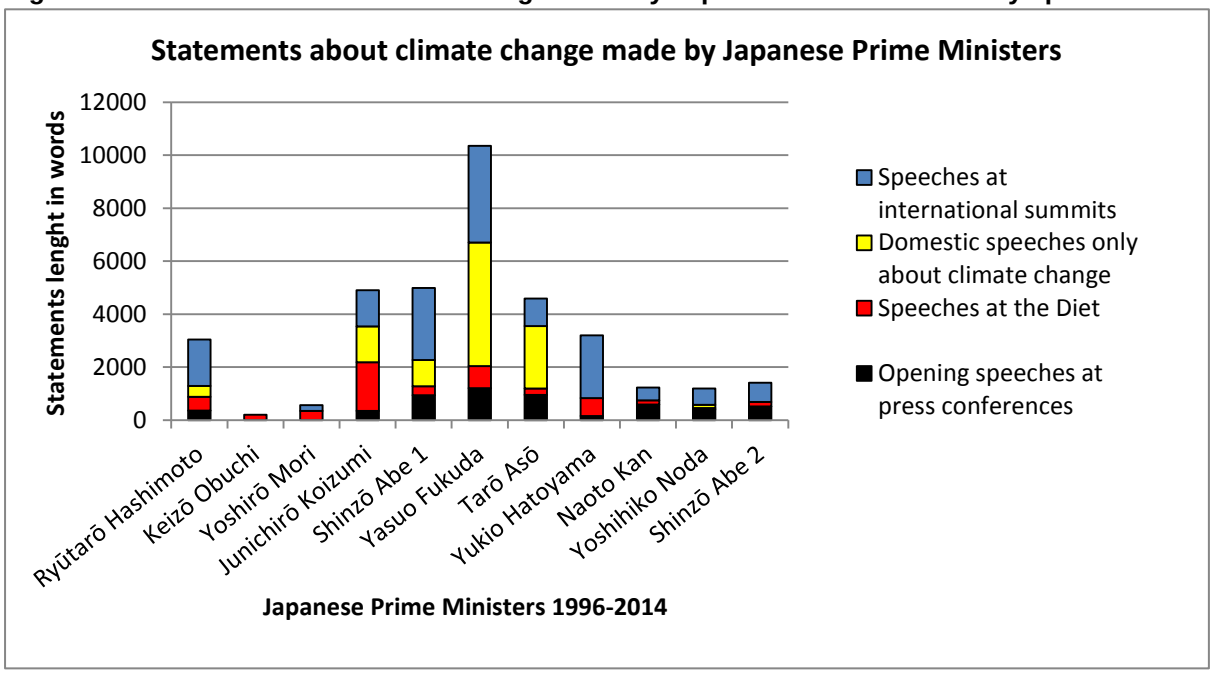
Figure 6: Statements about climate change made by Japanese Prime Ministers by year



Source of statements: PM Office.

Figure 6 and 7 show changes in length of statements on climate change made by Prime Ministers and the statements divided into groups depending on their type. There were three peaks in attention when it comes to quantity of statements: in 1997 because of international summit COP3 in Kyoto, 2005 when the Kyoto Protocol entered into force and domestic legislation was passed, and in 2008 due to the Hokkaido G8 summit in Toyako, The volume of statements increased dramatically between 2007, then peaked in 2008 and declined in 2009. In 2010 there was much less attention to climate change in statements, and since that time the situation has been rather stable with only slight decline. It is apparent then that the decline in statements on climate change by Japanese Prime Ministers happened in 2010, and it was not caused by the Fukushima accident. The nuclear energy crisis had without a doubt impact on Prime Ministers' rhetoric later, but it cannot be blamed for the huge decline in Prime Ministers' advocacy for climate change measures which had occurred in 2010.

Figure 7: Statements about climate change made by Japanese Prime Minister by speaker



Source of statements: PM Office.

We need to consider that speeches made at international summits accounted for 42% of all statements, and the longest speeches were made at international summits (such as Shinzō Abe's Cool Earth 50 invitation and Asian leaders conference in Tokyo made in May 2007; Yasuo Fukuda's message for G8 leaders at the Conference for Environmental Security in Tokyo, June 2008 or his speech on Cool Earth Partnership and climate change aid at Davos Forum in January 2008) or were linked to international events (for example Yasuo Fukuda's "Japan as a Low-carbon Society" speech at Japan Press Club made in June 2008, one month before G8 summit held in Japan; Tarō Asō's speech on environment delivered in June 2009 on mid-term mitigation target which Japan as other developed countries were supposed to announce before COP15 in Copenhagen; or Shinzō Abe's press conference "Debriefing

Session for the G8 Summit 2007 Heiligendamm on the Global Warming Issue" in June 2007)[18]. International events played a big role in Prime Ministers' advocacy on climate change, so without a doubt the decline of attention on international level after the disappointment of the COP15 summit which did not bring a new international treaty as expected, had an impact on Prime Ministers' attention too. However, despite the overall decline in PM advocacy on climate change since 2010, the issue has kept appearing in statements on foreign policy, although on much smaller scale than in years 2007-2009. Speeches on domestic climate change policy have disappeared already during the Hatoyama administration, and statements made at the Diet also decreased.

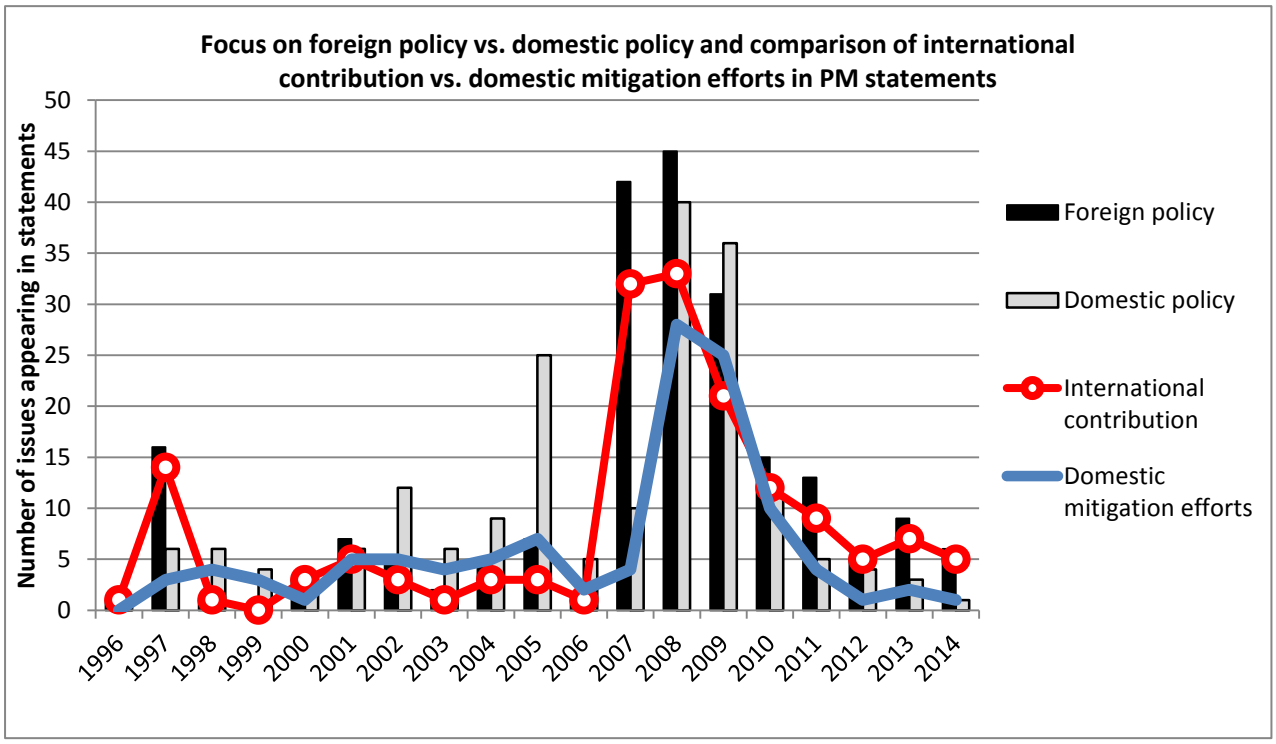
When comparing the content of statements, all issues appearing in the speeches were listed and categorized as foreign policy or domestic policy. Figure 8 shows how attention to foreign and domestic issues changed in Prime Ministers' statements over time. Statements on foreign policy and on domestic policy are compared by number of issues talked about in each category. The same graph shows also the difference between the above categories and actual international contribution and domestic mitigation efforts. The differences between foreign policy issues and international contributions issues, and between domestic policy issues and domestic mitigation issues, are shown later on in Figures 9 and 10.

From Figure 8 it is clear that during peaks in Prime Ministers' attention to climate change in 1997 and in 2007-2008, international contribution dominated domestic mitigation efforts. After the COP3 conference in Kyoto in 1997 until 2006, the attention was quite low but mostly related to domestic issues, except for 2001 when the US withdrew from the Kyoto Protocol, and Prime Minister advocated for reconsidering this move.

Peaks in attention to domestic policy in 2002 and in 2005 were not linked to advocacy on mitigation measures, but to statements on various issues such as citizens' lifestyle change; government leading by example; or on that it is not easy to achieve the target etc. The biggest attention to domestic mitigation measures was in 2008 during the Fukuda administration, and it followed the attention to international contribution. In 2009 there was more attention to domestic mitigation efforts than to international contribution and the biggest issue referred to at that time was the 25% mid-term mitigation target. Since 2010 there is a decline in attention to international contribution and to domestic mitigation efforts, but international contribution stays on Prime Ministers' agenda and it appears in speeches more often than in the 1998-2006 low attention period. On the other hand, statements on domestic mitigation efforts decline and there are less of them than in 1998-2006 period.

[18] Speeches examples are given in the order from the longest statement.

Figure 8: Focus on foreign policy vs. domestic policy and comparison of international contribution vs. domestic mitigation effortsin PM statements

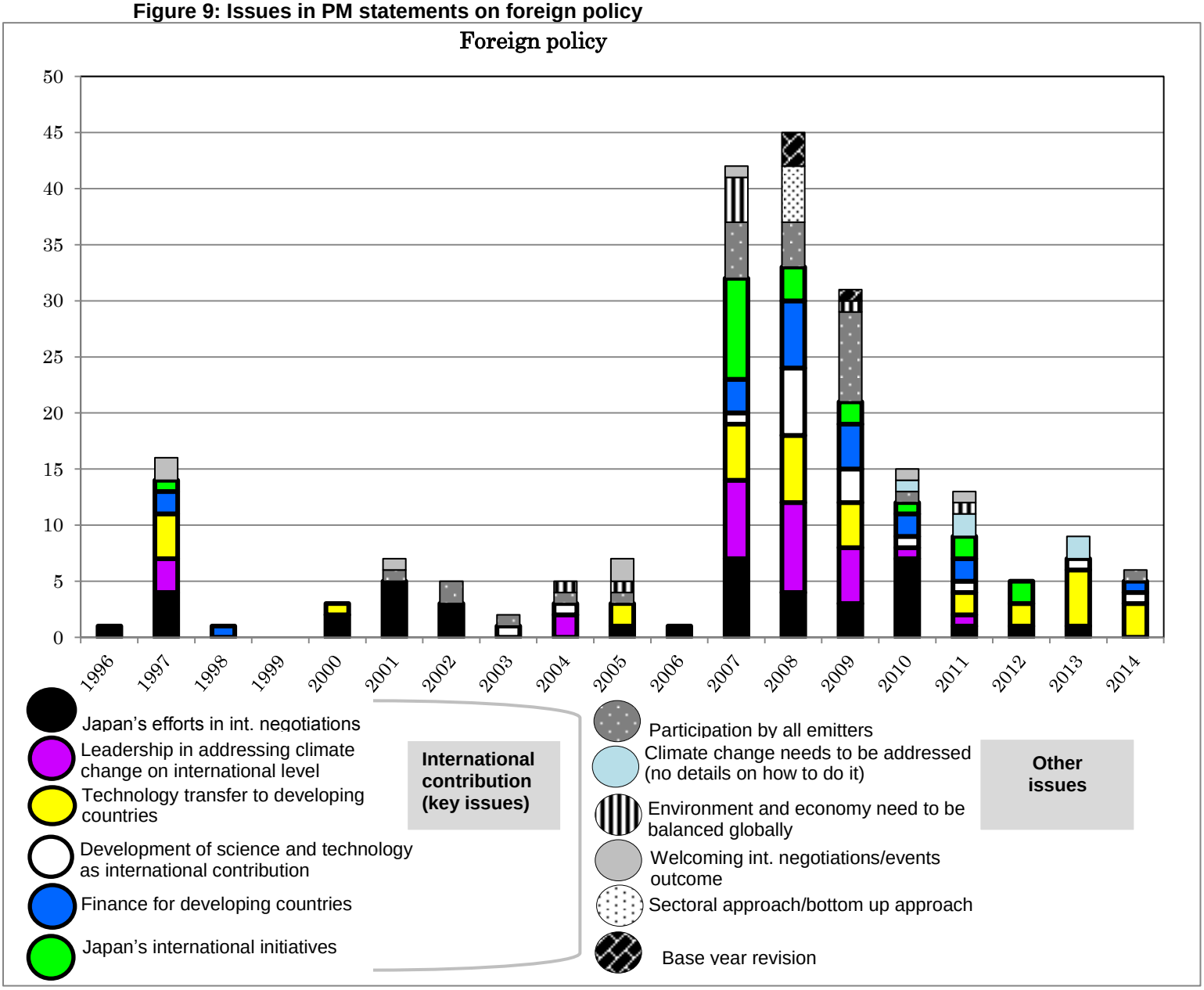


2.1 Attention to international contribution in PM statements

Not all of issues belonging to the foreign policy category meant international contribution. Issues that without a doubt indicate international contribution are: Japan's efforts in international negotiations; leadership in addressing climate change on international level; technology transfer to developing countries; development of science and technology as international contribution; finance for developing countries and Japan's international initiatives. Other issues belonging to foreign policy had more neutral meaning, such as welcoming international negotiations/ events outcome or statements that climate change needs to be addressed (but no details on how to do it); or where linked to Japan's bargaining position in COP negotiations, such as sectoral approach/ bottom up approach proposal and base year revision. These two issues cannot be simply counted as contribution even if it may seem like one in the eyes of Japan's industry. Sectoral approach and bottom up approach are proposals made for a new post-Kyoto treaty and are criticized by environmental groups and proponents of stringent commitments by developed countries because they allow more flexibility and less ambitious mitigation figures. Another issue that I do not count as international contribution is statement that environment and economy need to be balanced globally, which was often used when saying that technology plays a vital role in balancing them, but could be also interpreted that environmental commitments should go only as far as they do not interfere with economic interests. The division of international contribution versus other foreign policy issues is depicted in Figure 9, which shows in detail which issues were

addressed in statements from 1996 until September 2014.

Figure 9: Issues in PM statements on foreign policy



In order to describe PM attention to climate change in foreign policy and in international contribution categories, I refer to Figure 9 and to Table 5, which lists all of the issues in order of frequency of being mentioned. Firstly, I look into issues in the international contribution category, which are numbered here from K1 to K6, 'K' standing for 'key issues'. All of these six issues are in the top of the most frequently mentioned among foreign policy issues.

K1 The most popular statement is the confirmation of **Japan's efforts in international negotiations**, which appeared in three periods: in 1997 due to the Kyoto conference; in 2000-2002 because of negotiations which led to ratification of the treaty by Japan and Russia and enabled entry into

force despite the US withdrawal; and in 2007-2010 due to the post-Kyoto negotiations. Since 2011 Prime Ministers mention Japan's efforts in international negotiations less often.

K2 The second most frequent statement was about **technology transfer to developing countries**. Technology played a big role in Prime Ministers' rhetoric, especially at international summits, and frequently appeared in the context of foreign and domestic policy. If we add technology transfer and development of science and technology as international contribution, technology and science become the most frequently appearing issues. Technology transfer appeared the most in statements in 1997 and in 2001, later between 2007 and 2009, and then it reappeared in 2011 because of the Joint Crediting Mechanisms (JCM) initiative and even became frequent since 2013. Until 2007, statements about technology transfer were more general, but since 2007 Prime Minister Abe described to Asian leaders at a conference in Tokyo plan of contributing by transfer of "world's cutting edge technologies" to eliminate CO_2 from coal-fired generation by transfer of Japanese efficient coal technology together with nuclear power, solar and hydrogen technologies.

Similar references to technology transfer made Prime Minister Fukuda at Davos summit in 2008, who said that if Japanese technologies were applied in power plants in the US, India and China, 1.3 billion tons of CO_2 could be abated, which is equivalent to Japan's annual emissions. He did not use dreaded by climate change policy advocates word "coal", just saying "power plants", but the technology he referred to was Japanese coal technology. In 2009 Prime Minister Hatoyama mentioned that Japan would contribute to establishing new system to protect intellectual property rights, which is a big issue within technology transfer at international negotiations. Developing countries prefer dissemination of technologies at low costs, while developed countries are against that and would like to protect their companies from losing profits.

Prime Minister Noda in 2011 talked about power transferring saving technologies such as steel and coal, as a way to achieving sustainable society, and Prime Minister Abe also said that in 2013 about Japanese steel technology that would benefit India and China, and again about Japanese coal power that is 10% more efficient than in other countries, therefore it is a way for climate change countermeasure. He also mentioned the issue of intellectual property. Prime Minister Abe declared in 2013 a new diplomatic strategy to use technology, and he also referred to the same calculation that was used by PM Fukuda in 2008: that replacing current coal technologies in the US, China and India would decrease global emissions by number that is equivalent to Japan's annual emissions.

Beyond energy saving and coal, disaster prevention technologies also appeared in PM Abe statements in 2014, and he declared that Japan would share these technologies with small island states. When looking at PM statements on technology transfer, they were related to several issues, but the most controversial is advocacy on coal technology. In this analysis I look only at

statements containing keywords “climate change” or “global warming”, but I must mention here that coal technology appeared in other speeches as well. An example of that is PM Abe speech at APEC summit in October 2013 (Sambijantoro, 2013), during which he called on pursuing green growth, and pressed Indonesia to advance a Japan-funded power plant project stymied by land acquisition issues and opposition from locals and environmental groups. It is controversial whether coal power plant could be called “green infrastructure” (environmentalists would disagree), but the plant would become Southeast Asia’s biggest power plant by capacity, and it would generate power (and CO_2 emissions) for next several decades.

K3 **Leadership** in addressing climate change on international level appeared in statements in 1997 and 2004 in relation with negotiations and entry into force of the Kyoto Protocol; in 2007-2009 it became of key issues. Prime Ministers Abe (first administration in 2007), Aso, Fukuda and Hatoyama often referred to Japan’s leadership. This leadership meant influence at the climate change negotiations and the shape of the post-Kyoto agreement. The peak in attention to leadership issue was 2008 during which Japan hosted G8 summit in Hokkaido at which climate change was high on the agenda. According to Kiyoaki (2010), after the COP15 in Copenhagen, the following governments focused more on economy, not world climate change leadership.

K4 **Finance for developing countries** is an important issue in PM statements, and it appeared in 1997-1998 because of the first climate change-related aid initiative; later it became quite frequently mentioned between 2007 and 2011 because of the Cool Earth Partnership proposed in 2007, fast start finance with the $15 billion contribution. After that time it disappeared from PM statements despite the new diplomatic strategy ACE with another generous financial pledge of $US16 billion.

K5 **Japan's international initiatives** appeared a little in 1997 with the Kyoto Initiative, then reappeared in 2007 with many statements on Cool Earth 50 with global target of 50% reduction by 2050, which was later included in G8 document. On much smaller scale Prime Ministers mentioned some international initiatives (ex. Hatoyama Initiative, proposal of making emissions per capita as a standard at international negotiations, Joint Crediting Mechanisms initiative) later on until 2012.

K6 **Development of science and technology** as international contribution means that domestic efforts to advance scientific and technological development are vital for the world because ultimately it would be disseminated on global scale. On a small scale there were consistent references to that since 2003, with peak in 2008 because PM Fukuda announced that US$30 billion would be spent over 5 years for technologies development according to the Low-carbon Technology Plan. Technologies referred to were solar and other renewable power and fuel cells, and other issues were technological cooperation with the US and greenhouse monitoring satellite

GOSAT. In 2013 PM Abe announced major investments in electric power over next decade (1.5 times the size of investments in the past ten years) without specific details on technologies. There was no mentioning of technology investments under the ACE diplomatic climate change strategy in PM statements.

Next, let's look at issues that appeared in the context of foreign policy, but they were not related to international contribution. They are numbered here as O1 to O6, 'O' meaning 'other issues'.

O1 **Participation of all emitters in a new treaty** was mentioned consistently but on a small scale between 2001 and 2005 during the Kyoto Protocol first commitment period advocacy time, and it later became a major issue mentioned frequently in 2007-2009. Because Japan announced in 2010 that it would not participate in the second commitment period, the PM advocacy also declined in 2010. The issue reappeared in 2014 in a speech made by PM Abe in September at UN summit. Participation of all emitters has been an important issue in statements, and it was fourth most frequent issue in foreign policy.

O2 **Welcoming international negotiations/ events outcome** means a general statement confirming Japan's engagement in the international process. It could be said during time when climate change was high on the government's agenda, or when it was quite low but there is a necessity to show willingness to tackle climate change at least in rhetoric. Japanese Prime Ministers made few statements on that in 1997 (COP3), 2001 (international negotiations on the treaty), 2005 (Kyoto Protocol entered into force), 2007 (Bali summit with roadmap to post-Kyoto negotiations); and in 2010 (Japan's rejection of the second commitment period) and 2011 (confirmation that Japan remains engaged despite the nuclear accident).

O3 Statements that **environment and economy need to be balanced globally** appeared in the context of pursuing technological development to achieve that or just as a general statement with no reference to technology. On small scale Prime Minister Koizumi talked about it between 2001 and 2005, but the issue appeared much more frequently between 2007 and 2009, and declined in 2010. Frequent references to it in the 2007-2009 period is related not only to general high interest in climate change at that time, but also to increased popularity of green economy seen as a solution to economic downturn.

O4 **Japan's proposal of sectoral approach/ bottom up approach** in a new treaty appeared in PM statements only in 2008, despite of being present in Japan's diplomacy ever since.

O5 General statements that **climate change needs to be addressed** with no details on how to do it appeared in 2011 and in 2013, and they were merely non-committing general comments.

O6 **Base year revision** issue means changing the baseline year 1990, which was used in the Kyoto

Protocol as a reference point for mitigation targets, to 2005. The year 1990 was said to be advantageous for the European Union which experienced changes, for example in heavy industry sector related to democratization in the Eastern Europe. Japan argued that similar changes of increasing efficiency in industry sector had happened in Japan in 1970s, therefore using 1990 as a reference point is unfair. References to this issue appeared in PM statements in 2008-2009 because decisions were made at that time on mid-term mitigation target, which will be explained in the analysis on statements on domestic measures. Base year revision issue did not appeared later on because it became a common practice for countries to use any base year they feel like using in order to better present their mitigation efforts. There are no international rules on that, and as a result it is difficult to compare countries commitments.

Table 5: Issues related to foreign policy by number of appearances in Prime Ministers' statements 1996-2014 Issues marked in black belong to international contribution category (key issues)

No.	FOREIGN POLICY ISSUES	Domestic speeches only on climate change	International speeches	National Diet speeches	Press conferences	Total
K1	Japan's efforts in international negotiations	6	8	13	14	**41**
K2	Technology transfer to developing countries	4	14	4	9	**34**
K3	Leadership in addressing climate change on international level	2	9	6	10	**27**
O1	Participation by all emitters in a new treaty	6	11	5	2	**24**
K4	Finance for developing countries	2	14	4	1	**21**
K5	Japan's international initiatives	3	5	3	9	**20**
K6	Development of science and technology as international contribution	1	9	2	4	**16**
O2	Welcoming international negotiations/events outcome	5	1	0	2	**8**
O3	Environment and economy should be balanced globally	0	3	2	3	**8**
O4	Japan's proposal of sectoral approach/ bottom up approach in a new treaty	1	4	0	0	**5**
O5	Climate change needs to be addressed (no details on how to do it)	0	3	0	2	**5**
O6	Base year revision	2	2	0	0	**4**

In case of the domestic policy category, issues counted as domestic mitigation efforts are: legislation

related to mitigation policy; climate change policy measures: emission trading, carbon tax, feed-in tariff (separate from legislation because they are more difficult to accept by industry than legislation related to the Kyoto Protocol which allowed high reliance on offsets and voluntary actions); leadership/ Japan as a forerunner in domestic measures; long-term and mid-term mitigation targets; further technology/science development/increase in efficiency; renewable energy; jobs creations/ opportunity for economy; and participation of all stakeholders (industry and municipal governments) necessary for accepting further regulations. The following issues are not counted as domestic mitigation efforts: statements on a shift to low carbon society and a need to advance mitigation because they are vague and contain no details on how to do it; statements on national campaign focused on citizens, citizens' efforts and lifestyle change because they shift focus from actual solutions for climate change such as energy source shift and increasing energy efficiency to putting responsibility on citizens despite they do not account for majority of Japan's emissions; statements on government leading by example by buying newest technology eco cars, forests protection as mitigation measure made at times when Japan started counting forests as domestic offsets, and statements on nuclear power being a solution. There is nothing wrong with the above statements but they cannot be core of mitigation policy. One more group of issues that I did not include as domestic mitigation efforts were statements on: Japan's historical achievements with energy efficiency and advanced technologies because they lead to complacency; and statements saying that it is not easy to achieve mitigation target because they implicate that it was already tough, so nothing more could be done. Figure 10 and Table 6 provide detailed information on types of statements in this category.

2.2 Attention to domestic efforts in PM statements

Figure 10: Issues in PM statements on domestic policy

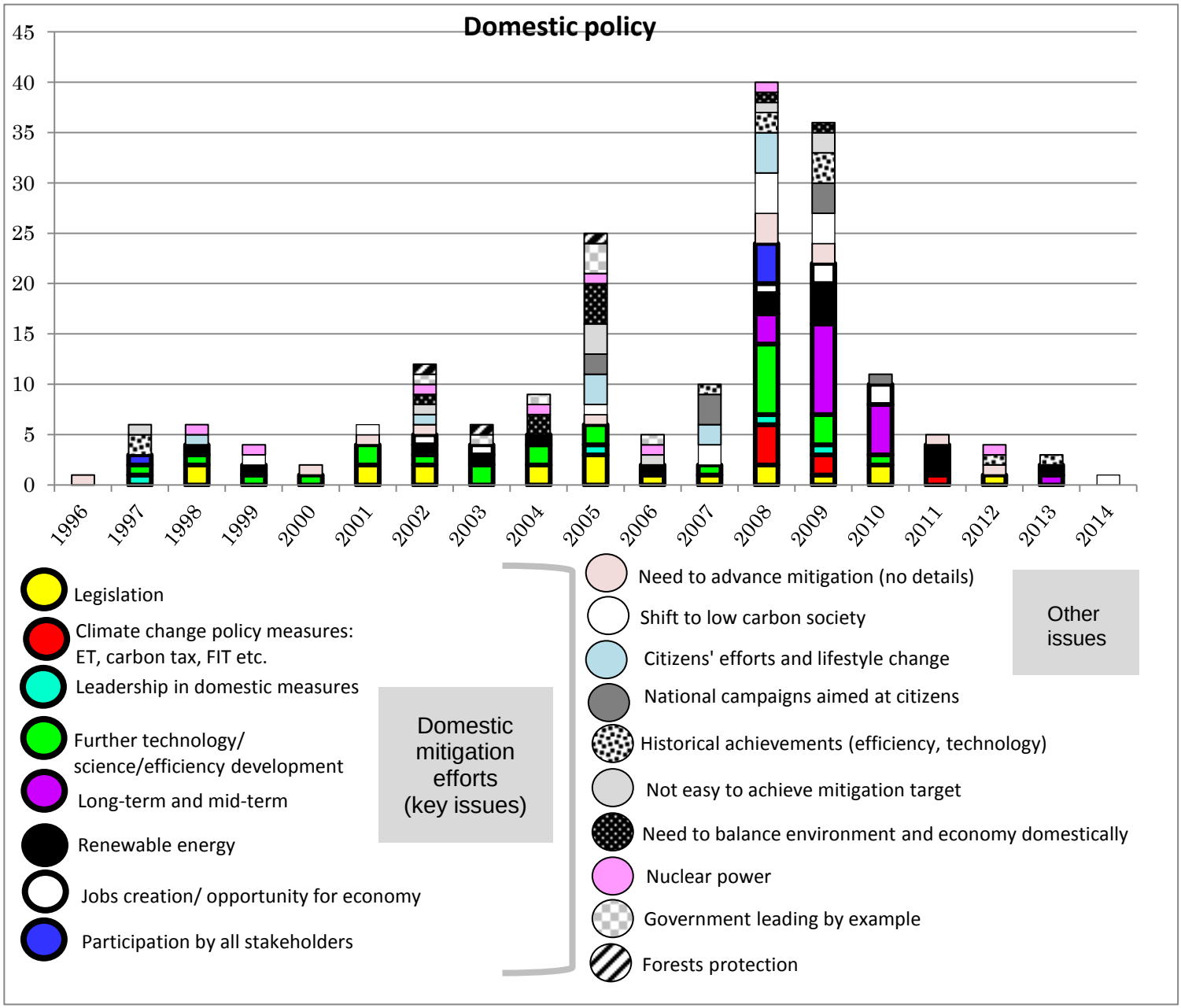


Table 6: Issues related to domestic policy by number of appearances in Prime Ministers' statements 1996-2014. Key issues are marked in black.

No.	DOMESTIC POLICY ISSUES	Domestic speeches only on climate change	International speeches	National Diet speeches	Press conferences	Total
K1	Further technology & science development/ increase in efficiency	2	3	17	3	**25**

K2	Legislation	6	0	11	2	**19**
K3	Long-term and mid-term targets	2	10	2	4	**18**
K4	Renewable energy	3	1	7	5	**16**
O1	Shift to low carbon society	1	3	6	3	**13**
O2	Need to advance mitigation (no details)	3	1	4	4	**12**
O3	Citizens' efforts and lifestyle change	4	1	4	2	**11**
O4	Historical achievements (energy efficiency, advanced technologies)	3	4	0	3	**10**
O5	Not easy to achieve mitigation target	6	1	2	0	**9**
O6	Need to balance environment and economy domestically	3	1	3	2	**9**
O7	National campaigns focused on citizens	3	3	2	1	**9**
O8	Nuclear power	1	1	7	0	**9**
O9	Government leading by example	1	1	5	0	**7**
K5	Climate change policy measures: ex. emission trading, carbon tax, feed-in tariff	1	1	2	3	**7**
K6	Jobs creation/opportunity for economy	0	0	5	2	**7**
K7	Participation by all stakeholders (ex. industry, municipal governments)	2	1	2	0	**5**
K8	Leadership/ Japan as a forerunner in domestic measures	4	0	0	0	**4**
O1	Forests protection	0	0	3	0	**3**

Firstly, let's look at statements related to key issues of domestic mitigation efforts (numbered K1-K8).

K1 The most often mentioned issue was **further technology/science development/increase in efficiency**, but Prime Ministers talked about it much less than the most often mentioned top three issues in foreign policy. It was talked about almost every year until 2010. The peak in attention was in 2008. It is interesting to notice that while domestic investments in technology are a cornerstone of the ACE diplomatic strategy, there has been not much talk about it in reference to climate

change domestic policy. Obviously it does not mean that after 2011 Prime Ministers have not paid attention to technology/science/efficiency progress. It was just the opposite because of the need to increase energy saving and invest in renewable energy after the nuclear accident, but their statements on this issue were not linked to climate change.

K2 Statements on **domestic legislation** were 2nd the most frequent when we add all statements, but they never were a dominating theme. By domestic legislation I mean implementation of the Kyoto Protocol and new legislation proposals. The latest reference to legislation was in 2012, when the first commitment period of the Kyoto Protocol was ending. Specific measures such as mitigation targets, carbon tax, emission trading and feed-in tariff are also vital parts of legislation, but I decided to divide them into separate groups to be able to observe how much attention did they get.

K3 PM paid the most attention in their statements to **long-term and mid-term mitigation targets** in international statements, even though they are part of domestic measures. The reason behind it is that targets were considered a way of international influence at negotiations. The most statements on them were made in 2008-2010 with a peak in 2009 because two decisions on mid-term targets were made in 2009: first PM Aso announced 15% target (of 2005 levels), and then PM Hatoyama announced 25% (of 1990 levels). In 2008, PM Fukuda announced “Fukuda Vision” with long term target 60-80% by 2050, but there was no mentioning of mid-term target which was crucial for COP15 negotiations. PM Fukuda said only that Japan would match the EU target using sectoral approach. The European target was at that time 20% by 2020 of 1990 levels, which meant 14% in comparison to 2005 levels for Europe because their emissions declined in 2005 by 6% in comparison to 1990. What PM Fukuda meant was to match 14% target of 2005 levels, but in case of Japan the same number would mean something different because Japan’s emissions increased in 2005 in comparison to 1990. It means that 14% of 2005 levels for Japan would mean only 8% reduction from 1990 levels, which is far from matching the EU commitment. About the base year, PM Fukuda explained that it did not matter what is the point of reference as long as all major emitters participate, and shifting the focus point to growing emissions in developing countries. Problem how to deal with emissions from developing countries had nothing to do with domestic mitigation target in Japan, and it was not a sufficient explanation.

Next, PM Aso established Mid-Term Target Committee in October 2008, and the Committee produced a report in May 2009 with six options for mid-term target ranging from -30% (of 2005, equal to -23% of 1990) to -4% (of 2005 levels, equal to +3% of 1990 levels), which he talked about in his statement on climate change policy in June 2008. The base year was chosen to be 2005 because “it was the closest to the present”. PM Office conducted survey and gathered public comments on these options, and as result the least ambitious target got the most of public support in public comments (-4%) and the middle-effort range target in survey (14% of 2005 levels). Prime Minister Aso decided to go for -15% mid-term target of 2005 levels (equal to about 8% of 1990

levels), which was slightly higher than the Kyoto Protocol target of 6%. However in his statement, he said that in comparison to the Kyoto target, “should we not have the resolve and make twice the effort?” claiming that 15% of 2005 levels is twice the effort under the Kyoto Protocol. In fact the new target was only about 2% more mitigation than the Kyoto target, so it was far from “double effort”. PM Aso said also that the new target is more ambitious than the EU target (14% of 2005, equal to 20% of 1990) or the US target (14% of 2005 levels) because it does not include offsets. This statement of no offsets was a positive thing, but the “number game” with base year calculations was confusing to say the least.

The next mid-term target was announced by PM Hatoyama in 2009 and it was 25% of 1990 levels. The target was conditional which means that Japan would adopt it on the condition that all major emitters join a legally binding treaty. The high target was aimed to put pressure at other governments at COP15, but leading “conditionally” by example was not enough. Conditional target was also an excuse to withdraw from it in January 2013, when PM Abe announced “zero-based review” of the mitigation target. There were no statements on the weak 3.8% (2005 levels) target by Prime Minister. No statements on mitigation target by PM Abe comes from the fact that there is a strong public opposition towards resuming operations at nuclear reactors, and nuclear power was the center of climate change mitigation under previous governments. At the same time, setting a strong goal for reducing greenhouse gas emissions could be a major burden on corporate performance, which in turn could slow down the effects of the "Abenomics" economic policy.

K4 **Renewable energy** appeared in PM statements throughout the period on a small scale, and the peak in attention was in 2009 in reference to climate change issue, when PM Aso announced plans to increase solar energy capacity 20 times 2020, and he announced a new purchasing scheme. In relation to climate change, there were not many statements on renewable energy despite the major developments such as feed-in tariff introduced in 2011, and PM Noda’s plans announced in September 2012 to commercialize use of renewable energy over next 20 years. Also PM Abe talked favorably about renewable energy in 2014, but it was not related to climate change issue. Anyhow, even without relation to climate change in statements, it is a positive outcome if PM pays attention to renewable energy. In this case, it is not sufficient to look only at statements on climate change to analyze attention to renewable energy, but in this analysis I look at meaning given to climate change issue only.

K5 **Climate change policy measures: emission trading, carbon tax, feed-in tariff** etc. although they are essential parts of domestic policy, they were not mentioned often in PM statements. 2002-2003 public discussion on carbon tax did not appear in PM statements. In 2008 there was a peak in attention in PM statements, and at that time PM Fukuda promoted his experimental emission trading scheme, and also he made statements against decrease in gasoline tax because it would go against climate change policy objectives. Despite the fact that the climate change bill

proposed by PM Hatoyama included carbon tax, emission trading and feed-in tariff, in his rhetoric he did not talk much about these measures focusing most on 25% conditional target. Also he did not address the controversial proposal made by the government to make highways use free, which was criticized by environmental groups because increasing traffic would mean more emissions from transport. The developments in 2011 and in 2012 with feed-in tariff and with carbon tax were not featured in PM statements related to climate change, and only PM Kan mentioned then in his speech in January 2011, long before the implementation of these policies.

K6 **Jobs creations/ opportunity for economy** appeared in PM statements rarely in 2003 as a reference to green economy, and later in similar context in 2009-2010. PM Aso announced in 2009 plans to create new employment opportunities for 1.4 million people through the Low-Carbon Revolution policy by 2020.

K7 **Participation of all stakeholders** (industry, municipal governments etc.) despite being a key issue did not get much attention in PM statements – only 6 times mentioned and only in 2008, and on the other hand citizens' efforts and national campaigns aimed at citizens were mentioned 20 times.

K8 **Leadership/Japan being a forerunner in domestic measures** also did not get much attention, despite the fact that leadership in international politics was a top issue in foreign policy. It was brought up in 1997, 2005 and in 2009. First two dates were related to domestic measures related to the Kyoto Protocol, and in 2009 the climate change bill was proposed by the Hatoyama government.

Lastly, let's look at other issues in domestic policy which do not mean domestic mitigation efforts, numbered here as O1-O10.

O1 **Shift to low carbon society** is a general statement that could be interpreted freely from energy sources shift to lifestyle change. Because it is such a general and vague statement, I do not include it in mitigation efforts category. At the beginning of 2000s it was more oriented towards shift from mass production, mass consumption and waste model towards sustainable society, and in 2007-2009 the term was used frequently in PM statements, especially in the Diet speeches.

O2 **Need to advance mitigation (no details on how to do it)** is also a general and broad statement, which could mean good intentions or lip service. It was mentioned throughout the period until 2012.

O3 **Citizens' efforts and lifestyle change** were mentioned often, first in 1997, and later in 2005 and 2008. Focus on them was linked also to national campaigns described below.

O4 **Historical achievements** (energy efficiency and advanced technologies) meaning that Japan has already done a lot to increase efficiency and develop low-carbon technologies.

O5 Not easy to achieve mitigation target

O6 Need to balance environment and economy

O7 **National campaigns focused on citizens** intended to influence citizens to do a lifestyle change. They appeared in speeches of PM Koizumi because of his Cool Biz initiative. Later on in 2007 a campaign “Team Minus 6%” got some PM attention. This campaign was supposed to involve the public in the 6% target achievement by lifestyle change. Special focus was put on eco purchasing of energy efficient appliances promoted by eco point initiative. Also PM Hatoyama started a campaign Challenge 25 related to his mitigation target. Interestingly enough, PM Abe did not make any statements related to climate change despite starting a campaign Fun to Share. The campaign started being promoted at the time of hosting IPCC summit in Yokohama in March 2014. National campaigns are interesting and useful tools of raising public awareness, but because they impact in terms of reducing emissions or shifting energy sources is limited or non-existent, they cannot be treated as core of domestic measures.

O8 **Nuclear power** was featured in PM statements on much smaller scale than I expected, given that nuclear power was the cornerstone of climate change policy before the Fukushima disaster, but it was mentioned quite consistently up to 2012, mostly as a climate change countermeasure, and in the end as a source of dilemma.

O9 **Government leading by example** meant government buying eco cars or installing solar panels as a way to encourage citizens to do similar things. It is more of being a role model for increased eco consumption than anything to do with mitigation policy. This issue was mentioned frequently especially by PM Koizumi, and disappeared from statements in 2006.

O10 **Forests protection** as mitigation measure also appeared only in PM Koizumi statements and it was linked to promotion of forest sinks as domestic offsets for the Kyoto target.

3. The Diet

Japan is a parliamentary cabinet system, and more than half of cabinet members are selected from the Parliament by the Prime minister. The Japanese Diet comprises of the House of Representatives (the Lower House, with 480 members) and the House of Councilors (the Upper House, with 242 members). As a general rule, a bill becomes a law after passage by both houses. A bill that is passed by the House of Representatives but rejected by the House of Councilors can still become law if it is passed a second time by the House of Representatives by a majority of two-thirds or more of the members present. In the previous research, Tiberghien and Schreurs talked about how the Kyoto Protocol had a symbolic meaning to Japan and that its ratification had full support of the Diet. They said that *"no politicians dared to speak out against Kyoto in the way their American, Australian, and Canadian counterparts did or to even abstain from voting on the resolution"* (Tiberghien and Schreurs 2010, 152). What about the following years after ratification? Have Japanese legislators been equally supportive of domestic measures? What about their attitude towards Japan's international contribution to climate change? In this section, I will attempt to answer these questions by looking at climate change related activities of the Diet members.

3.1 Climate change legislation

Law Concerning the Promotion of Measures to Cope with Global Warming proposal was submitted by the Cabinet to the House of Representatives in April 1998, and it was passed by both Houses and became a law in October 1998 (Act on Promotion of Global Warming Countermeasures). Later it was amended several times because of the ratification, entry into force of the Kyoto Protocol, and the need to accommodate a broader use of offsets.

However, there was no new legislation until a proposal made in 2008 by the opposition.. In June 2008, a politician of the Democratic Party of Japan Tetsuro Fukuyama submitted on the behalf of his party new climate change law proposal to the Diet, and in April 2009 resubmitted it to the next Diet session. In March 2010 two legislation proposals were made by the ruling DPJ and by the opposition party LDP (Liberal Democratic Party).

The government formed by the Democratic Party of Japan submitted the Basic Law on Climate Change proposal and the opposition LDP submitted "Low-carbon Society Promotion Basic Law" proposal with 15% target (2005) by 2020 (equal to 8% of 1990 levels). President of LDP (Tanigaki, 2010) condemned the government's "Global Warming Countermeasures Basic Act" with 25% target of 1990 levels as irresponsible policy proposal, which did not even contain details about policies they promoted. The opposition claimed that PM Hatoyama "tried to draw attention from the international community by showing a big number" (Tanigaki, 2010), but there was no domestic consensus, and Japan's responsibility would be questioned as a result. The LDP leaders said that Japan was trying to be a leader in negotiations, but major countries such as the U.S. and Canada had stepped down from

their commitments, and the 25% is irresponsible because in the end it would have to be covered by buying offsets from abroad.

The climate change bill proposed by the DPJ government passed the House of Representatives in May, but got stuck in the Upper House due to changes in administration. The bill was resubmitted by the Cabinet to the Diet in October, but the Diet closed its session before the screening process was finished. The Committee on Environment met again to talk about it in January 2011, September 2011, but with no results. Finally, in October 2012 it was withdrawn because of the Diet resolution. Before that, in June 2011 three options for revision of 2010 bill with 25% target were proposed by former MOE minister and at that time leader of House of Representatives Environmental Council from DPJ and LDP, DPJ and Komeito were discussing what to do about the mitigation target at international negotiations.

After DPJ lost elections in December 2012, in January 2013 the Committee met again due to the Cabinet decision of zero-based review of the bill, and in March the same year instead of becoming a basic law, the decision was made to only revise the already existing Law Concerning the Promotion of Measures to Cope with Global Warming from 1998. Despite the fact that the basic law on climate change was not passed, there were several legislative changes after the Fukushima disaster such as a feed-in tariff on purchase of renewable energy and carbon tax. These regulations were elements of the failed climate change bill.

3.2 Participation of Japanese legislators in GLOBE's activities on climate change

Some of the Diet Members have been involved in environmental legislation activities on international level, which may be seen as part of international contribution. Global Legislators for Balanced Environment is an international organization of national parliamentarians from over 80 countries (GLOBE International). GLOBE's objective is to support political leadership on developing and implementing laws for sustainable development. It was founded in 1989 by legislators from the US Congress, European Parliament, Japanese Diet and the Russian State Duma, and it works now on various environmental issues such as climate and energy security, forestry, marine environment and biodiversity.

After the 2005 Gleneagles summit, twice a year GLOBE brought together groups of 100 bi-partisan legislators from the G8+5 group of countries for policy dialogues, which were held the US Senate, the UK House of Commons, the Brazilian Senate, the German Bundestag, the Japanese Diet, the Italian Chamber of Deputies and Senate and the Danish Parliament, the Folketing. From Japan both Prime Ministers Yasuo Fukuda and Shinzo Abe participated in such dialogues. In June 2008 (one month before G8 summit in Hokkaido) G8+5 legislators held a dialogue on climate change in Tokyo. Before the COP15 summit in Copenhagen, GLOBE held the GLOBE Copenhagen Legislators Forum in November 2009, where GLOBE's Climate Change Commission presented principles to guide national legislation. The GLOBE Climate Legislation Initiative was formally launched in January 2013 at the 1st

GLOBE Climate Legislation Summit in London. In February 2014 they held the 2nd summit in the U.S. and released also 4th GLOBE Climate Legislation Study that presents climate-related legislation in 66 countries.

What about Japan's participation in GLOBE? Japan was involved in the organization from the beginning, and participated in international summits during which delegation presented on domestic developments in environmental legislation field and networked with other countries' representatives. During the Kyoto Protocol negotiations period, GLOBE Japan was involved in creating international pressure on the U.S. to stop it from withdrawing from the treaty: group of Diet members (24 from Lower and 11 from Upper House – all members of GLOBE Japan) wrote a letter to President Bush urging to cooperate on KP in 2001(Tiberghien and Schreurs 2010).

Currently, Yuriko Koike, LDP parliamentarian and former Environment Minister under the Koizumi administration, is (as of October 2014) the President of GLOBE Japan and also one of four vice presidents of GLOBE International. There are 53 members from the Diet, and more than half of them belong to the ruling LDP (29 members), previously ruling DPJ has 6 representatives just like Komeito Party, Restoration Party has 3 members, Your Party (Minna) 2, and Future Party only 1. There are also 6 advisors there besides party members (GLOBE Japan).

When we examine GLOBE Japan activities, the vast bulk of them are related to participation in international networking events. Climate change was one of main themes at these international meetings, and GLOBE Japan's delegation presented on developments of domestic legislation there. In 2012 at Rio+20 GLOBE, there were 2 Japanese legislators attending, and they explained about climate change bill status after the disaster and KP target status. However, at the first Climate Change GLOBE Summit in London in 2013, only one legislator from Japan attended and presented on implementation of feed-in tariff and carbon tax, and subsidies for low carbon society such as "smart city/compact city" subsidies for energy saving infrastructure. In 2014 there was more participation in international summits: in February three Diet members went to the 2nd Climate Change GLOBE summit in the U.S., and in June four representatives attended international GLOBE summit in Mexico and presented on Japan's climate change policies.

In domestic activities, the website lists developments since 2011, and among 14 events three were clearly related to climate change, and two others to renewable energy (GLOBE Japan). Other activities comprised of workshops and symposiums on various domestic environmental issues: biodiversity, green infrastructure and sustainable town development in post-disaster reconstruction, green economy (renewable energy and pollution control as economy sectors), natural capital and economy; and also on international environmental issues such as deforestation and desertification in developing countries. In case of climate change, there was a meeting in May 2013 with the British minister of energy and climate change during which the GLOBE Japan President Koike made a lengthy speech

on climate change calling it a threat to security worldwide. She talked about both international contribution and domestic mitigation efforts besides usual comment that the new treaty should include all major emitters. As for international contribution, the satellite Ibuki was presented as the contribution to science and the new agreement which is supposed to be based on scientific evidence. President Koike talked also about Japan's achievements with financial contribution through fast start finance, transfer of advanced technologies, products and services through the JCM crediting scheme, and help with MRV (measurement, reporting and verification) procedures in developing countries. When talking about the domestic efforts, she emphasized that the Fukushima disaster triggered increased interest in renewable energy, and as a result feed-in tariff and carbon tax were introduced. She said that while GDP increased 2.5 times since the oil shocks, thanks to the Top Runner program and energy saving efforts in the industry, its energy consumption increased only 0.9 times, but in residential and offices sector it increased 2.5 times, so Japan needs to focus on that.

Another meeting of GLOBE Japan on climate change was held one month later in June 2013, with the British ambassador and the president of the International Emission Trading Association attending. The discussion touched emission trading developments in the world, and the Japanese members talked about the bilateral crediting JCM scheme and domestic implementation of carbon tax. The most recent domestic meeting on climate change was in March 2014, but it did not focus on domestic legislation issues, but instead it was a forum with various domestic stakeholders during which the content of 3rd GLOBE Climate Legislation Study on legislation in other countries was presented.

The activities of GLOBE Japan are focused mostly on networking with legislators from other countries, not on domestic issues, and it works as a platform to present domestic legislative developments to the outside world.

3.3 Opposition inquiries submitted to the government

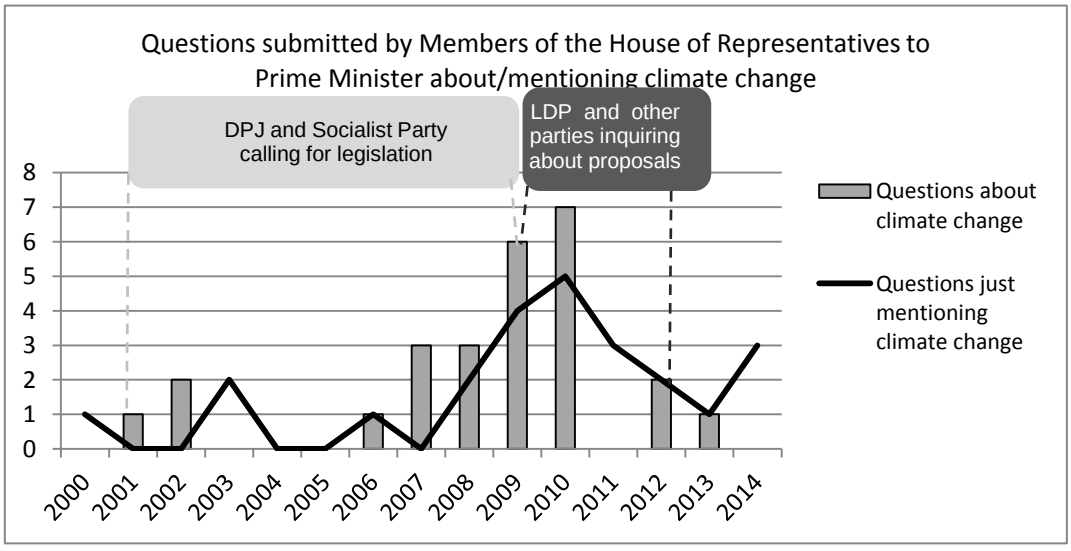
In order to check attention to climate change in the Diet, I looked into questions by the House of Representatives members to the Cabinet about this topic. Inquiries were submitted mainly by opposition members, so up to 2009 it was by mainly members of Democratic Party of Japan (DPJ), and after 2009 by mainly Liberal Democratic Party (LDP) and Japan Renaissance Party. Other parties that submitted questions were: Socialist Party of Japan, Japan Renaissance Party, Komeito, Japan Communist Party and Shimin Rengo.

When searching for questions submitted by the members of the House of Representatives to the Cabinet on the Japanese website of the House, 97 results came up for keyword "global warming" and 45 results "climate change" (45 results). Number of results was much lower than when searched for general keywords related to top environmental issues related topics (although some of these keywords are too broad): "disaster" (921 results), "pollution" (510), "dangerous waste" (384), "nuclear power" (325); but on the other hand there was more data about climate change/global warming than in "eco"

(80 results; phrase used in relation to environmentally friendly activities as well as “eco point” campaign promoting efficient devices), “recycling” (64), “renewable energy” (64), “biodiversity” (43), or “ozone” (22). On a side note parliamentary results on questions about “low carbon society” (24), “sustainable society” (25) and “cyclical society” (24) spurred much fewer discussion than “technology transfer” (*gijutsu teikyou*, 307 results), which may mean that there is a general consensus on shifting society to environmentally sustainable level and that is why this topic does not spur that much discussion, or it may be because technology transfer is much hotter issue related to generating income for the country. After comparing search results for both “climate change” and “global warming” keywords, it became clear that there were 82 questions with one or both keywords, and the rest of results were materials related to those questions. From those 82 questions, in 31 cases issue of climate change came up only in Prime Ministers’ answers to questions posed by members of the Diet, and the issue was not mentioned at all in questions. Therefore these questions do not show parliamentarians’ level of interest in climate change. From remaining 51 questions, only 27 questions were actually about climate change, and the rest just mentioned the issue, while questions were about something else.

Figure 11 shows how many questions were submitted by the Lower House members to the government. Trends in attention to climate change and in just mentioning the issue are in general similar, but obviously just mentioning the problem does not mean an actual interest in it. Peak in attention in 2010 is related to the climate change bill proposed by the DPJ government, and submitted to the Diet in March 2010. Most of the questions that are about climate change are related to domestic mitigation efforts, so the number of questions submitted by Members of the Lower House indicates level of interest in domestic policy, not their interest in international contribution.

Figure 11: Questions submitted by Members of the House of Representatives to Prime Minister about/mentioning climate change



Source: The House of Representatives.

Climate change was mentioned while asking about transport-related issues (46% of questions mentioning climate change): promotion of eco cars, gasoline tax and other car-related taxes, biodiesel, low carbon transport development. This frame appeared since 2000 until 2014. Climate change was mentioned in at least two-three questions also when asking about forest management, science and technology policy, eco point campaign and urban green spaces development, but appeared only once in questions on global environmental issues, electricity prices, renewable energy and politics.

When it comes to parliamentarians' interest in climate change policy, few questions appeared in 2001 and 2002, and then there was a period of inactivity until 2006. Questions kept increasing until 2010, but disappeared completely in 2011 because the climate change bill was not passed during the Diet session in the end of 2010, and later nuclear crisis following the Fukushima disaster reframed climate change issue in Japan. In 2012-2013 few questions were submitted again, but even by looking at their volume it is clear that the Diet members have not been concerned about domestic climate change legislation since 2011 as previously.

Let's look into the content of parliamentarians' inquiries about government's climate change policy. As I mentioned earlier, majority of questions regarded domestic mitigation efforts, not international contribution. In fact there were only three inquiries related to foreign policy: two of them were about the United States position on the Kyoto Protocol. In 2001, Socialist Party and Shimin Rengo were worried about the US withdrawal from the treaty and urged government to influence Bush administration (151st Diet Session). Similar topic appeared in question by group of independent parliamentarians (168th Diet Session) in 2007 after George W. Bush statement that the Kyoto Protocol was a bad policy for economy. They urged the government to respond to that convinced that Japan as the host country to the treaty should protect its reputation. In reply the government said that although the protocol was insufficient in effectiveness because it did not restrict big emitters such as China, it was still an important step, so the government would continue lobbying the United States about participation in an international framework. The third inquiry on foreign policy was in April 2008, right in the time of high interest in climate change diplomacy before G8 in Japan, and a group of independent legislators asked (169th Diet Session) about assistance to the Pacific island states threatened by sea level rise linked to climate change. They asked whether there were any countries that agreed to take refugees, and they even suggested that maybe Japan could relocate them in warm places such as Okinawa. In reply, the Cabinet reassured that there had been already given assistance, ex. activities on coral reefs protection, water supply and disaster prevention. The government stated that in February-March 2008 MOE and MOFA had sent research teams to Tuvalu to check the situation related to climate change. Relocation of refugees was said to be possible under refugee laws, but it needed to be taken into account what impacts it would have on the Japanese society.

In case of domestic mitigation policy, between 2002 and 2007 opposition expressed their concern to the Cabinet about not sufficient policy to achieve the Kyoto mitigation target. In 2002, DPJ together

with some independent legislators (154th Diet Session a) stated that nuclear power is not sufficient measure because of public opposition being obstacle to its expansion, and that there needed to be more focus on renewable energy and technology development. In the same year, opposition urged (154th Diet Session b) again the government to change energy policy, so it would support mitigation objectives, instead of just using offsets as mitigation tool, especially given that buying offsets was from taxpayers' pockets. They were again skeptical about governmental plan of relying on nuclear power by adding new 10-13 reactors, and in the statement they called it not realistic due to public opposition. DPJ again asked the Cabinet for their vision about renewable energy development. At that time, it was already after ratification of the Kyoto Protocol, and already emissions 7% higher than in 1990, despite the commitment to reduce them by -6%. The opposition was dissatisfied with a lack of discussion in the Diet what to do about it. The same opinion was expressed again in 2006 (164th Diet Session), when the opposition worried about how to achieve the target.

The opposition dissent deepened one year later, when the DPJ called (166th Diet Session) for domestic regulation pointing out that emissions are already 8.1% above 1990 levels, and it did not look like the government was trying to achieve the -6% target. They reminded about the IPCC 4th report, and even said that from viewpoint of human security, fiscal policy, economy and foreign policy unabated climate change is the biggest problem. They said that even the U.S., the country considered as the biggest laggard, was working on domestic policy at that time, and that if nothing was going to be done in Japan, they would not have any influence in the post-Kyoto negotiations. What's even worse, if Japan did not comply, the negotiations could even collapse, the opposition said. They asked about what to do about offsets and forest sinks because due to rising emissions Japan would need more than initially declared in the legislation following ratification of the treaty. At that time, the European Union had just started with their emission trading scheme, and the DPJ party also suggested that Japan should have a similar domestic scheme because it was difficult to rely only on citizens' efforts to do a voluntary lifestyle shift and companies voluntary efforts. They called for emission trading that goes beyond the trial voluntary scheme that the government had introduced then. They also asked for economic incentives for companies as well as a long term vision towards 2050 and mid-term target.

The last inquiry from 2007 that I would like to refer to was an interesting question (166th Diet Session) regarding the one-page newspaper ad in 5 national newspapers and 3 local newspapers ordered by the Global Warming Prevention Headquarters on 5.06.2007, and featuring PM Abe with his wife. It had happened before too that during campaign period to the Lower House elections, an ad featuring only LDP politicians was purchased with taxpayers' money and featured in national press. This time again elections were approaching, and the opposition protested against disguising pre-election campaigning as environmental promotion and against using the climate change budget for that. The government answered that it was a part of citizens' efforts promotion, and that is why the ad featured Prime Minister and his wife as citizens trying the raise others' awareness about climate change. The same issue was

raised again in 2009 (171th Diet Session), when socialist legislators pointed out that the climate change budget was being used in election campaigning but officially named as spending for promotion of citizens' movement.

In April 2008, the opposition kept urging (169th Diet Session a) the government to deal with climate change issue asking about strategy for mainstreaming use of heat pomp for energy saving and any possibility of introducing carbon tax. The DPJ party mentioned that it had been estimated by the Advisory Committee for Natural Resources and Energy Demand that energy demand in Japan would peak in 2021, but on the other hand there is a need to decrease emissions by 2020. In the answer the government explained the current regulations and said that carbon tax would be a burden for society, and it should be also implemented in other countries if it was supposed to be fair for Japan. After that, in June 2008 the opposition submitted again a statement calling for law revision (169th Diet Session b), saying that emissions in 2008 were already 12.2% higher than the level that should be achieved according to the Kyoto Protocol. The DPJ had proposed earlier a carbon emissions information disclosure, which had been accepted by both Houses and became part of the law, so they asked at that time also about the implementation of carbon disclosure by power providers.

The year 2009 brought a change in governmental position on domestic legislation. At the beginning of 2009, things looked as usual with DPJ asking the government about the current status of implementation of the Kyoto Protocol. For example in March (171th Diet Session) they asked about details of buying offsets from Ukraine. Because of the administration change later on in 2009, inquiries to the Cabinet started to be submitted mainly by the previously ruling Liberal Democratic Party (LDP), often joined by the Japan Renaissance Party. There were few questions submitted also by Komeito and the Socialist Party.

Attention to the Hatoyama administration climate change proposals started in October 2009 with an inquiry about carbon tax by Komeito (173th Diet Session a). They wanted to know the government's strategy for introducing the tax in regard with the 25% mitigation target announced by PM Hatoyama. Komeito also asked about a controversial issue of the gasoline tax, debate on which led to nicknaming the Diet session in previous year as "the gasoline Diet" The problem was, they said, that despite the ambitious 25% mitigation target announced by the government, the ruling DPJ party also supports policies that would be contradictory to climate change mitigation objectives because they would lead to increased emissions from transport. These policies supported by the Cabinet were reducing the gasoline tax by abolition of provisional tariff[19], and making highways tolls free. Komeito said that

[19] Provisional tariff for gasoline tax was established after oil shocks and it was used to gather funds for roads development. After implementing the provisional tariff, the gasoline tax became twice higher. The tariff was extended for 30 years and it was about to expire in 2007, and a bill to extend it was submitted to the Diet in 2008. The opposition DPJ party wanted to abolish the tariff, but due to discussions in the Diet, LDP led to approval of the

reduction of gasoline prices would lower costs for car ownership, so it would be against global warming countermeasures. They pointed about that the governmental plans to introduce carbon tax and to reduce gasoline tax at the same time are contradictory. In reply, the government said that carbon tax was under deliberation, and that they acknowledged the increase in transport emissions and it had been estimated by the National Institute for Environmental Studies, but in case of free highways studies on impacts on emissions were still in progress.

Between November and December 2009, several questions were submitted to the government. Firstly, LDP and Japan Renaissance Party (173th Diet Session b) wanted to know the DPJ government's position on forest sinks for the 25% target, since there were problems with forest management with 150,000 hectares cut annually since 2007. Under the Kyoto Protocol target, 3.6% of 6% reduction in emissions was supposed to be covered by forest sinks, so they assumed that there must have been some estimation for the Hatoyama 25% target, but there was no specific information in the answer by the Cabinet.

Next, the Socialist Party inquired (173th Diet Session c) about strategy and schedule for reaching the mid-term 25% target, long-term 80% target, and on creating low carbon society. They agreed that all major emitters' participation was needed, but also domestically Japan should move away from fossil fuels. Socialists asked about the basic climate change law proposal made by the DPJ government, and they wanted to know if measures such as feed-in tariff, carbon tax, and emission trading were going to be separate legislations and what connection between them would be. Also they asked for information about impacts on jobs and economic growth by mitigation policy. The answer did not give any details on policy, and the government just stated that measures under the climate change bill were examined by three separate entities (carbon tax examined by the Tax Commission, emission trading by a committee directly under Ministers' supervision, and feed-in tariff by a commission under METI). The Cabinet also said that although models of impact of the policy on economy were being considered, the strategy on how to reach targets would be decided upon results of negotiations.

The last inquiry of 2009 was made by the biggest party in opposition, LDP, together with Japan Renaissance Party (173th Diet Session d). They submitted their question right before the COP15 meeting in Copenhagen, asking about the mid-term 25% target. They emphasized that the international pledge was made despite lack of domestic consensus and clear vision on how to achieve it. The opposition wanted to know what realistic grounds for 25% target were, and how the government was going to give a "responsible explanation to society". They asked for details that were not

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tariff extension for the period of time between May 2008 and 2018, however only until March 2009 it was used for roads development. In their election manifesto, DPJ mentioned abolition of the tariff, but in fact decreasing gasoline price became difficult due to fiscal problems and making international commitments to tackle climate change.

mentioned by the government: specific numbers on predicted burden for households, level of offsets to be used (forest sinks and credits bought from abroad), and also for what the Cabinet expects to achieve at COP15. The answer by the government did not disclose any details, but it defended the 25% target on grounds that it was exactly what science required developed countries to do, and the purpose of such ambitious target was to advance negotiations. Specific numbers on costs for households or offsets would be decided depending on results of negotiations. The Cabinet stated that the desirable outcome of COP15 would be a fair and effective agreement with participation of all major countries and ambitious targets.

The year 2010 was the time when the opposition party LDP was especially active with submitting inquiries to the Cabinet about climate change policy. Majority of them were about the bill submitted by the government to the Diet in March. The bill as successfully passed in the Lower House, but got stuck in the Upper House after Prime Minister Hatoyama resigned in June. In their statement in February, LDP emphasized (174th Diet Session a) that the bill under consideration would negatively impacts citizens' lives and economy, saying that in opinion polls carried out during the Aso administration, almost 90% were against 25% target, and this result was not taken into account when formulating the policy. The Cabinet answered that during decision making about the new target, they did take into account public opinion and results of hearings and public comments. About the burden, the government said that it was difficult to estimate for sure, but in economic model used there was a negative impact on economy by 25% target if compared with the case of 4% increase. The Cabinet stated that a new carbon tax would be a source of revenue, and emission trading would take the burden off citizens, plus promotion of innovations would also change economic figures to more favorable.

LDP pointed out that that there was never a legislation with a condition like the proposed bill, which stated that Japan's 25% target is only binding if all major countries participate in a new fair and effective framework with ambitious targets. The opposition asked how binding would the law actually be when it has a condition like that. In answer, the government emphasized negotiations process and need for broad participation but gave no details on the target being binding or non-binding. LDP also asked about the role of nuclear power in climate change policy, implying that it should not be overlooked. The government simply agreed about nuclear power being important.

Similar topics kept appearing in the next inquiries by LDP. In March (174th Diet Session b) and April (174th Diet Session c) 2010, there were more questions about the climate change bill, in which the opposition called the international pledge of 25% mid-term target and the bill submitted to the Diet as not realistic. They asked again for clarification about the condition "participation by all major countries in agreement with ambitious targets" saying that it was too ambiguous, and that the proposed law would restrict economic activities.

Later in another submission in that period (174th Diet Session d), they stated that it had been easy to predict results of COP15 where all countries fight for their own interests. They asked how the Hatoyama's 25%, which was framed by the government as a target for "planet interests", does work for Japan's interests. What was the vision to balance both? The opposition said also that international emission trading had only negative sides for companies because volatile prices of credits are risky for them. There should be a better way of contributing to climate change countermeasures like providing Japan's best technologies to developing countries. The Cabinet stated in their answer that the high target was intended to put pressure on negotiations, and that climate change policy was promoted for the sake of job creation and energy security, so it was both for planet's and country's benefit. The government supported the Kyoto mechanisms as additional tools, but agreed with opposition that it was necessary to improve them to further provide technology to developing countries and to involve companies. The Cabinet said that they are about to propose a system in which advanced green technologies, products, infrastructure could be provided to developing countries, including nuclear and thermal power. The scheme mentioned here in the answer was the JCM scheme that later on has become a cornerstone of Japan's mitigation policy.

In June 2010, the opposition continued their dissent (174th Diet Session e) towards the climate change bill and the international pledge that was "equal to 30% of 2005 levels" and would force industry to pay a lot for offsets from abroad. Their key point however, was that the DPJ government made no progress on the eco point policy started by PM Aso government in 2008, and showed no vision on how to achieve the target. Again in October, the opposition raised their questions (176th Diet Session) when the climate change bill was resubmitted to the Diet. Their main point of concern was suspicions that the government had used wrong data for wind power potential estimations, to which the Cabinet answered that their data is fully legitimate. The opposition emphasized a negative impact of 25% target on citizens and on economy. They said again that it was not realistic and that the government should acknowledge that and apologize to the world. They demanded that the data on which governmental estimation was based should be disclosed to the Diet and that a period of implementation of the mid-term target be clearly stated. The government stated simply that the bill includes target with the condition of all major emitters' participation and it played an important role in international negotiations. As far as data disclosure goes, the bill was at that time under review in the Central Environmental Council, in which information was openly provided. The Cabinet said also that implementation of the target depended on timing of a new treaty with all participation. In the last inquiry by the opposition in November 2010 (176th Diet Session), they asked about the status of carbon tax legislation, but the answer contained no specific information.

After the peak in attention in 2010 showed in Diet members' inquiries to the Prime Minister, there was a huge drop in interest in climate change issue. The Diet did not do any move on the proposed bill, and only agreed on parts of proposed legislation such as the feed-in tariff and carbon tax. There were no

inquiries though about climate change until February 2012, when LDP asked (180th Diet Session a) about impacts of the nuclear accident on CO_2 emissions and the Kyoto target, which was supposed to be achieved by the end of 2012. They asked about buying offsets, construction of new fossil fuels power plants, and use of renewable power. The answer was that it was still not sure whether the 6% Kyoto target could be achieved, and that it was up to power plants need to decide if they need more offsets. The Cabinet talked also about fuels cells dissemination and technology for households.

Later on in June 2012, the opposition asked again about the future of 25% mitigation target (180th Diet Session b). They wanted to know whether the Noda administration, which was at that time reviewing climate change policy in accordance with energy policy, was going to drop the target or leave in without changes in the Diet and just review energy policy to adjust it to mitigation target. In the LDP's opinion, 25% target should be dropped and mitigation policy adjusted to a new energy policy. They asked whether PM Noda agreed with the currently submitted to the Diet bill in 100%. The answer was only that the policy was under review.

There were no inquiries after another change in administration in December 2012, after which LDP came back into power, except for a question made by the Communist Party in November 2013 (185th Diet Session. They pointed out that one of powerful greenhouse gases of HFC type was not dealt properly under the current regulations, and the government agreed to follow up on that.

The inquiries made to the Cabinet by parliamentarians showed the flow of discussion on climate change legislation. After rise in attention since 2006 and peak in 2010 due to discussions over the bill submitted to the Diet, there was a drop in interest to this issue. The submissions showed attention to domestic mitigation efforts more than attention to international contribution, but still there were glimpses of interest in foreign policy there too, ex. in 2010 statement by the opposition LDP that Japan should have a way to disseminate technologies and contribute through that to developing countries instead of buying offsets.

4. Political parties' interest in climate change according to their election manifestos

In this section, I examine how election manifestos portrayed climate change and whether they framed is as international contribution issue or domestic mitigation issue. There is an opinion that political parties in Japan do not take environmental issues on their platform, and especially that climate change policy is not a major political issue or even a goal in party programs, because it does not represent a decisive voting issue for Japanese citizens and thus does not help politicians to be re-elected (Rudolph et al., 2013). In order to check whether climate change was mentioned in elections, we need to look at election manifestos which record issues on agenda of political parties.

In Japan, political parties have been using election manifestos as a way to convey their message to the public on a broader scale since elections during 2003 elections to the House of Representatives, but in

this analysis I will refer also to materials going back to 1996. Because in many cases political parties offer only election manifestos from recent years on their websites, majority of manifestos used here come from two election manifestos research projects which uploaded materials on their websites: “Manifesto Project” linked with Keio University (Sone 2012) and “Manifesto Research” done by Waseda University (Research Institute of Manifesto). For this analysis, I used manifestos materials uploaded by these two universities for data before 2012, and materials for the last elections in 2013 to the Upper House came from websites of political parties (DPJ 2013, LDP 2013, Komeito 2013, Your Party 2013, People’s Life Party 2013, Communist Party 2013, SDP 2013, Japan Restoration Party 2013, Green Party 2013 and Daichi 2013). There only missing materials were manifestos of Komeito from 1996 and SDP from 2007, 2005, and 2004. By election manifestos I mean election promises made during campaigns to the House of Representatives (Lower House) and the House of Councilors (Upper House). I do not include here election manifestos issued for local elections.

4.1 Previous research by environmental activists

Kikonetwork, which is the most engaged in climate change advocacy Japanese NGO, evaluated the recent three elections between 2010 and 2013 and scored proposed domestic mitigation policies. Table 7 summarizes their evaluation for each political party. Kikonetwork measured parties’ proposals on the following issues: 1. domestic mitigation target, 2. reduction of dependency on fossil fuels and proposal of increase in energy efficiency, 3. renewable energy, 4. nuclear energy phase-out, 5. electricity market reform. If any of these issues appeared in election manifestos, they got points: 5 points if they were evaluated as favorable policies, 3 points if they were mentioned in manifestos but not easy to determine their impact, -1 point if proposed policies were evaluated as negative or as back down on existing measures. Parties ranked the most favorably in this evaluation were not winners of elections: both Communist Party and SDP (Social Democratic Party) usually get just couple seats in the Diet, unlike the two major parties LDP and DPJ. Main parties’ evaluation ranked LDP as one of the least willing to propose mitigation policy, and DPJ showed only medium interest. Among new parties, Your Party election promises got recognition by the NGO, but “green parties” related more to nuclear phase-out than other environmental issues have not been successful in elections so far.

Table 7: Evaluation of domestic climate change mitigation proposals in election manifestos by environmental NGO Kikonetwork (2010-2013)

Elections	**Political parties** **On the left parties that gained the most seats, towards the right the least seats.**								**No seats in the Diet**			
21.07.2013 Upper House	LDP	DPJ	Komeito	Your Party	Communist Party	Restoration Party	SDP		People’s Life Party	Daichi	Green Party	Green Wind
Kikonetwork score	**-1**	**7**	**7**	**23**	**25**	**9**	**23**		**10**	**5**	**18**	**14**

Score level	**Low**	**Medium**	**Medium**	**High**	**High**	**Medium**	**High**			**Medium**	**Low**	**High**	**Medium**
16.12.2012 Lower House	LDP	DPJ	Restoration Party	Komeito	Your Party	Future Party	Communist Party	SDP	Daichi	People's New Party	New Renaissance Party	New Party Nippon	
Kikonetwork score	**-5**	**14**	**0**	**19**	**20**	**18**	**25**	**25**	**5**	**-2**	**-1**	**8**	
Score level	**Low**	**Medium**	**Low**	**High**	**High**	**High**	**High**	**High**	**Low**	**Low**	**Low**	**Medium**	
11.07.2010 Upper House	DPJ	LDP	Komeito	Communist Party	Your Party	SDP	Sunrise Party of Japan	New Renaissance Party		People's New Party			
Kikonetwork score	**14**	**7**	**17**	**25**	**7.5**	**25**	**3.5**	**2.5**		**2.5**			
Score level	**Medium**	**Medium**	**High**	**High**	**Medium**	**High**	**Low**	**Low**		**Low**			

Sources: House of Councilors Elections 2013, 2010 and House of Representatives Elections 2012.

4.2 Liberal Democratic Party (LDP, Jiminto)

For majority of time except for the 2009-2012 period, LDP has been the ruling party and its election agenda was close to governmental position on climate change. Starting with elections in 1996, LDP mentioned climate change in their manifesto when talking about the need to take leadership in dealing with various global environmental problems through international contribution as the host of the Kyoto conference to agreement, domestic policy and through technology development. They were no details though on these issues. In the following elections in 1998, LDP shared some details of their vision on dealing with climate change through nuclear power and more recycling. They mentioned the COP3 in Kyoto results, and as a follow-up suggest concentrating on energy saving, technology development and lifestyle change. LDP also mentioned domestic legislation as implementation of tough 6% mitigation target, and on international level making efforts in further negotiations and assistance to developing countries.

In the next elections in 2000, they mentioned keywords “climate change” 15 times in its manifesto, mainly linking it with other environmental issues. There were no details on any policy though. They talked about international and domestic need for energy saving, renewable energy, nuclear power, and technology development. LDP also said that economy and environment need to be balanced, and that Japan would make diplomatic efforts to advance negotiations on flexible mechanisms of the Kyoto Protocol. They mentioned contribution through climate change science by developing models and use

of supercomputers. Domestically, LDP said that legislation must be introduced to implement the treaty. In 2001, they mentioned climate change less because the ratification of the Kyoto Protocol had been already decided, so there was no need to advocate that. LDP said that they focus on implementation of 6% target, renewable energy and new innovative technologies to deal with carbon dioxide. They said that policy would feature voluntary action of industry, emission trading (not clear whether they meant flexible mechanisms or domestic trading, but most likely the former), and taxes change (most likely "greening of taxes", not carbon tax).

In 2003 LDP manifesto did not contain any reference to climate change, and word "environment" was put inside text on economic reforms. In 2004, LDP continued ignoring climate change in their manifesto, mentioning it only once as one of reasons to work on food self-sufficiency in agriculture. Similar situation was in 2005, when LDP mentioned climate change only once in the context of need to strengthen measures to meet the 6% target and also to promote lifestyle changes. At that time PM Koizumi was involved in Cool Biz promotion, hence lifestyle change in the manifesto.

The 2007 elections was still not a time for LDP to take climate change regulations on its agenda, and the issue was mentioned briefly in reference to water and forest management. They talked more about climate change though. About the Kyoto target, they said that in addition to industry voluntary action also citizens need to make some efforts. Here LDP advocated eco point campaign and national movement to keep emissions per person below 1 kg daily. As for governmental policy, LDP said that improvements in efficiency and introduction of biofuels would be their goal. In foreign policy, they talked about environmental diplomacy to involve the US, China and India at the G8 in Hokkaido.

In the groundbreaking 2009 elections, in which LDP loss to DPJ led to the administration change after a long string of LDP governments, LDP talked about legislation to promote low carbon society and exporting of Japanese technology to advance mitigation globally. In fact, part on innovation and development and export of technology played a big part in their manifesto. They mentioned briefly promotion of renewable energy, eco cars, eco point campaign, eco housing and carbon offsets. For renewable energy, they mentioned target of increasing solar power 20 times by 2020 and 40 times by 2040, and continuation with already existing measures to promote solar power – no additional feed-in tariff. As for domestic mitigation target, it was framed as a way for moving forward the negotiations and the proposed number was 15% by 2020 of 2005 levels.

In 2010 elections, international contribution played a big role. LDP concentrated on technology transfer to developing countries with its "Earth Relief Fund" proposal. The Fund would cover the difference of costs of between the conventional technology available and the new technology, and it would be sourced by international solidarity tax and common carbon tax that would not change the conditions of competition between countries. In this way developing countries would get a strong incentive to introduce state-of-the-art technology and at the same cost as the conventional technology. LDP said

that export of energy-saving technology should be the strength of Japan, especially efficient coal-fired power generation, steel, heat pump, electric vehicles, CCS, smart grid etc. They said that technology should be a way for Japan's leadership, and also offered contribution to human resources development in developing countries. When talking about participation of all emitters in a new treaty, LDP proposed long-term target of 80% reduction by 2050 under the condition of participation of major economies and mid-term target 15% by 2020 (of 2005 levels, equal to 8% of 1990 levels). They wanted also to introduce domestic legislation on climate change. When it comes to specific policy measures to achieve targets, LDP was against excessive regulations that would harm international competitiveness and job market, so only suggested a study of emission trading and carbon tax that would evaluate if they are beneficial policies. In case of renewable energy, LDP proposed 20% target by 2020, increase in solar power 20 times, and feed-in tariff, although they did not specify if it would cover all renewable power produced or only up to some level. In case of nuclear power, LDP wanted to increase "zero-emission power" from current 34% to 50% in 2020, and to 70% by 2030.

Although in 2010 elections LDP offered less than other parties in terms of law proposals, they made an effort to make a long list of other measures and suggestions. The talked about further eco cars dissemination, improvements in low-carbon public transport, eco houses, storage batteries and fuel cells, next-generation vehicles, smart grid. LDP also said that they would promote environmental business giving carbon offsets as a new business model. They even bought offsets from India from a wind power project as the "Jiminto Eco Campaign" for the sake of this election. They talked also about promotion of adaptation measures against global warming, citizens' efforts and lifestyle change, shift to low carbon society and national campaign. Oddly enough, LDP also wanted to promote information disclosure of greenhouse gas emissions, which had already been required by law for several years following the Kyoto Protocol entry into force.

In 2012 election manifesto, impacts of nuclear accident were visible in lowering LDP's already not very strong commitment to climate change policy. There was a lot of talking about efficient coal technology transfer as a mean to lower global emissions despite the fact that coal is the most carbon intensive of all fossil fuels. LDP even proposed that it should be a part of diplomacy, and they also focused more on technology development being the basis for energy saving and domestic expansion of efficient coal. They wanted to ensure stable supply of fossil fuels as core energy, disseminate eco cars (LPG vehicles) and high-efficiency gas equipment. After the 2011 earthquake and following nuclear accident, there were strong voices supporting nuclear phase-out in Japan, and election manifestos in 2012 reflected that trend. Environmental groups emphasized that both nuclear phase-out and mitigation policy should go hand in hand, and criticized LDP which did not propose anything advance these policies, just the opposite. In their manifesto, LDP said that they shall build economy without relying too much on nuclear power but it had its place in energy mix. As the only party in 2012 they did not talk about electricity market reform, which was vital for breaking up regional energy monopolies relying on

nuclear power and coal. As for climate change policy, LDP supported their previously proposed in 2010 legislation with revision of carbon tax, which at this point had already been introduced in 2011 by the DPJ administration. Instead they suggested vaguely “greening of other taxes”. LDP explained that due to the nuclear accident they were not able to propose mid-term 2020 target, not even their previous 15% of 2005 levels, so they declared only 80% by 2050.

Things went even worse from climate change mitigation perspective in 2013 elections, when the ruling LDP did not mention any targets, not even any long-term one. LDP said that renewable energy expansion would be within next three years but with no indication on its scale, and no vision for what would be in future. They were pro-nuclear, and gave no details on electricity market reform or on energy saving. In comparison to other parties, LDP was the least involved in climate change policy in their manifesto, and winning by them the elections meant that mitigation policy would not be considered as a priority in the Diet.

4.3 Democratic Party of Japan (DPJ, Minshuto)

In 1996 DPJ talked about climate change as an international cooperation issue and said that Japan would contribute to creating international rules. They also supported development of domestic clean energy technologies, but without giving any details on that. In the next elections in 1998, they did not mention climate change at all. In 2000 DPJ again did not talk about climate change mentioning it only once in a list of environmental problems, but they talked about environmental tax on fossil fuels to support development of renewable energy. In the year of ratification of the Kyoto Protocol, 2001, DPJ talked about climate change much more than in previous elections, and they advocated again introduction of environmental tax on fossil fuels, and at the same time abolition of gasoline provisional tariff and more efficient use of car taxes. Domestic action would be a way to contribute internationally as a state based on environmental protection principles (*kankyo rikkoku*). They also mentioned “cycling society”, another popular phrase used at that time by other parties too, saying that through implementation of COP3 commitment, Japan would achieve a better energy policy, develop renewable power and safe nuclear technologies, and also contribute though their technology transfer to developing countries. They talked a lot about energy saving and lifestyle change too. However in the next three elections (2003, 2004, and 2005) DPJ did not mention climate change and did not talk much about environment at all.

In 2007 climate change reappeared in DPJ manifesto with the promise of Japan’s leadership and mid-term target 20% by 2020 and long-term target 50% by 2050 (both of 1990 levels). Just like LDP, the opposition party emphasized that it wanted to involve major emitters, and climate change diplomacy at G8 in Hokkaido and ODA were also key items on their manifesto. They also talked about policy measures: domestic emission trading and carbon tax. LDP mentioned that they wanted to promote renewable energy, energy saving, use of forest sinks, and environmental technologies. After 2007 election, LDP had gained many seats in the Upper House, and in 2009 they won also in the

Lower House. In 2009 manifesto, DPJ raised the bar to 25% by 2020 of 1990 with carbon tax, emission trading and feed-in tariff, which would be a part of a new legislation introduced in 2011. Climate change was one of top problems they promised to tackle. DPJ talked about new industry based on environmental technology innovation, renewable energy expansion up to 10% by 2020, and about taxes. Their environmental tax would replace gasoline tariffs and car tax would replace two existing car-related taxes with abolishment of tax acquisition tax (because together with consumption tax it was double taxation). They also wanted to make highways use free, which, just like gasoline tariff reduction, was later criticized by environmental groups, which were afraid that these policies would mean increase in car use and increase in emissions from cars. Lastly, DPJ talked about diplomacy to involve major emitters.

In 2010 elections, climate change policy was not featured as one of main DPJ policies, but rather it was linked to “green economy” and “shift towards low carbon society”. Despite of announcing that mitigation policy is important in previous elections and submitting the climate change bill to the Diet, this time they focused on “strong economy” and did not mentioned what they plan to do with the bill, which after change in the administration in June 2010 had been withdrawn from the Diet. As for the foreign policy, the ruling party did not mention technology transfer, but talked about participation of all emitters in a new treaty, which was the condition for their domestic mitigation target. DPJ confirmed 25% conditional target but without indication that it would be binding. They did not mention emission trading despite that it was in its previous manifesto in 2009, and as a part of the proposed climate change bill. However, DPJ proposed a new carbon tax to be introduced in 2011, and also feed-in tariff and smart grid technology. There was no renewable energy target though, but despite 10% by 2020 target in their 2009 manifesto. DPJ talked about green innovation and many ways to promote “eco” (houses, cars, technologies) similarly to LDP in their 2010 manifesto. Again they wanted to introduce free highways tolls, and they address environmental concerns saying that it had limited impact on emissions from transport.

In 2012 DPJ also supported new climate change legislation, although with a lower target of 20% (1990 levels) by 2030, with no mid-term target by 2020. Lower commitments in comparison to 2009 and 2010 elections came from the fact that DPJ estimations depended on nuclear power, which had been stopped due to the Fukushima accident. In foreign policy, DPJ just as LDP supported expansion of “efficient coal”. When it comes to future of nuclear power, they proposed nuclear phase-out by 2030. In case of electricity market reform, which was the issue talked about by every party excluding LDP, DPJ was the most cautious and supported leaving the most influence in hands of regional monopolies.

After the election loss in 2012, the next elections in 2013 brought even less substance in the field of climate change mitigation. DPJ did not mention any targets, not even long-term ones. They indicated that increase in renewable energy and nuclear phase-out were on their agenda, but there was no mentioning about policy on electricity market reform, or on energy saving.

4.4 Komeito

The first available election manifesto of Komeito was from the 1998 elections. Komeito talked then about climate change legislation and strengthening energy conservation law, and their priorities in this field were to implement the Kyoto commitment and to develop renewable energy. In 2000 they also proposed environmental tax and various legislative measures for renewable energy and energy saving. In the next election in 2001, Komeito talked again about carbon tax, the need for ratification and legislation (with some revision due to increase in emissions) to implement the treaty, and also for international contribution to fulfill pledges made in the Kyoto Initiative to assist developing countries. In case of renewable energy, Komeito proposed contribution to the Asia Pacific region via technology transfer and mentioned that Japan needed a long-term energy policy with renewable energy and more energy saving. After the Kyoto Protocol ratification, Komeito did not focus on climate change until 2009 elections. In 2003 they did not mention environment at all, and in 2004 Komeito mentioned climate change briefly while talking on heat island problem in urban areas and recycling. In the next two elections (2005 and 2007) there was nothing on climate change in their manifestos.

In 2009 elections, climate change played a big role in Komeito's manifesto. In a quite lengthy text mentioning the need to keep global emissions growth below 2 degrees Celsius and the 50% global reduction by 2050, they said that Japan needed to be a leader in post-Kyoto process by involving others. Komeito proposed even a global carbon tax for gathering finance to support developing countries, and co-benefits approach in assisting Asian countries in dealing with emissions and pollution via "Green Asia Initiative". They also suggested using Japanese satellites to gather information about weather events and helping developing countries with disaster preparedness. In their manifesto, international contribution played a big role, and they also said that Japan would assist developing countries with renewable energy technology transfer. In domestic policy, they proposed targets 25% by 2020 (of 1990 levels) and 80% by 2050. Komeito proposed also a new legislation to promote low carbon society with domestic emission trading, carbon tax, energy saving, broader use of eco points, eco cars, renewable energy target by 2020 of 20% with feed-in tariff introduction and 20-times expansion of solar power.

In the next 2010 elections, Komeito repeated its co-benefit approach "Green Asia Initiative", finance for developing countries with global tax and Japan's disaster relief and satellite information provision for vulnerable countries. They also said that Japan must make efforts and lead in international negotiations. In domestic policy, Komeito talked about climate change legislation in their manifestos. Komeito also indicated 25% by 2020, and 80% by 2050 but it would be binding by law. They declared making emission trading a part of law, and supported carbon tax and feed-in tariff. They changed their renewable energy target from 20% proposed in 2009, to 15% by 2020 and 30% by 2030. In more general proposals, they talked about progress on Top Runner efficiency program, green economy and society revolution with broader use of eco point campaign and carbon footprint information. In case of

nuclear energy, Komeito had more cautious approach (due to safety issues) than the two leading parties at that time, but also was supportive of expansion.

In 2012 elections Komeito kept climate change policy high on their agenda, although they lowered their commitments in comparison to 2009 and 2010 elections, and it was because their policies depended on nuclear power. Komeito did not even mention mid-term target by 2020 and talked about 25-30% by 2030. Just like LDP and DPJ, they suggested expansion of "efficient coal", but they were openly anti-nuclear and wanted nuclear phase-out as soon as possible. Again they supported new legislation with carbon tax and emission trading and also advocated electricity market reform. Although many parties supported further energy saving in manifestos, only Komeito gave an actual numerical target for energy efficiency: decrease energy consumption by 25% by 2030. They also proposed targets for renewable energy introduction: 30% by 2030 of electricity generation (with 7% increase in energy self-sufficiency every decade and substantial investments of 120 trillion yen, which is approximately US$1.1 trillion by 2030).

2013 brought change and Komeito did not mention any mitigation targets, not even long-term mitigation one or renewable energy and energy efficiency targets from 2012. They talked about technology transfer of efficient coal, renewable energy and low carbon infrastructure, without making it clear what type of infrastructure they have in mind. They also talked about low carbon society in Japan with improvements in transport sector. Komeito also mentioned phasing out nuclear power and increasing renewable energy with electricity market reform.

4.5 Social Democratic Party (SDP, Shaminto)

In 1996 SDP talked about climate change in context of development of renewable energy technologies, dissemination of eco cars and protection of tropical forests in developing countries. In the next election in 1998, they connected climate change with energy policy, and strongly talked about need for legislation, dealing with all greenhouse gases not only with carbon dioxide, energy shift and renewable energy, and various environmental measures for better transportation and housing. In 2000, SDP pointed out that emissions had been nothing else but growing and Japan needed to introduce environmental tax on cars. In the next election in 2001, they criticized governmental position in international negotiations based on offsets and export of nuclear energy, and said that what should be done were carbon tax and more car-related taxes. In 2003 SDP made environment number one issue in their proposal and mentioned this word 90 times on 62 pages of manifesto. They stated that there should be a legally binding obligation for industry and disclosure of information on their progress. SDP wanted also carbon tax and stricter taxes on cars.

Unfortunately, manifestos for 2004, 2005 and 2007 were not available, so next election to discuss here will be the 2009 one, in which SDP raised the stakes with 30% by 2020 and 80% by 2050 mitigation targets. They proposed a wide range of policies: feed-in tariff to develop renewable energy instead of

nuclear, emission trading instead of industry voluntary targets, carbon tax, smart grid and electricity market reform, the last one first time mentioned during elections. When talking about energy policy, SDP gave some numerical budget proposals for investments and shifting money from fossil fuels and nuclear to renewable. They also mentioned gasoline tariff abolition and wanted to update car taxes so their revenues go toward environmental issues. SDP talked also about forests protection for meeting 3.8% forest sinks share of 6% mitigation target. In 2010, they mentioned the need for domestic climate change legislation again. SDP gave detailed similar proposal like in 2009 on mid-term and long term targets without any conditions, emphasizing the responsibility of developed country and the fact that unlike the DPJ governmental proposal, their targets would be legally binding. SDP also said that they support emission trading policy and carbon tax, and proposed 20% renewable power target by 2020, smart grid and energy efficiency. Even then, SDP demanded nuclear phase out.

In 2012 election, SDP where against restarting the nuclear reactors, and upgraded their renewable energy targets to impressive 30% by 2020 and 100% by 2050. SDP proposed that a new climate change legislation should be introduced as soon as possible, and also electricity market reform. SDP upheld their commitments to mitigation targets: 30% by 2020 and 80% by 2050 as legally binding. Even in 2013, when main parties were silent about mitigation targets, SDP again proposed their numbers just like the year before and talked about decreasing energy consumption. This time, they mentioned their long-term target for renewable energy of 100% by 2050, but this time they did not give any mid-term target.

4.6 Communist Party (Kyosanto)

Communist Party, just like SDP and unlike the main three parties already described earlier, did not put climate change in the section on environment but included it in section on energy policy. In 1996, they stated that what was needed was a decrease in use of fossil fuels to decrease CO_2 emissions. In 1998 Communist Party said that the government had been too passive during the COP3, and that it got internationally criticized for that. They emphasized responsibility of Japan as one of the biggest emitters and advocated energy shift towards renewable and were against nuclear power as a solution supported by the government. In the next election in 2000 though, Communist Party, although they talked about environment a lot, did not mention climate change even once. In 2001, they put climate change again in their manifesto advocating fast ratification of the Kyoto Protocol and need for diplomacy to make the United States ratify too. They emphasized scientific evidence on climate change and Japan's responsibility as the host country saying that instead of offsets and nuclear power, the focus should be on renewable energy and energy saving policies. In 2003 Communist Party again talked about responsibility and need for policy that did not rely on nuclear power or offsets. They wanted also carbon tax and feed-in tariff for renewable energy, which was then first time mentioned in elections. In 2004, even Communist Party did not talk about climate change just like other parties, which indicates that 2004 elections were a dead season for climate change on parties' agenda.

In 2005 however, Communist Party started talking about climate change again, and they pointed out that while households sector in Japan has been increasing efficiency in energy use and was doing well in comparison to Western countries, industrial sector has been complacent with its already high efficiency and did not do any further efforts. They were against industry's voluntary action saying that it did not bring any results since emissions had been rising, and there must be obligations put on industry together with carbon tax. Communist Party also mentioned that countries like the UK, Germany, and Sweden had already declared their long-term mitigation targets up to 2050, and Japan should have such vision as well. Another thing they discussed was the need to develop renewable energy for energy security and climate change mitigation, and they discussed budget for it, feed-in tariff proposal and need for renewable energy target.

In 2007, Communist Party kept their anti-nuclear and pro-renewable energy stance on talking about climate change. They showed a sense of urgency when talking about risk of not meeting the Kyoto target due to emissions increase. The party gave also renewable energy target of 15~20% by 2020 and also proposed feed-in tariff and carbon tax. Communist Party also mentioned the issue of biofuels saying that although they could be useful, they cannot be produced at the expense of food production and causing environmental degradation. These points were not included in 2007 LDP manifesto, which promoted biofuels as climate change policy. Communist Party was also skeptical about PM Abe's advocacy of global 50% reductions in emissions announced at G8 summit in Heiligendamm because despite the rhetoric Japan's emissions had been growing and there had been no efforts on the government's side to do anything about it, and voluntary approach by industry was not effective. Instead of real action, said the Communist, government wants citizens to participate in national movement even though households' emissions stand for a mere 5% of the country's emissions. They talked about what is required by science and recommended by environmental groups, and proposed mid-term target of 30% by 2020 and long-term of 70% by 2050, and also emission trading, feed-in tariff, energy saving on a broad scale that leads to low carbon society.

In 2009, environment and energy were listed high on the agenda of Communist Party as well. Unlike other parties, they described international situation with negotiations and developments in other countries, and referred to the IPCC evidence. They criticized the status quo with mid-term target proposed by the Aso LDP-led government saying that it was not enough to lead the negotiations. Their targets were exactly the same as SDP's 30% by 2020 and 80% by 2050, and they also proposed new climate change legislation. Communist Party emphasized that only 166 entities are the source of more than half of Japan's emissions, and that industry voluntary approach was not working, so there must be emission trading scheme and carbon tax introduced. They opted for shift from nuclear to renewable power, and to increase it to 20% by 2020 with feed-in tariff.

In 2010, Communist Party also talked about technology transfer just like the main parties, but they had in mind renewable technologies, not "efficient coal". In domestic policy they brought up again climate

change legislation in their manifesto and proposed 30% by 2020 without any conditions (as responsibility of developed country), which would be legally binding and 80% by 2050. Communist Party said that they would impose legally binding regulations on industry, especially on power plants. They were again against voluntary efforts and pointed out that more than half of Japan's emissions come from relatively small number of companies. Their emission trading would not be based on emission per unit of production, but on total emissions, unlike in the discussion on emission trading led by the government. Communist Party also supported carbon tax, and their renewable energy targets were 20% by 2020 and 30% by 2030 plus feed-in tariff. They wanted development of low carbon technologies with emphasize that they should not have no negative impacts on health, mentioned green economy and strongly demanded nuclear phase out.

After the Fukushima accident in 2012 elections Communist Party did not change their position much. They kept their commitments to legally binding mitigation targets (both 30% by 2020 and long-term 80% by 2050), and to renewable energy targets: 20% by 2020 and 30% by 2030. They referred to international negotiations and Japan's responsibility to tackle climate change as a leader, criticized proposed by government 3.8% target (of 2005 levels) and emphasized that the bulk of emissions came from only about 150 entities and that there must be some obligations put on industry. They proposed also electricity market reform, energy efficiency improvements, and were against restarting the nuclear reactors. In 2013, Communist Party again proposed ambitious mitigation targets just like the year before including the same renewable energy targets. In case of electricity market reform, they were against the form of the bill, which had been proposed to the Diet but became withdrawn despite passing the Lower House. Communist Party proposed their own version of the reform and kept it as one of priorities, and also they mentioned decreasing energy consumption.

4.7 Other parties

Climate change appeared on the agenda of new parties too, although their proposals lacked details included in the previously described manifestos. Some of the new parties were short-lived, like for example Sunrise Party of Japan, which in 2010 talked about the gasoline provisional tariff abolition and all major emitters' participation in a new treaty. They said however that more ambitious mitigation targets were harmful for economy, and that 15% was good enough. In 2012 also Japan Restoration Party proposed things that were not in line with ambitious mitigation target saying that Japan should focus on expansion of "efficient coal". They had similar attitude like LDP supporting nuclear power, and they did not say anything about electricity market reform. In 2012 New Renaissance Party was another party who suggested technology transfer pointing out that Japan's advanced technology for developing countries is not only contribution but also a way to help domestic economy. They also wanted Japan to lead in post-KP negotiations. Future Party made it clear that they aim for decrease in use of the most carbon intense of fossil fuels: coal and oil. They proposed expansion of jobs in renewable sector, and chose nuclear phase-out as the main policy on their platform. Future Party wanted a total phase-out

within 10 years and electricity market reform. However, in the next election in 2013 Future Party, this time called as People's Life Party, supported use of coal power plants. Daichi Party did not talk about climate change but they supported renewable energy and nuclear phase-out.

In 2010 election, another new party called Your Party talked about participation of all emitters in a new treaty. In 2012 they got more serious about climate change policy proposing 25% target by 2020, and 80% by 2050 but without saying that they would be binding targets. They also supported emissions trading and said that government should pay for renewable, not power companies as in fed-in tariff. Your Party talked about new technology development, and decreasing dependency on fossil fuels. They also proposed nuclear phase-out phase out by 2020 and was the most enthusiastic about changing power market completely. In 2013 election, Your Party kept their 25% mitigation target, and they proposed renewable energy target 30% by 2030 and 80% by 2050 plus improvements in feed-in tariff to finance that. Your Party just like Communist Party was against the form of the electricity market reform bill and proposed another version of the bill. However, despite talking about decreasing dependency on fossil fuels in 2012, this time they did not mention it.

In 2013 there was also Green Party which proposed 25% mitigation target and wanted renewable energy to reach 30% by 2020 and 100% by 2050. They also supported decrease in energy consumption and immediate nuclear phase-out.

4.8 Discussion on election manifestos

The aim of this analysis was to figure out when and how much attention climate change policy had got during elections in Japan, and also to answer the question whether domestic policy issues or international contribution appeared more. In general, elections require political parties to appeal to the public with policies that would be implemented and impact the society domestically, and domestic policy issues tended to dominate over international contribution. Table 8 shows how political parties made promises about mitigation targets and renewable energy targets. The summary of how domestic mitigation and international contribution were portrayed in election manifestos is shown in Table 9 and Table 10.

Table 8: Domestic mitigation targets (in bold) and renewable energy targets comparison

Political parties	2007	2009	2010	2012	2013
LDP	-	**15% 2020 (2005 level=8% 1990 level)** Solar 20 times 2020, 40 times 2040	**15% 2020, 80% 2050 (2005 level)** 20% 2020	**80% 2050 (2005 level)** -	-
DPJ	**20% 2020, 50% 2050**	**25% 2020** 10% 2020	**25% 2020** -	**25% 2020** -	-
Komeito	-	**25% 2020, 80% 2050** 20% 2020	**25% 2020, 80% 2050** 15% 2020, 30%	**25-30% 2030** 30% 2030	-

			2030		
SDP	-	**30% 2020, 80% 2050** **-**	**30% 2020, 80% 2050** 20% 2020	**30% 2020, 80% 2050** 30% 2020, 100% 2050	**30% 2020, 80% 2050** 100% 2050
Communist	**30% 2020, 70% 2050** 15-20% by 2020	**30% 2020, 80% 2050** 20% 2020	**30% 2020, 80% 2050** 20% 2020, 30% 2030	**30% 2020, 80% 2050** 20% 2020, 30% 2030	**30% 2020, 80% 2050** 20% 2020, 30% 2030
Your Party	-	-	-	**25% 2020, 80% 2050** -	**25% 2020** 30% 2030, 80% 2050
Sunrise Party	-	-	**15% 2020** -	-	-
Green Party	-	-	-	-	**25% 2020** 30% 2020, 100% 2050

Table 9: Domestic climate change policy in election manifestos

Elections / Policy Issues	**1996 Lower House**	**1998 Upper House**	**2000 Lower House**	**2001 Upper House**	**2003 Lower House**	**2004 Upper House**	**2005 Lower House**	**2007 Upper House**	**2009 Lower House**	**2010 Upper House**	**2012 Lower House**	**2013 Upper House**
Legislation		LDP Komeito SDP	LDP	Komeito			LDP		LDP DPJ Komeito SDP Communist	LDP Komeito SDP Communist	LDP Komeito SDP	
Mitigation target							Communist (No number but said it is needed)	DPJ Communist	LDP DPJ Komeito SDP Communist	LDP DPJ Komeito SDP Communist Sunrise Party	LDP DPJ Komeito SDP Communist Your Party	SDP Communist Your Party Green Party
Renewable energy target							Communist (No number but said it is needed)	Communist	LDP Komeito Communist	LDP Komeito SDP Communist	Komeito SDP Communist	SDP Communist Your Party Green Party
Need for more renewable energy	DPJ SDP	Komeito SDP Communist	LDP Komeito	LDP DPJ Komeito Communist				DPJ Communist	LDP DPJ Komeito SDP Communist	LDP DPJ Komeito SDP Communist	Komeito SDP Communist Future Party Your Party	LDP DPJ Komeito SDP Communist Your Party Green Party Daichi

Electricity market reform									SDP		DPJ Komeito Communist Future Party Your Party	Komeito Communist Your Party Life Party
Feed-in tariff (introduced in 2011)					Communist		Communist	Communist	DPJ Komeito SDP Communist	LDP DPJ Komeito Communist		
Carbon tax (introduced in 2012)			DPJ Komeito SDP	DPJ Komeito SDP	SDP Communist		Communist	Communist	DPJ Komeito SDP Communist	DPJ Komeito SDP Communist	Komeito	SDP
Emission trading/ obligations for industry					SDP		Communist	Communist	DPJ Komeito SDP Communist	Komeito SDP Communist	Komeito Your Party	SDP
Energy saving/efficiency		LDP	LDP Komeito	DPJ Komeito Communist			Communist	LDP DPJ Communist	Komeito	Komeito SDP	Komeito Communist	SDP Communist Green Party
Nuclear phase-out		Communist			Communist			Communist	SDP Communist	SDP Communist	DPJ Komeito SDP Communist Future Party Your Party Daichi People's New Party New Renaissance Party New Party Nippon	DPJ Komeito SDP Communist Your Party Green Party Green Wind Party Life Party Daichi
Nuclear promotion		LDP	LDP	DPJ						LDP Komeito	LDP Japan Restoration Party	LDP Japan Restoration Party
Technology development	LDP	LDP	LDP	LDP				DPJ	LDP DPJ	LDP DPJ Communist	Your Party	

Table 10: International contribution in election manifestos

Elections / Policy Issues	1996 Lower House	1998 Upper House	2000 Lower House	2001 Upper House	2003 Lower House	2004 Upper House	2005 Lower House	2007 Upper House	2009 Lower House	2010 Upper House	2012 Lower House	2013 Upper House
Efforts in international negotiation	LDP DPJ	LDP Communist	LDP	Communist				LDP DPJ	DPJ Komeito	Komeito	Communist New Renaissance Party	
Assistance for developing countries		LDP		Komeito					Komeito	LDP Komeito		
Renewable technology export				DPJ Komeito				LDP	Komeito	LDP Komeito Communist	LDP Komeito New Renaissance Party	Komeito
Coal technology export										LDP	LDP DPJ Komeito Japan Restoration Party	Komeito Life Party
International contribution through science			LDP						Komeito	Komeito		

We could observe changes in attention to progressive domestic policies, especially when it comes to the big political parties. There were four phases of different interest in climate change policy. In the first phase, four parties (LDP, DPJ, SDP and Communist Party) put climate change in their manifestos in relation to the COP3 conference in 1997 and ratification of the Kyoto Protocol by Japan in 2001. At that time, parties talked about Japan's role in international negotiations, and they mentioned assistance to developing countries, renewable energy transfer and contribution through science, but there was no high attention to these issues. Domestic policy issues that were on the political agenda were: need for legislation to meet obligations imposed by the treaty; need for more renewable energy and energy saving (but no details on how to do it); and carbon tax discussed by opposition (DPJ, Komeito, SDP and Communist Party). SDP and Communist Party were in favor of some other progressive measures too, but feed-in tariff, emission trading or nuclear phase-out did not get much attention then. The ruling LDP focused on nuclear power promotion and technology development in their manifestos.

In years 2003-2005 following the ratification of the Kyoto Protocol political parties did not discuss climate change at all and did not focus much on other environmental issues in their manifestos. The exception was Communist Party, which kept talking about Japan's responsibility as developed country, rising emissions and governmental inaction, and various progressive measures. After this

“post-ratification slump” period, the 2007 election marked as a transitional event, in which climate change started appearing more in manifestos but was not yet a broadly discussed topic. For international contribution, LDP and DPJ talked about negotiations, which seemed at that time to gather momentum due to the Bali summit which started the post-Kyoto debate. LDP was the only party to be interested in technology transfer to developing countries, and it coincided with the LDP government’s policy (Cool Earth 50 announced in 2007, and Cool Earth Partnership to be announced at the beginning of 2008). Communist Party continued talking about a wide range of progressive measures, and this time they were joined by DPJ.

Elections in 2009 was the time when climate change was the highest on political agenda in manifestos, and many parties proposed progressive policies, such as carbon tax, feed-in tariff and emission trading. They also talked about mitigation target, and DPJ linked its commitment to condition of all major emitters participating in a new treaty, while parties like Komeito, SDP and Communist Party provided high numbers that were claimed they want them to be legally binding no matter what would happen in international negotiations. LDP gave the lowest target and also did not support other mitigation policy measures. Although for majority of time, most of parties had been saying that there were interested in expansion of renewable energy, it was in 2009 when they gave more details on how they imagine this expansion should look like (numerical target as goal plus measures to support budget for renewable power). In international contribution sphere, Komeito was the most involved in giving proposals, followed by DPJ, while other parties concentrated on the domestic policy issues.

In 2010, again there was high attention to climate change in manifestos, although the ruling DPJ dropped emission trading and renewable energy target from their agenda. Interest in international contribution slightly increased, and LDP started talking about exporting efficient coal technologies. This issue got broader attention in 2012 elections during which the biggest parties advocated technology transfer to developing countries, especially coal. In 2013 elections, international contribution played much smaller role than in 2012. The same happened with mitigation and renewable energy targets, which disappeared from agenda of the main parties (LDP, DPJ, Komeito). The most progressive proposals came from parties which influence on legislative process in not big. Although many parties in 2013 advocated renewable energy expansion, few of them recommended what should be a target to aim for. Electricity market reform and energy saving, despite being important policies to overcome the energy crisis triggered by the Fukushima accident, they did not appear on the ruling party’s agenda at all. Many parties proposed nuclear phase-out in 2012, and continued their position in 2013 as well, expect for LDP and Japan Restoration Party which supported restarting nuclear reactors.

Overall, the most progressive climate change measures have been proposed by Communist Party and SDP. Your Party joined them in 2013 election, but Komeito despite being progressive for most of the time, dropped climate change issue from their agenda. In 2010, although climate change was still discussed in manifestos, the ruling DPJ party started retreating from their proposals. There have been

a distinct decline in level of importance of the issue in manifestos of DPJ and Komeito, and LDP has proposed rather “soft measures” concentrating on issues like national campaigns to mobilize the public, use of biofuels or dissemination of technology instead of advocating obligations on industry. After the Fukushima disaster, climate change was still discussed during elections, but just like the “hot topic” of that time – nuclear power – it was not an election issue that made people vote because the winner of election was LDP, the least involved in climate change/nuclear phase-out policy.

5. Conclusion

This chapter focused on policymakers’ attention to climate change. I focused on visible participants of the political process which include Prime Ministers, the Diet, and political parties. The analysis of statements made by Prime Ministers shown that attention to international contribution tended to dominate since 2010, while attention to domestic mitigation efforts declined. In the past international contribution dominated statements only around the time of prominent international events such as the COP3 in 1997 and the 2007-2008 international meetings such as G8 or Davos Forum. Attention to domestic mitigation was the highest in 2008 during PM Fukuda administration and started declining in 2010. The most important issues within international contribution were efforts in negotiations, technology transfer and leadership. However since 2010 the dominating themes have been technology transfer, finance for developing countries and Japan's international initiatives. Attention to domestic issues declined in regard to key issues. In case of questions submitted by the members of the Diet on climate change, attention to climate change declined after 2010 rapidly. Majority of questions were about domestic mitigation issues, and only a few about international contribution. Decline in number of inquiries confirms decline of importance of the climate change on policymakers' agenda. Analysis of election manifestos showed that the biggest parties were not the most involved in climate change issue as Communist Party, SDP or Komeito. There were several of periods in which parties shared similarities in their approach to climate change. Elections in 2009 were the time when climate change was the highest on political agenda in manifestos. In 2010, although climate change was still discussed in manifestos, the ruling DPJ party started retreating from their proposals. There have been at decline in level of importance of the issue in manifestos of the major parties. Although domestic measures were more important in manifestos, international contribution appeared during 2010 and 2012 elections , and issues such as efforts in international negotiation, assistance for developing countries, renewable technology and coal technology export were highlighted.

Chapter 5: Media coverage of climate change

1. Introduction

This chapter focuses on media attention to climate change. Firstly, I look into characteristics of the Japanese media and climate change reporting. Next, I focus on attention given to climate change in editorials of four major newspapers. I analyze how media paid attention to climate change by examining the volume of the coverage in one of national newspapers the Asahi Shimbun. The coverage is divided into several groups that estimate attention to climate change science and impacts, international negotiations and developments in climate change policies in other countries, and Japan's domestic and foreign climate change policy. After looking into trends in media attention in scale of coverage, I attempt to investigate attention to Japan's domestic mitigation efforts and to international contribution.

2. Characteristics of the Japanese media and climate change reporting

In Japan, printed press continues to play important role as a news source with high circulation of five national newspapers, despite the global trends of shift towards online media. As media researcher Kaori Hayashi explained, the newspaper industry has experienced decline in revenue over the past 15 years, and by 2011, industry revenue had dropped by more than 20% from its peak recorded in 1997. However, this drop in revenue was caused by decline in advertising, while the circulation has been steady due to the fact that readers are not canceling their subscriptions, and newspapers are treated by them not only as an information medium but as a part of lifestyle (Hayashi, 2013).

According to the figures from the Japan Audit Bureau of Circulations as of September 2014, the circulation for the biggest national newspapers was: 9.2 million for conservative Yomiuri, 7.2 million for liberal Asahi, 3.3 million for liberal Mainichi, 2.7 million for economic newspaper Nikkei, and 1.6 million for conservative Sankei (Nippon, 2014). Yomiuri newspaper has in fact the biggest circulation in the world (Donsbach, 2008:2553), and newspapers in Japan have circulation of about 70 million copies published every day by 108 newspaper companies in Japan. It is second to China (96 million). In Japan per capita circulation is the highest in the world with 633 copies per 1000 people. The main five newspapers own the main five TV networks, excluding the national NHK. These newspaper companies hold their shares internally because of the law preventing external editorial influence and acquisition. No large media conglomerates are owned primarily by non-media corporations unlike in other developed countries. It is also difficult for a foreign entity to buy a Japanese media company because of media groups are closely intertwined in stock holdings and personal relations (Donsbach, 2008:2553).

Despite the global trend of decline of printed press, the Japanese newspapers are still holding relatively well on the market, and according to the survey carried out in June 2014 by the Japan

Newspaper Publishers and Editors Association, which surveyed over 3,800 people, the Japanese public consider newspapers to be important source of information. 98% of respondents to the survey claimed to watch TV regularly, 84% said that they read newspapers, 52% listened to radio, and 67% used Internet (Japan Newspaper Publishers and Editors Association a**,** 2014).

In case of environmental news, according to the Ministry of Environment survey from 2009 (MOE 2009), television and radio were the sources for 87.7%, newspapers for 77.2%, environmental NGOs for 15.8%, and universities and schools 10%. The same survey estimated trustworthiness of news media as 71.2 % for television and radio%, newspapers 60.2%, NGOs only 2.8%, and universities and schools 4.5%.

Next after trustworthiness, there is the issue of media independence and transparency. In 2010 Reporters without Borders ranking of world press freedom placed Japan as 11th in the world, which was a high position. However, the reporting on nuclear accident took its toll on media freedom. The NGO ranked Japan in 2013 as ranked 53rd and said that it was "affected by a lack of transparency and almost zero respect for access to information on subjects directly or indirectly related to Fukushima. This sharp fall should sound an alarm" (Reporters without Borders).

Close ties to political and economic elites are often mentioned as the characteristic of Japanese mainstream media and it is said that because of the 800-1000 press clubs attached to various institutions and organizations the press favors status quo which compromises media independence (Pharr et al. 1996). Press clubs are funded by taxpayers' money, and they are bureaucratic in nature and off-limits to the general public. Press clubs members must belong to Japan Newspaper Publishers and Editors Association press organization. About 80-90% of news comes from press clubs (Donsbach, 2008:2555). Mori (2007) claimed that the voice of policymakers in the media as the main voice, and that it is caused by the shape of traditional journalism depending on press clubs, in which articles are written based on releases provided to them. Because of the bureaucratic nature of mainstream media structure, investigative journalism is somehow limited.

In case of environmental issues, it played a big role when pollution issue emerged in Japan several decades ago, and journalists took side of pollution victims to make industry take the responsibility[20]. In case of climate change, there are no immediate victims who could tell their stories to the public. Damages caused by extreme weather and climate change impacts on domestic agriculture appear in news, but the relationship between victims and industry impacting environment is not clear as it was in case of pollution. Use of fossil fuels can be linked not only to industry but also to average consumers

[20] Interview with Midori Aoyagi, researcher at National Institute for Environmental Studeis, Tsukuba, March 5, 2013.

who rely on electricity now more than ever, therefore there is no clear distinction between polluters and victims like in case of pollution issue in coverage.

Another feature of climate change reporting is that sources of information are limited since the phenomena cannot be observed in daily life. The sources for scientific information on mechanism of climate change and its impacts on nature and society are obtained from interviews with Japanese academia and by quoting research results from foreign entities such as IPCC, UNEP and other UN institutions. In case of policy, the information is obtained directly from policymakers and their press releases; and to a lesser degree from policy specialists such as policy researchers, who are often employed by governmental institutions. Japanese climate change research institutions depend on government for their budget, and there is no climate change-related scientific institution that would not be linked to the government. There are think tanks involved in the climate change issue funded by the industry, such as for example CRIEPI (*Central Research Institute of Electric Power Industry*), but they research is more linked with politics and economy than with natural science.

NGOs representatives appear in environmental news less often. According to the COMPON project researchers, Japanese government and business are major players, while political parties and NGOs are not (Satoh, 2012). Because of limited sources of information about climate change, and because of power structure in media, marketing strategies, editorial traditions, and government influence through press clubs and tendency to avoid confrontation with government (Gamble and Watanabe, 2004) the Japanese coverage on climate change tends to be uniform. It means that the scale of coverage of the problem is similar across various newspapers. Previous research done by COMPON (COMPON) and Sampei et al. (2009) showed that the level of attention to climate change was similar in main newspapers, meaning that increases and declines of attention appeared at the same time in various media. Content of news may be similar because of the commitment to impartiality and neutrality, which is one of the main features of the Japanese media. On the other hand, despite being homogeneous in news items, newspaper editorials were more diverse in their opinions.

COMPON research checked coverage in three national newspapers by counting number of articles containing keywords “climate change” and/or “global warming”. Yomiuri had the biggest number of articles containing keywords, followed by Asahi, and the least attention showed Nikkei. Primary topics of those articles were classified as: policy-making (over 50% of articles), economic and energy interests (2nd largest group of articles), ecology/meteorological (3rd group), culture, science and technology and civil society. They also checked scale of coverage, and national scale was the most common, followed by global scale. The least articles were focused on prefectural and local level.

They divided policy-making related articles into subcategories, and said that the focus on international negotiations was the highest in 1997 (40.3%), in 2007 they showed lower figure of 38%, which decreased to 28% in 2008 and to 26.7% in 2009. “Development assistance”, which could be counted

as focus on Japan's international contribution, appeared in 2008 (6%) and in 2009 (5%). Debate on domestic mitigation changed its focus from target issues, energy saving and industry voluntary action in 1997; to biomass energy, offsets mechanisms, emission trading, and renewable energy in 2007; and then to domestic emission trading, long-term target, renewable energy, industry voluntary action and nuclear power in 2008; and finally to mid-term target, renewable energy, nuclear power and carbon tax in 2009.

The research checked also which organization appeared the most often in the coverage, and in order of frequency of appearance it was the Japanese government (17.6% of articles), followed by industry, developing countries, international organizations, UN agencies, developed countries, local governments, media, the United States, and political parties. About 27% of articles were not classified in this way because they did not represent any organization mentioned above and were classified as "other". Most likely, they included representatives of civil society and NGOs. COMPON researchers stated that Japanese government and business are major players, while political parties and NGOs are not: "the weak influence of political parties and politicians is very specific to climate change policy making process in Japan" (Satoh et al., 2012). They also noticed that number of articles mentioning civil society in connection with climate change had decreased from its peak in 1997 (14% of articles in Asahi and Yomiuri and close to 6% in Nikkei) to quite low numbers in 2010 (around 3% for Asahi, 2% for Yomiuri, and below 0.5% for Nikkei) (COMPON).

Previous studies on the Japanese media emphasized how the reporting style tends to be fact-centered, non-interpretative, bland, and not often critical towards government (Pharr et al. 1996; Mori, 2006). In case of climate change, Segawa (2009) analyzed editorials from three national newspapers: Asahi, Mainichi, Nikkei published between 1987 and 2007 which contained "global warming" in their titles. The conclusion of this research was in deed editorials had different opinions depending on newspaper they came from, and also in the same newspaper opinions evolved over time. However, these editorials did not raise many questions or presented solutions, therefore their influence on policy-making was limited.

There were examples of politicians using the media for their own goals on the climate change issue. For example, in June 2007 the ruling LDP party ordered through the Global Warming Prevention Headquarters to publish a one-page newspaper ad in five national newspapers and three local newspapers. The ad featured Prime Minister Abe with his wife promoting environmentally friendly lifestyle and climate change countermeasures. Because of upcoming elections, the opposition DPJ party questioned whether climate change budged should be used for promoting the ruling party in media by using climate change (166th Diet Session b).

On the other hand, media also featured NGOs advocacy ads such as for example the Nikkei Shimbun ad from June 2009 depicting Prime Minister Taro Aso as a robot, fighting off two monsters of climate change and recession. At that time the government was considering mid-term targets and PM Aso was about to announce his 15% of 2005 levels (equal to 8% of 1990 levels) target. The ad called for using the best available weapon 25% of 1990 levels cut in emissions. Prime Minister Aso was known for his love for manga, so they designed the ad in manga style. The ad highlighted results of the poll by international polling firm Greenberg Quinlan Rosner, which found that 63% of Japanese preferred 25% or more mid-term target, and 62% thought that the Aso government was not doing enough to combat climate change, and 61% believed that ambitious target would help economy. (Avaaz, 2009). Similar example of climate change advocacy appeared in media in December 2010, when NGOs put there an ad depicting Prime Minister Kan as a character in the popular animation 'Spirted Away' with the title saying that climate treaty had been washed away.

3. Climate change in editorials

Between the end of 1980s and 2013, the four biggest national newspapers mentioned climate change in their editorials when talking about other subjects and also published a number of editorials that were only about climate change. Editorials which were only about climate change talked about climate change science and predicted or occurring impacts on nature and society, international negotiations and domestic climate change policy. Editorials which only mentioned climate change made a much larger group of articles on various topics, which are described in Table 11. The most common category which mentioned climate change was subject of international relations because the issue in associated with the UN-led negotiations process and also international cooperation. The second most common category was energy, followed by economy, weather/disasters issues and science/technology. Editorials about domestic policy and society were the least likely to mention climate change.

Table 11: Editorials mentioning climate change in four national newspapers 1980s-2013

	Yomiuri	Mainichi	Nikkei	Asahi	**Total**
International Relations	100	103	97	138	**438**
Energy	61	54	104	69	**288**
Environment	65	62	48	49	**224**
Economy	29	19	64	46	**158**
Weather/Disasters	23	15	11	24	**73**
Science/Technology	16	17	17	14	**64**

Domestic Politics	8	24	18	14	**64**
Society	5	9	9	14	**37**
Total	**307**	**303**	**368**	**368**	**1346**

In case of editorials about climate change, they covered topics such as climate change science and impacts, international developments in climate change negotiations and policies in other countries, and Japan's national policy. The economic newspaper Nikkei had the largest amount of editorials about climate change (212), followed by liberal Mainichi (170) and Asahi (168). The least attention in editorials was given in the conservative Yomiuri, which published 140 editorials about climate change.

Figures 12 and 13 show changes in editorials number of the four newspapers. Trends in number of editorials tend to be similar across newspaper despite their different opinions. The biggest number of editorials was published during the 2007-2009 period. COP3 conference in Kyoto in 1997 and the 2001 negotiations prior to the Kyoto Protocol ratification gathered also a lot of attention in editorials. In recent years there has been a sharp decline in number of editorials, reaching the low point in 2011.

Figure 12: Annual changes in number of editorials about climate change policy in four Japanese national newspapers

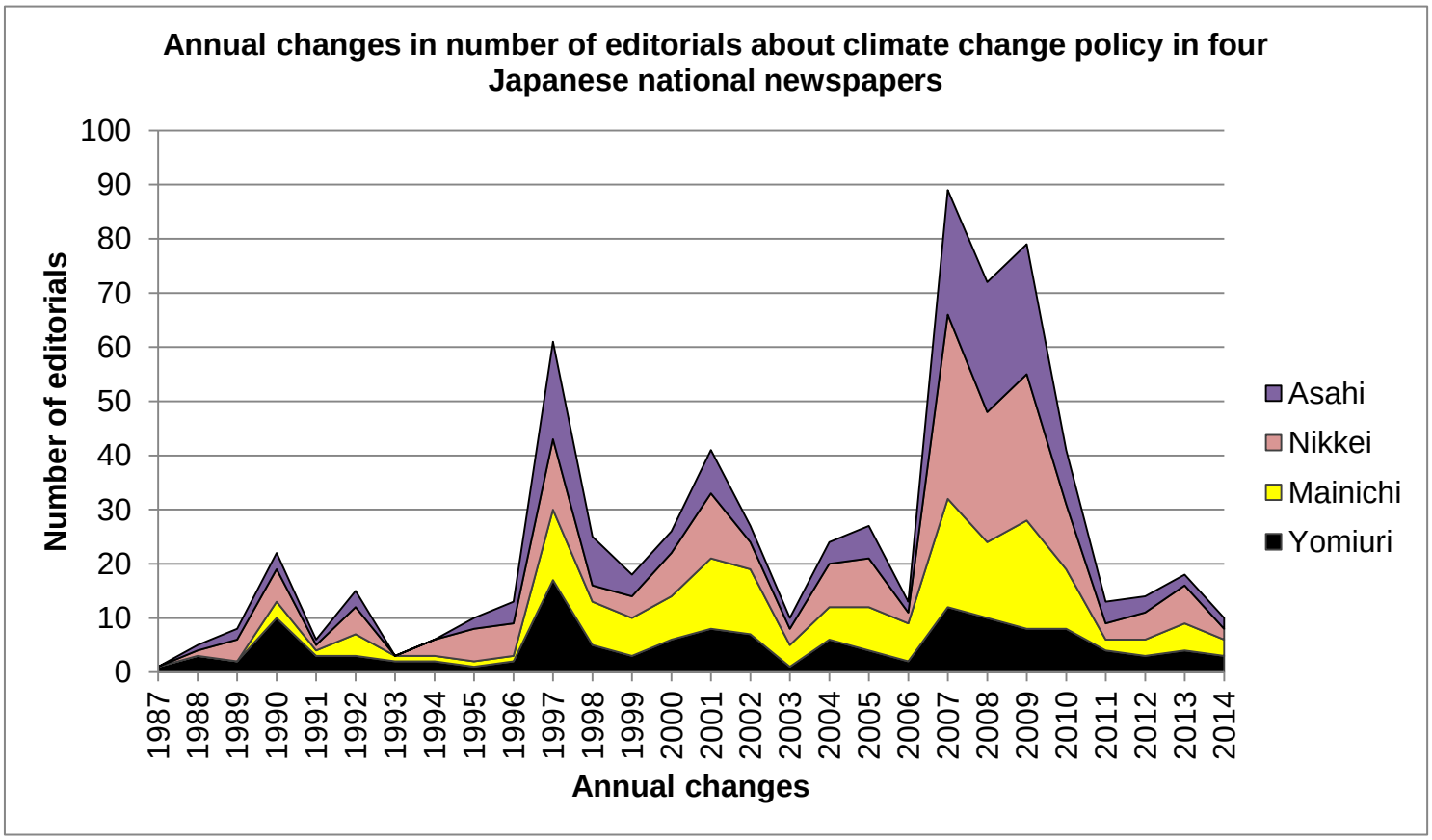
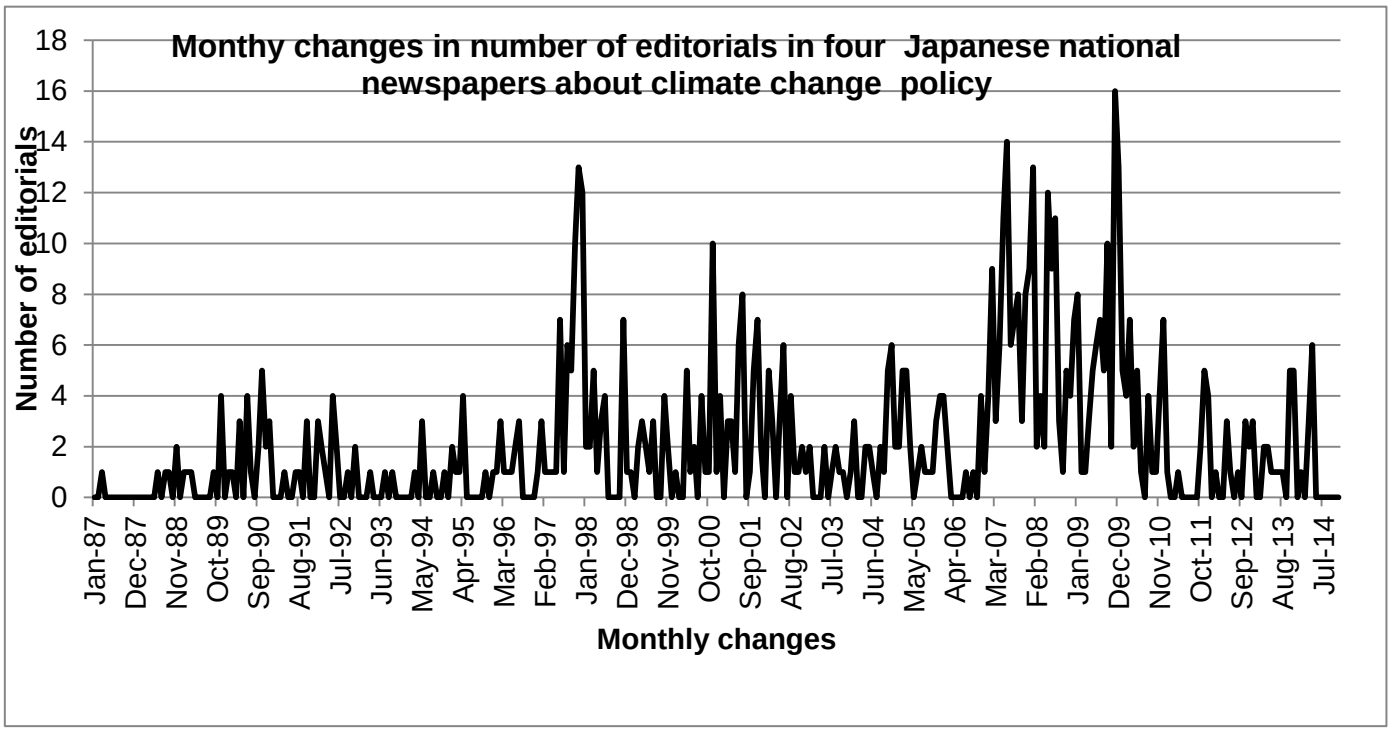


Figure 13: Monthly changes in number of editorials about climate change in four Japanese national newspapers



4. Changes in attention in coverage of climate change in Japanese newspapers

In order to check how attention to climate change has changed, I selected the Asahi Shimbun newspaper to see changes in scale of the coverage. The period of time for this research was from 1985 to the end of May 2014. Because of the volume of coverage and the detailed methodology, for scale evaluation I looked into only one newspaper, but because of the trend in Japanese news to put similar news items in various media, I expected that similar trends could be observed in other newspapers too. Keywords used in search for articles were “climate change” (*kikohendou*) and/or “global warming” (*ondanka*). “Global warming” keyword generated far more results because the term is more often used in reference to climate change in Japanese.

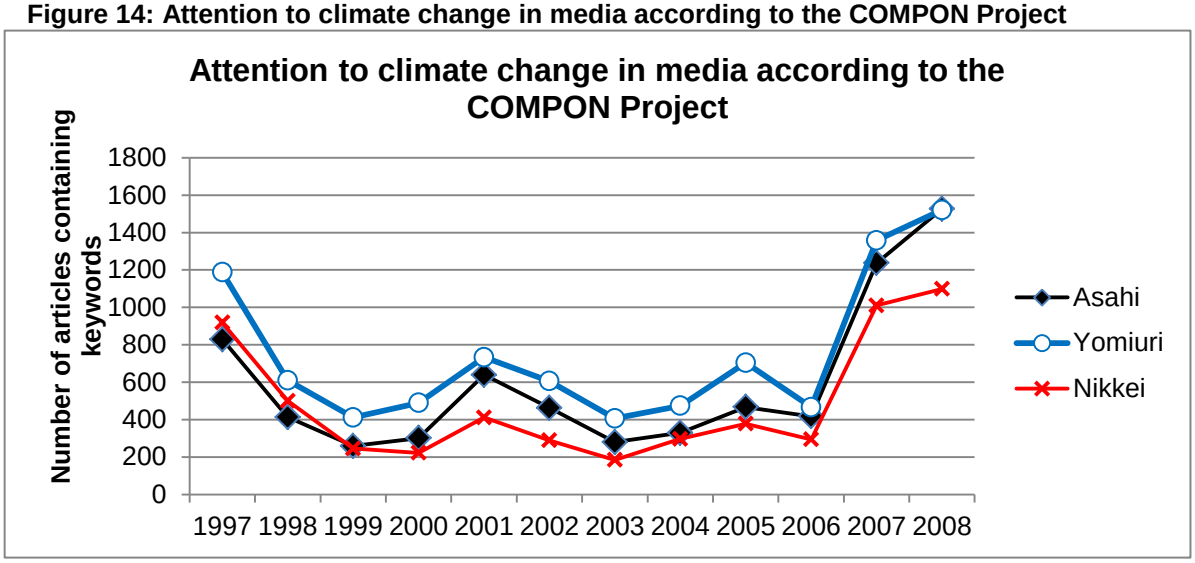
In my sample, I excluded local news that was not from the Tokyo area because local news is mutually exclusive, meaning that people do not see local news from other places. Therefore, I chose one area, and ignored local news that came up in the online database. I decided to examine Tokyo area because decision makers are there, so I expected to come upon more news related to climate change in the Tokyo edition of the newspaper than in local editions. Another reason is that Tokyo has the biggest daily newspapers circulation from all Japanese cities according to the Japan Newspaper Publishers and Editors Association (Japan Newspaper Publishers and Editors Association b). My aim was to check what people who live in Tokyo could see in media coverage.

4.1 General attention to climate change

In this research articles was quantified not by their number like in case of the COMPON project, but by the length of text counted in number of Japanese kanji characters. Counting by the length of articles measures in number of kanji characters allows find out more accurately the scale of attention given to climate change in articles. Another difference is that only articles that were about climate change were counted, not all articles containing keywords, like in the case of previous studies. By articles about climate change I mean articles that referred to the following groups: climate change science and impacts; international negotiations and climate change policies in countries other than Japan; Japanese foreign and domestic climate change policies. When an article covered more than one of the above mentioned subjects, I counted kanji characters number of each part of the article into separate category.

Although the previous studies provided a useful insight into how the keywords became mainstreamed in the news, their methods were insufficient in measuring the actual debate on climate change issue. For example, in case of the COMPON project, they counted all articles from three newspapers (Asahi, Yomiuri and Nikkei), and said that according to the number of articles, the biggest peak in attention occurred in 2008, when annual count of articles for each of newspapers was: 1526 for Asahi, 1520 for Yomiuri and 1098 for Nikkei (see Figure 14, based on data from Satoh et al., 2012). In 1997, these numbers were much lower: 829 for Asahi, 1187 for Yomiuri and 919 for Nikkei.

Figure 14: Attention to climate change in media according to the COMPON Project

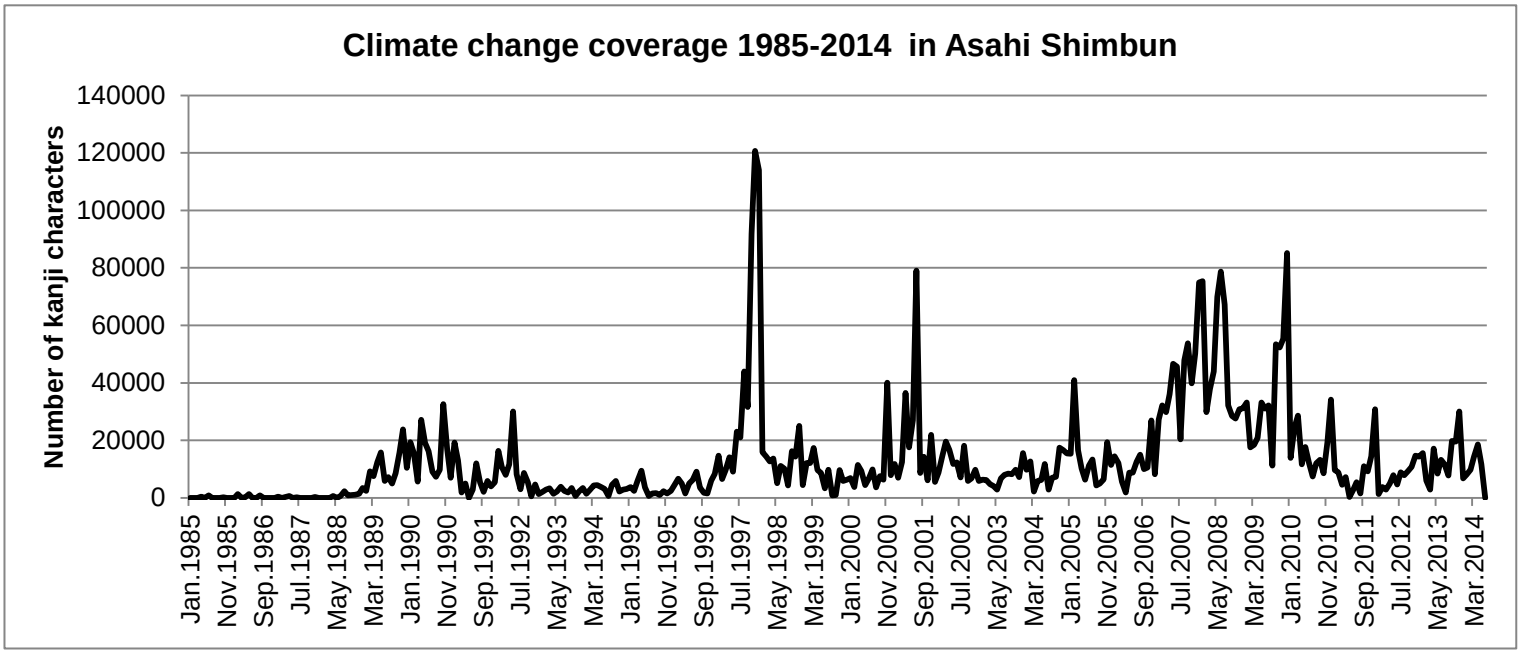


However, when we look closer at length of articles which were actually only about climate change on topics: climate change impacts and mechanism, international and domestic measures to tackle the problem, then the peak in attention happened in case of Asahi (see Figure 15), which was examined in this research, in the year 1997, not in 2008. It means that in 2008 they were more articles containing keywords than in 1997, but the actual discussion about climate change and its countermeasures was

more active in 1997. The peak in 1997 was triggered by the Kyoto conference, while in 2008 there were several events accounting for high attention to climate change such as the Davos Forum and the G8 summit in Hokkaido.

Media and public opinion researcher Midori Aoyagi claimed[21] that even COP summits did not get covered properly by the Japanese media. She explained that it was related to the structure of newspapers' international division, in which journalists are graduates from humanities and they lack knowledge about science, so they do not have interest in climate change. On the other hand, environmental specialists do not go abroad that often and that is why there is not enough coverage of climate change issue. She said that the 2007-2008 coverage was exaggerated because of the IPCC 4th report publication and the movie Inconvenient Truth. According to Aoyagi, in comparison with media coverage from abroad, the attention increased in Japan half a year later than in other countries, where the movie was released in 2006. It was caused by the fact that the movie entered Japanese theaters half a year later than everywhere else. She explained also that in the second half of 2008 there was much less coverage because of economic slump caused by the Lehman shock.

Figure 15: Climate change coverage 1985-2014 in Asahi Shimbun



In order to find out what triggered peaks in coverage, in this study the whole coverage is divided into three groups: 1. climate change science and impacts; 2. international developments in climate change negotiations and policies in other countries; 3. Japanese foreign and domestic climate change policy. Figure 16 shows annual coverage of these three groups of articles, while Figure 17 shows more detailed information about the coverage by presenting data on monthly basis. From the comparison between articles categories we can see that until 1996 the attention level to any of these categories

[21] Interview with Midori Aoyagi, National Institute for Environmental Studies, Tsukuba, March 3, 2013.

was quite low. There was some interest in the beginning of 1990s due to the beginning of the UNFCCC negotiations process. On the annual level, attention to climate change science and impacts, was the lowest from all three categories, with a peak in 2007. Articles on international developments increased in 1997 due to the COP3 in Kyoto, 2001 during debate on ratification of the Kyoto Protocol, the U.S. withdrawal from the treaty, and the EU advocacy for ratification towards Russia and Japan. Between 2007 and 2009 there was also a high interest in international developments due to various summits starting from the Bali summit in 2007, following G8 and Davos summits. In case of national policy, the annual coverage was the highest of all categories except for slump periods in 2006 and after 2012.

Figure 16: Annual coverage by topics in Asahi 1985-2014

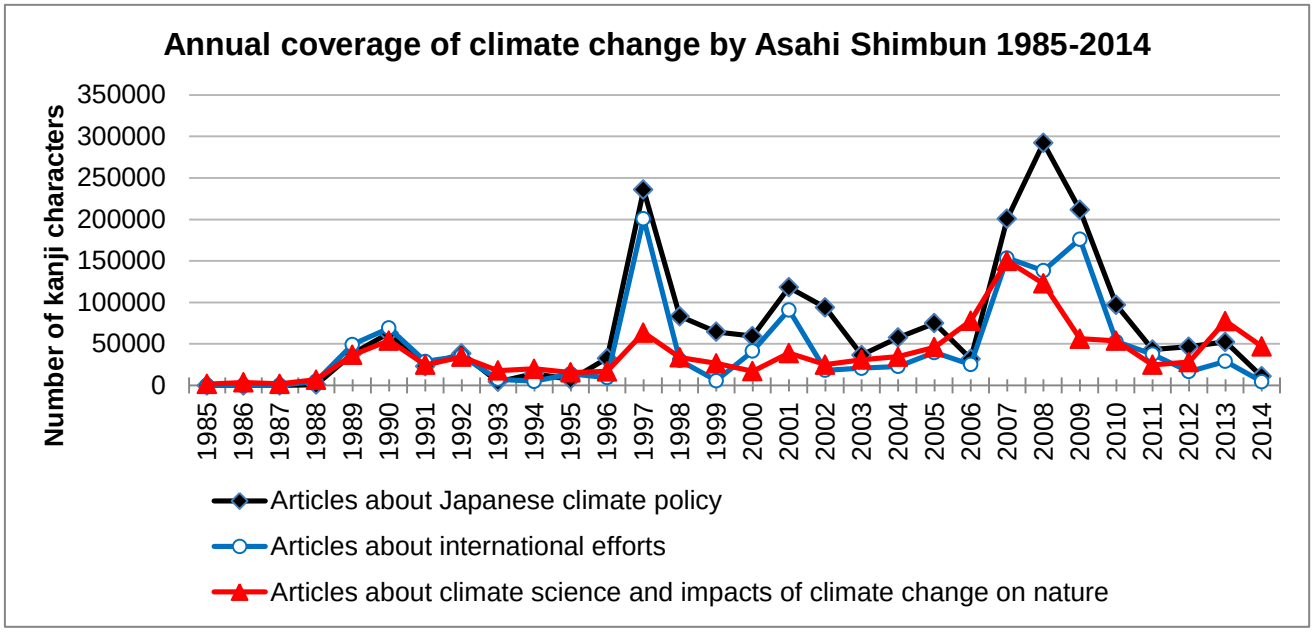
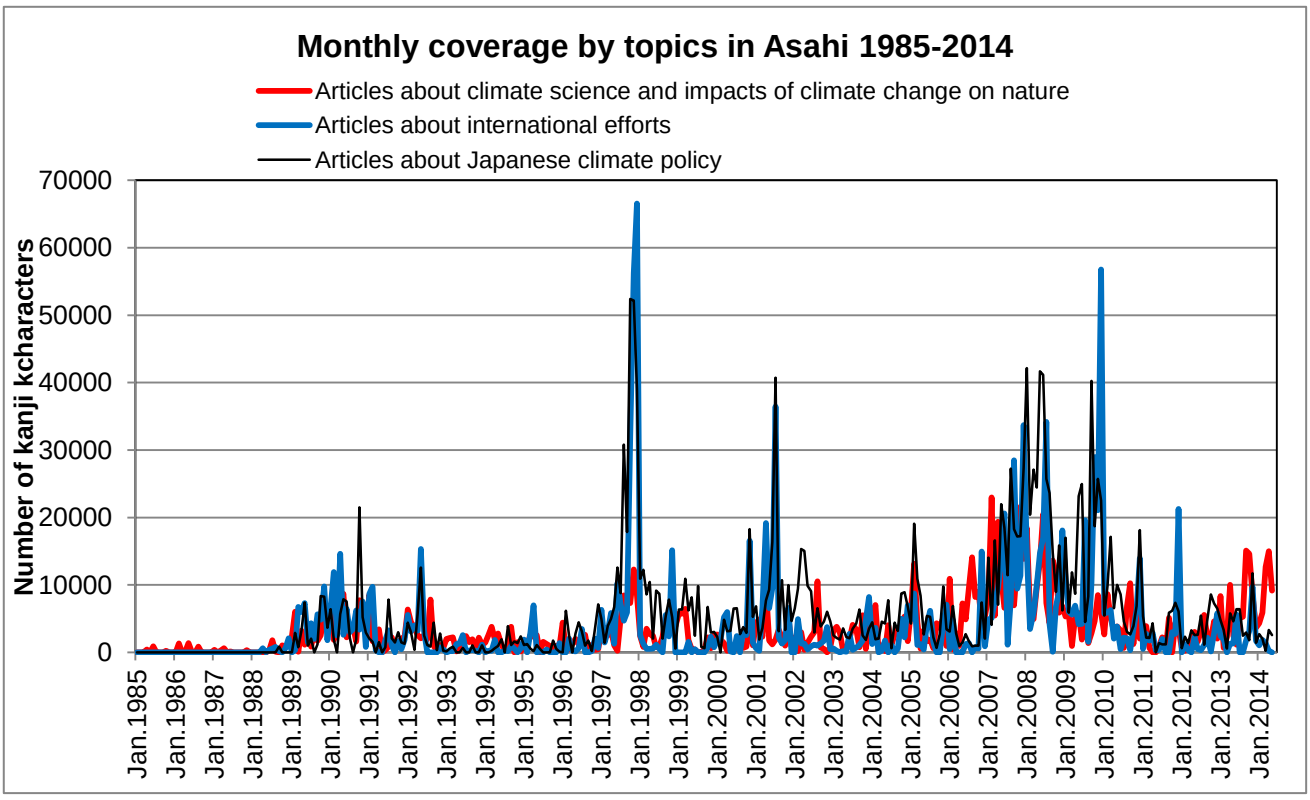


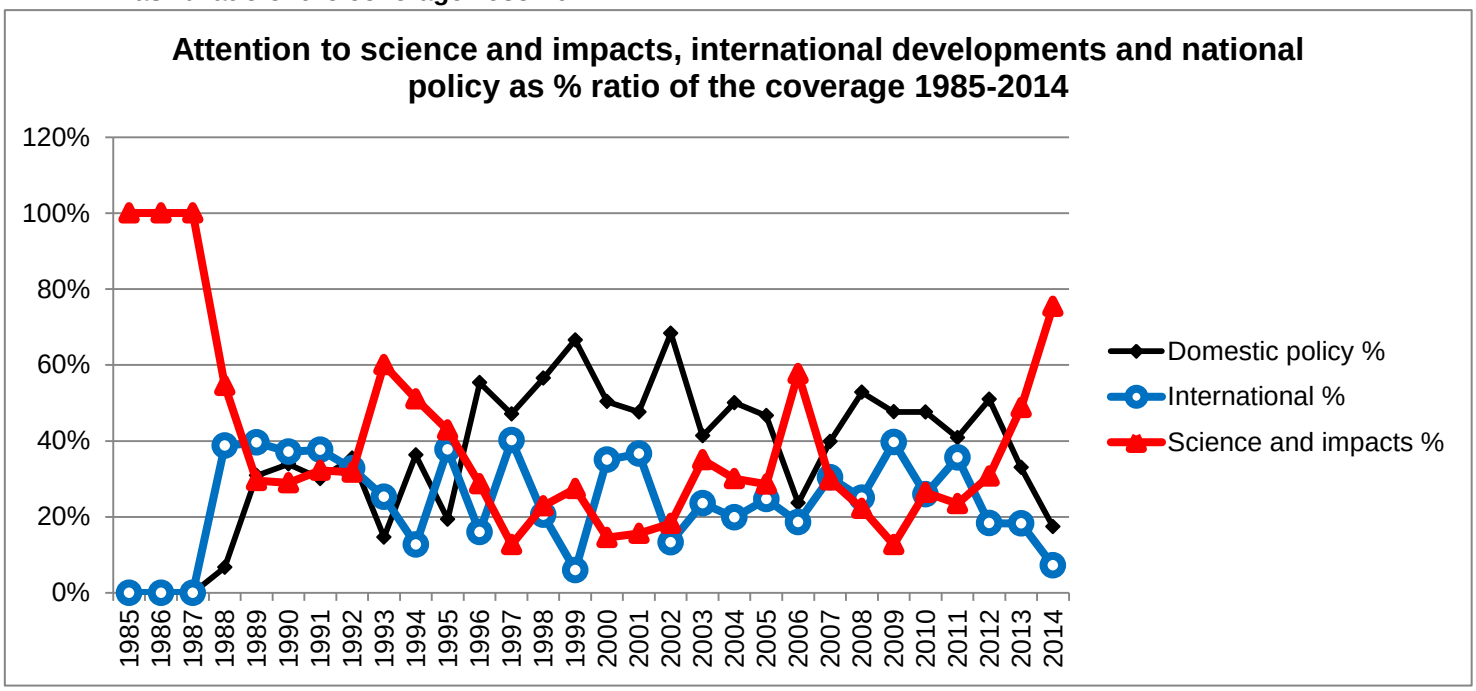
Figure 17: Monthly coverage by topics in Asahi 1985-2014



Between 1985 and end of May 2014, articles about domestic policy accounted for 44% of the whole coverage, articles about international developments for 30%, and articles about science and impacts of climate change were the smallest group of 26%.

Figure 18 shows changes in % ratio each of categories during the 1985-2014 period. At the beginning, the coverage of climate change science and impacts accounted for all articles although the amount of coverage was quite low. Policy issues began to appear in the beginning of 1990s. Attention to science and impacts was higher on annual basis during times of low interest in international developments or domestic policy, such as in 1993, after the 1992 Rio Summit; in 2006, after the 2005 entry into force of the Kyoto Protocol; and after 2013 when the LDP government under Prime Minister Abe made decision about ''zero-based review' of domestic policy and withdrew from 25% mitigation target. .The general impression from reviewing the coverage is that the media attention to climate change is not stable, and that there are ups and downs in interest caused by trigger events. These events will be further discussed in the following sections.

Figure 18: Attention to science and impacts, international developments and national policy as % ratio of the coverage 1985-2014



4.2 Attention to climate change science and impacts

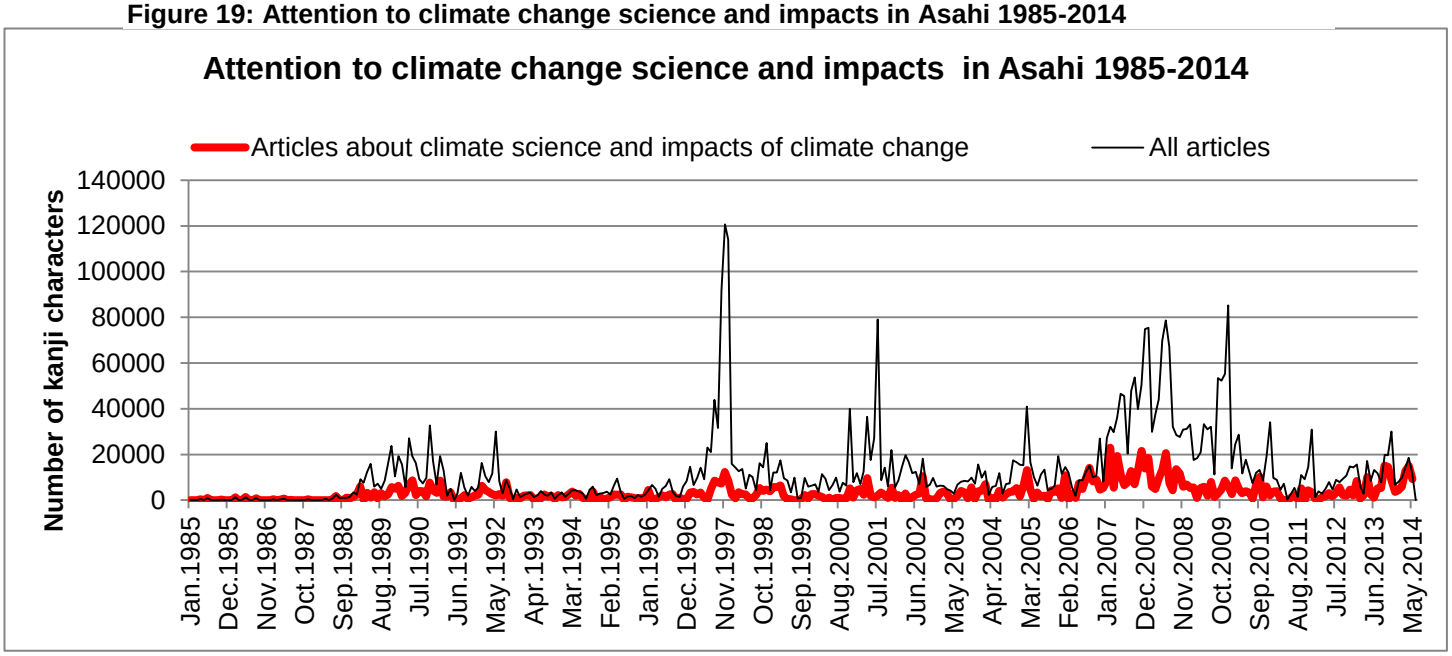
Attention to climate change science and impacts appeared in Asahi coverage in the second half of 1980s, although on a low level. However, from the beginning of the investigated period the articles in this category contained strong reference to Japan by quoting Japanese climate change researchers, talking about impacts in Japan or referring to ongoing scientific undertakings by Japanese institutions. Another feature of the coverage is that climate change skepticism was rare. Throughout the almost

twenty years period, there was just handful of articles which could be counted as skeptical about whether climate change is happening or whether human activities contribute to it. Those articles were never editorials but opinions of citizens quoted by the newspaper. Policymakers never appeared in the coverage as skeptical about climate change.

The category of climate change science and impacts encompassed articles about the mechanism of global warming, climate change models, scientific discoveries, scientific reports publication, activities of the International Panel on Climate Change (IPCC), predictions of future impacts and already occurring changes in nature such as glaciers melting, biodiversity loss, rising temperatures, typhoons, oceans acidification etc.; and also impacts on society such as higher occurrence of diseases, agricultural loss, costs and losses, perceived risk and threat etc.

Figure 19 shows changes in the attention to science and impacts of climate change. It is clear that in the comparison to the whole scale of coverage, media attention to this category of articles remained low. As mentioned before, the coverage in 1980s was rather modest, but it started increasing in 1989 due to the first meeting of the IPCC and various scientific activities in which Japan took part as well for example by sending an expedition to Antarctic or starting measuring levels of CO_2 and working on models of possible impacts in Japan. IPCC, climate change research on mechanism of climate change and observations were given more attention than predictions of what could happen in the future. At that point the topic was still new, and after the two decades as the idea of global warming became more mainstreamed, the main discussion focus were observations of impacts, warnings and future predictions.

Figure 19: Attention to climate change science and impacts in Asahi 1985-2014



After the increase in coverage of climate change science and impacts between 1989 and 1992, for few years the interest was low until July 1997, when interest started rising and peaked in November 1997 due to the upcoming COP3 Kyoto summit. In general, peaks in science and impacts coverage were attributed to international and domestic policy events. During such events, also coverage of science and impacts tended to increase. The reason for it is that many institutions published their research just before an international negotiations summit, in order to put pressure on the political process. Another reason is that without political focusing event, it is difficult to keep interest in scientific observations and possible scenarios for the future high. At some point both media and the public experience “eco fatigue” and get tired of the same issue being reported repeatedly.

After the COP3 conference in Kyoto, next events that sparked moderate interest in science and impacts of global warming were: withdrawal of the United States from the Kyoto Protocol (April 2001), ratification of the treaty combined with upcoming Johannesburg summit on sustainability (mid-2002), entry of the treaty into force (February 2005), big snowfall attributed to changed weather patterns (January 2006), 4th IPCC report and the Inconvenient Truth movie release (February 2007), Security Council meeting and Japan-China talks on climate change (April 2007), Nobel Prize for the IPCC (November 2007), Davos Forum and PM Fukuda speech on climate change (January 2008), post-Kyoto proposal made by Japan (September 2008), preparations and first releases of the 5th IPCC report (September 2013), and the IPCC meeting in Yokohama (March 2014).

The highest level of attention to science and impacts was given between 2007 and 2008; and it was the time of high interest in Japanese policy too due to the upcoming G8 meeting in Hokkaido during which climate change was one of the key issues. Many of events that occurred during increased coverage on science and impacts were political events unrelated to scientific discoveries or observations. Also the ‘Climategate’ scandal of leaked emails from climate change scientists accused of falsification of data in order to achieve more influence on political process did not trigger much attention in coverage. At the time of the scandal in the end of 2009, the attention of media was focused on COP15 in Copenhagen and Prime Minister Hatoyama’s pledge.

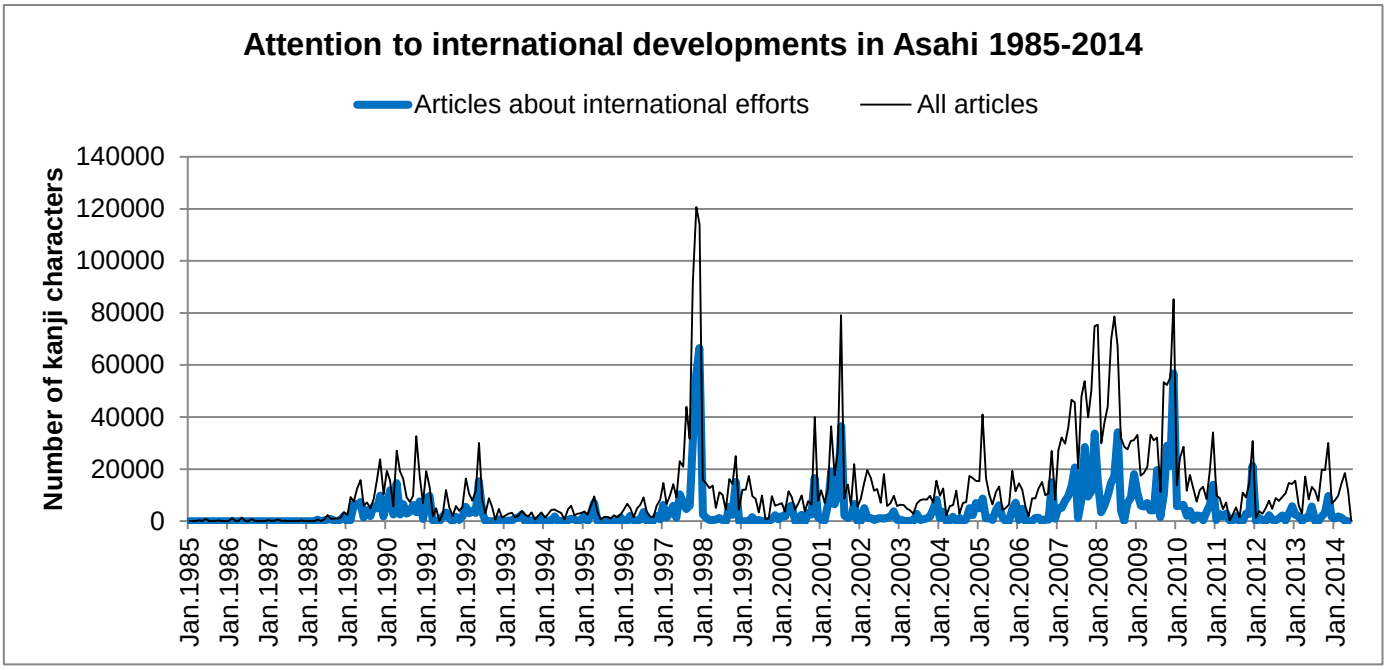
4.3 Attention to international developments

In case of coverage about international negotiations and climate change policy in other countries, the level of interest was much higher than attention given to science and impacts. The topics covered in this category included the UNFCC and COP negotiations, international summits related to climate change, and climate change policy issues in other countries, which were mainly the EU and the US. Japan’s behavior at the summits or cooperation with other countries was excluded from this category and counted as foreign policy, which will be described in the next section.

Just like in the case of science, there was an increase of interest in the beginning of 1990s due to the start of the UN-led negotiations with top event Rio Summit in 1992. The most attention was given to the

event that was hosted by Japan: COP3 conference in Kyoto in 1997 and to the COP15 meeting in Copenhagen, which was supposed to end with a new international treaty but failed to do so. Negotiations with the United States held by the EU and Japan in July 2001 were the third event that triggered attention. G8 summit in Hokkaido (2008) and in Germany (2007), during which climate change was one of top issues, were also top interest events. Attention to international developments was high during 2007-2009 period because of a series of international events happening at that time and increased preparations kicked-off by the Bali summit in 2007 for the COP15 in Copenhagen.

Figure 20: Attention to international developments in Asahi 1985-2014



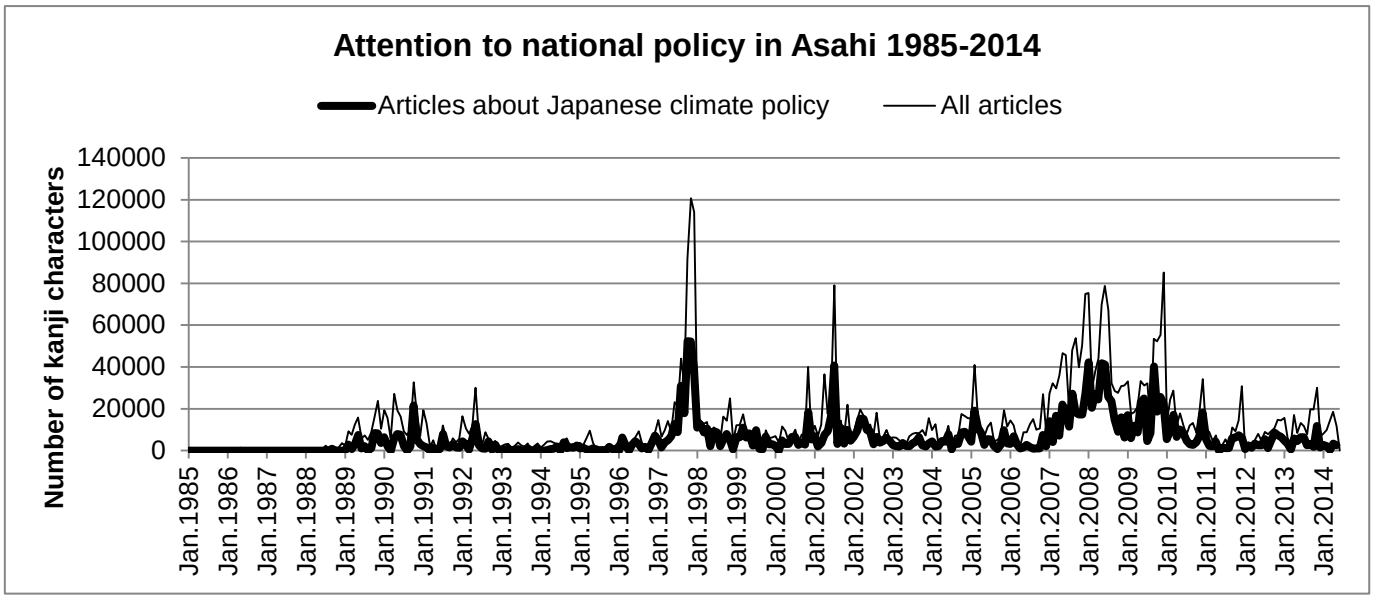
After the Copenhagen summit, there was a sharp decline in the coverage. Small peaks in attention appeared again during annual COP international summits, but they did not gather much media interest. By the end of May 2014, the attention to international developments dropped significantly.

4.4 Attention to national policy

Coverage of Japan's climate change policy development is showed in Figures 21 and 22. Because this category included both domestic policy and foreign policy, it was divided into these two groups. Domestic policy accounted for 73% and foreign policy for only 26% in the whole period. National policy coverage follows the pattern of coverage of all articles, and it is the topic given the most interest with the climate change debate in the Asahi newspaper. Again there was a slight increase at the beginning of 1990s, then no interest up to the COP3 conference in 1997. Smaller peaks of attention occurred during the US withdrawal and negotiations prior to the ratification, and then during the ratification of the Kyoto Protocol. Between 2007 and 2008 there was a time of sustained high interest, which declined

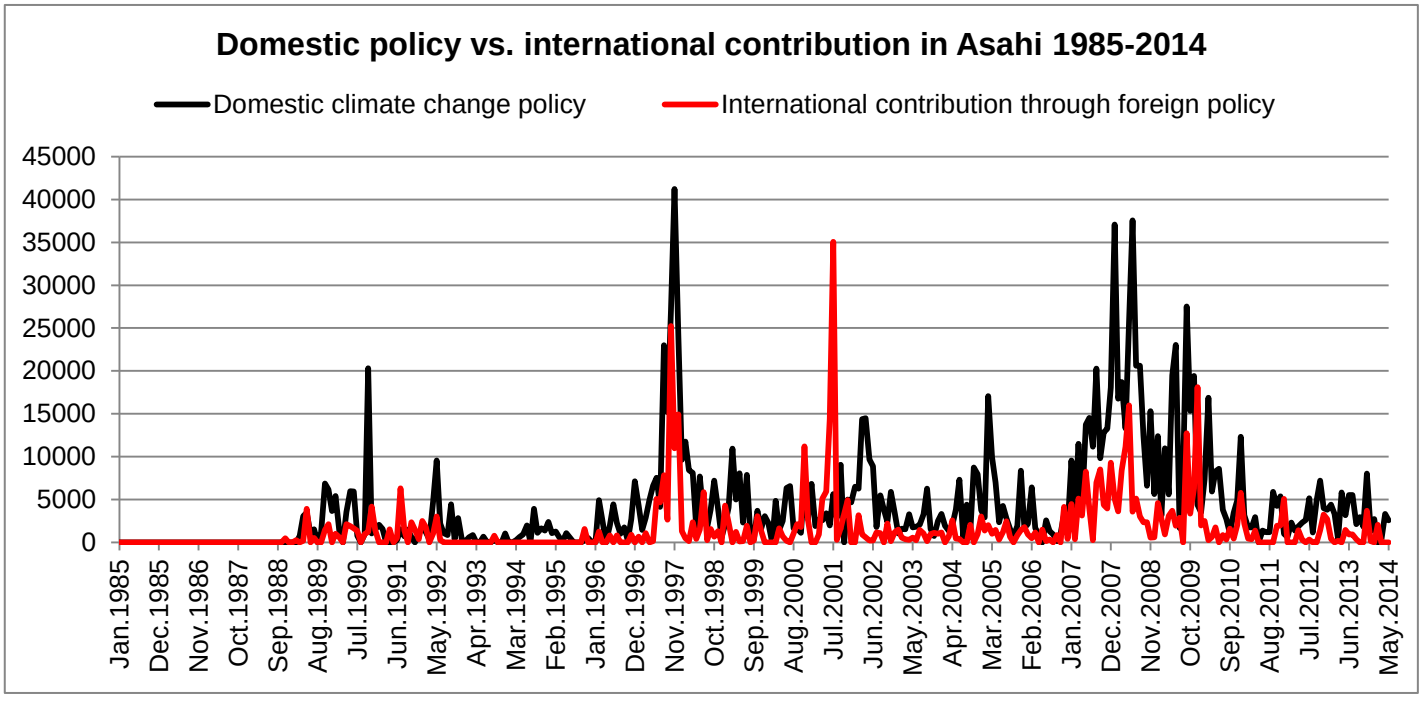
after the G8 in Hokkaido, and then increased again due to the COP15 in Copenhagen. After that event coverage declined.

Figure 21: Attention to national policy in Asahi 1985-2014



However, it is necessary to look into domestic and foreign policy events to understand the coverage better. Because foreign policy issues in the coverage main mostly international contribution through Japan's involvement in international negotiations, offering aid and technology transfer, bilateral cooperation on adaptation and mitigation issues, I use 'international contribution' as well when referring to foreign climate change policy in the coverage.

Figure 22: Domestic policy vs. international contribution in Asahi 1985-2014



4.4.1 Domestic mitigation efforts

Domestic policy accounted for the most part of the coverage on national policy. When the newspaper started writing about climate change in the context of mitigation in Japan in the end of 1980s and the beginning of 1990, the first articles were on nuclear energy, technology and energy saving. Japan was compared with Holland, which at that time was the first country to consider carbon tax. However, position of the industry and MITI (later called METI, the ministry in charge of trade and economy) on energy saving was presented the most. At that time a policy in line with MITI's proposals was accepted. In October 1990, the government announced the first climate change target of stabilizing emissions by 2000, and during that time there was the first larger peak of media coverage. In the coverage there were articles about power company TEPCO launching climate change related projects and coal association claiming that natural gas emitted more CO_2 than coal (in reality is the opposite: coal is the source of twice the greenhouse gases than natural gas) and organizing a meeting with policymakers.

After that, the next increase in interest occurred in April-May 1992, when the Environment Agency considered introduction of a carbon tax. The discussion on the tax was followed for few months, but the interest soon diminished. There was not much attention given to mitigation for several years with sporadically published articles on difficulties with achieving any mitigation target and NGOs frustration about it. Nuclear power kept appearing in the coverage but with concerns due to nuclear safety. Preparations for COP3 were described as difficult because no pledge or policy was decided yet. The coverage increased from August 1997 with the policymakers' discussions on what to announce by COP3. As the host, Japan needed to come up with domestic policy proposal before the COP3. The media attention surged in November 1997 during the conference. Articles showing opinions of various stakeholders appeared, not only policymakers' or industry's point of view as in previous coverage. The newspaper issued editorials critical towards policy and proposals made before COP3. Interest in climate change policy declined after the conference but not rapidly, and for several months it was higher than before the event. During that time policymakers were working on the first climate change legislation proposal, which Asahi claimed to be not enough in its editorial. However, soon attention declined

After the COP3 until 2007, interest in domestic mitigation was much lower than during 1997 and later the 2007-2009 events, but higher than before the COP3 summit. There were two medium peaks in attention in February 2002 and in February 2005. Before the ratification, Asahi gave an overview of ongoing debate on carbon tax, mitigation target, which the opposition DPJ wanted to increase, and on nuclear power. Finally in February 2002, Prime Minister Koizumi announced the decision about ratification, which was followed with the first above mention medium-scale peak of media interest. The media followed ratification process until May 2002. After that, ministries continued discussion on the carbon tax, with MOE offering calculations and proposals, and METI supported by Keidanren saying that the public is distrustful of the measure. Because the discussion was going on for several years

already and it included a lot of technical knowledge familiar to tax specialists, it is not surprising that despite the importance of this issue, level of media attention was rather low. It is also one of features of climate change policies such as taxes, emission trading of feed-in tariff that it would be difficult for media to sustain public attention to such policies when most of the public is not familiar with such measures. The coverage increased again in February 2005 due to the fact that the Kyoto Protocol entered into force, when various stakeholders expressed their opinions in articles about the status of mitigation at that point, and the government talked about the law revision.

After the treaty entered into force, for the next two years, attention to domestic policy in the newspaper remained low. The policy issues such as carbon tax, emission trading, and use of forest sinks as offsets kept appearing in the coverage but there was no triggering event to associate them with. Ministries kept their opposing views, while Prime Minister Koizumi promoted his Cool Biz initiative, which got some moderate media coverage in association with articles on climate change, and much higher coverage in articles that only mentioned this issue.

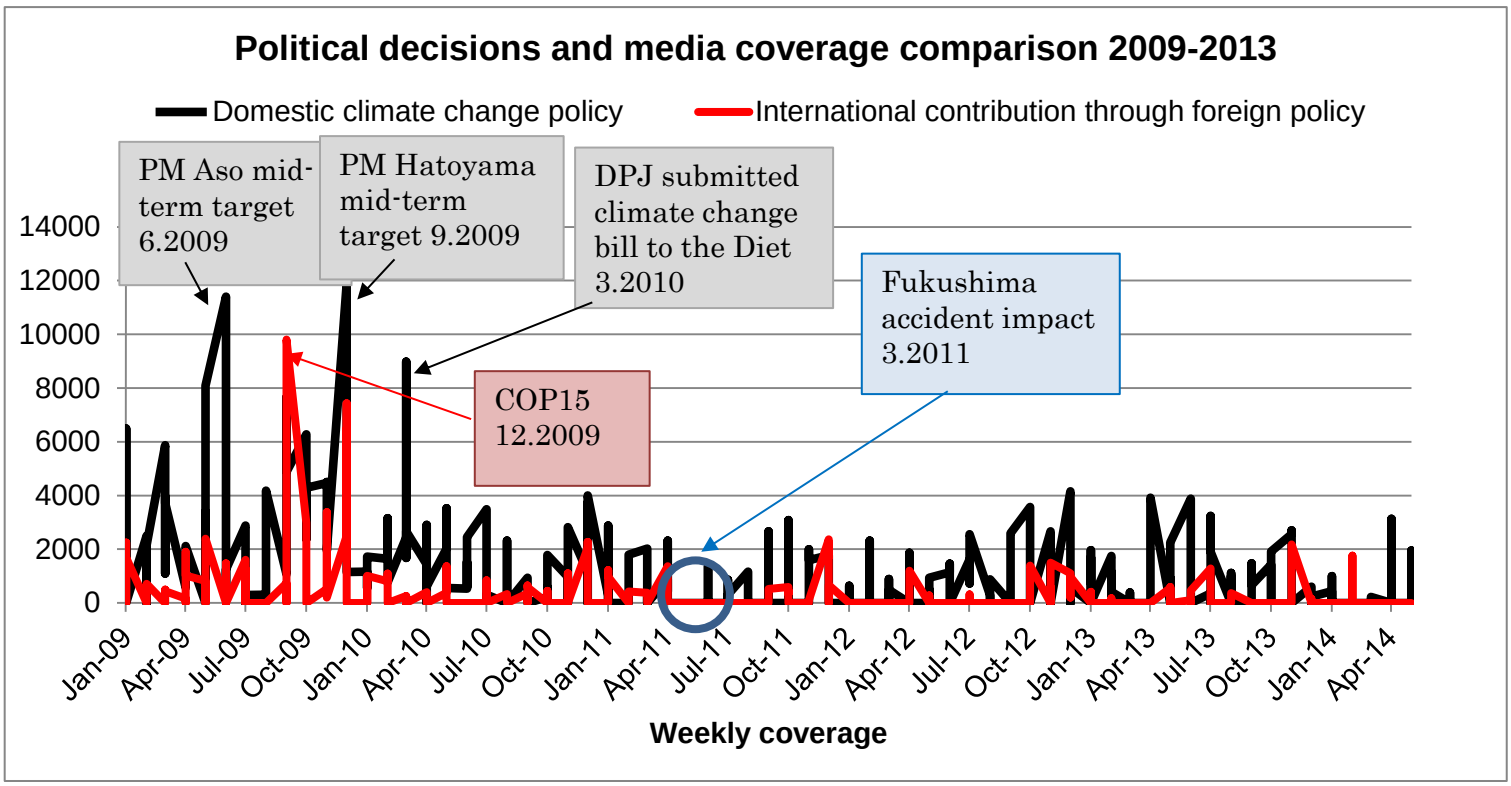
In 2007, coverage of domestic mitigation started slowly increasing. Various issues related to the topic appeared such as the fact that industry must disclose information about emissions due to law revision that already happened, stating the need for responsible policy, following up government's ideas on biofuels in relation with climate change (the idea was later abandoned, and there is not much evidence that biofuels have a positive impact on decreasing emissions). Climate change appeared also in election coverage because the biggest opposition party DPJ put it on their agenda. Coverage followed ministries debate on what to do with rising emissions, while there was still no mid-term target and increasing risk of not meeting the Kyoto target.

The government came up with national campaign focused on citizens' efforts which got media attention and caused medium size peak in August 2007. After that attention declined a little, but started growing again in November 2007. On international level, the Bali summit was held in the end of 2007, and the DPJ opposition party after returning from the summit announced 25% mitigation target in their manifesto. Meanwhile, ministries kept arguing about carbon tax and about how to meet the Kyoto target when emissions are rising. Coverage got quite intense around January 2008, which coincided with Prime Minister Fukuda's speech on climate change at the Davos Forum. The summit was a triggering event that elevated domestic policy coverage to one of three highest peaks in the whole period. The highest peak in media interest was the COP3 Kyoto conference in 1997, and the second highest happened several months after the Davos Forum in July 2008. Despite being international events, they put pressure on policymakers to come up with mitigation policy ideas as the next international treaty required domestic pledges from developed countries. Media interest declined after the first event to the level prior to Davos, which was still high, and then spiked again before the G8, from May to July 2008.

After that, media followed with less interest technical discussions of the future mid-term target, trial emission trading and other measures. Two more large spikes in interest happened in 2009, but on smaller scale that those from 2008. The first one was in June 2009, when Prime Minister Aso Taro announced his 15% of 2005 levels target (equal to 8% of 1990 levels). After that climate change appeared again in election coverage, as the opposition DPJ party and many other parties put it in their manifestos. The second spike in attention happened after the elections, when Prime Minister Hatoyama from DPJ party announced his 25% target of 1990 levels. Media attention remained high during COP15 and various policy options regarding the target were discussed by proponents and those critical about the target. Attention dropped after that, only to recover again in March 2010, when the government submitted the climate change bill to the Diet. After that interest in climate change declined and articles covered technical issues discussed by experts. After June 2010 and Prime Minister Hatoyama resignation which also marked failure of the bill in the Diet, coverage of the issue declined even more. There was no increase of interest when the bill was resubmitted to the Diet in October 2010. A small peak of interest occurred in December 2010, when the Diet did not discuss the bill during its last session, the government decided to postpone emission trading discussion after meeting with Keidanren, and NGOs submitted their views to policymakers under their campaign promoting the bill.

After the failure of the legislation proposal in the end of 2010, media attention remained low. Climate change was soon replaced with more pressing domestic concerns related to the Fukushima disaster and future of energy policy. Figure 23 shows more detailed information on the coverage by presenting in on a weekly basis. Media focus stayed at the 25% target revision, with interest peaks in June 2012 when the government presented several options for climate change and energy policy, followed by announcement in September 2012 of nuclear phase-out policy proposal which had some elements of mitigation policy.

Figure 23: Political decisions and media coverage comparison 2009-2013



The interest declined around elections in the end of 2012, and the winning LDP party announced 'zero-based review' of the mitigation policy. Media followed policymakers when the law was revised in March 2013, and that revision was only a minor change of the legislation prior to the DPJ climate change bill proposal. However, after that the coverage focused on issues within climate change policy, not on the actions of policymakers. At that time there was not much action on policymakers' side because the decision on target revision was supposed to be made before COP19 and announced in October 2013. For few months the newspaper talked about various problems such as increasing dependence on coal due to relaxed regulations and its detrimental effect on climate change mitigation efforts, lack of policy decision being negative for municipal governments which were not sure what to anticipate, and mitigation policy without nuclear power. When the government finally announced the target, the coverage was still low but mainly critical. By the end of 2013 coverage declined again, and there was a small increase of interest in April 2014, after the IPCC meeting in Yokohama and Prime Minister Abe's announcement of new national campaign targeting citizens' called Fun to Share.

During that time of decline in attention in climate change since 2010, media interest in domestic mitigation was still higher than interest in international contribution. It was the opposite in case of policymakers who tended to focus more on international contribution.

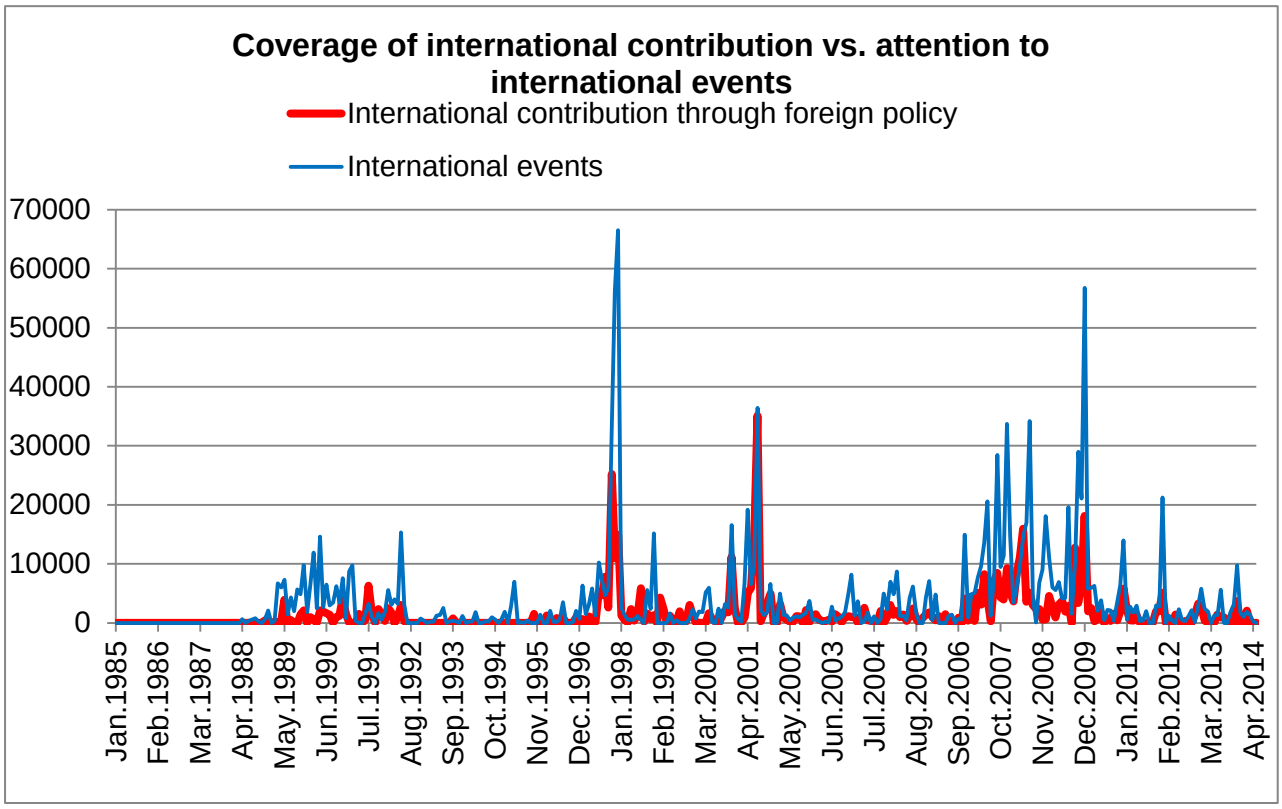
4.4.2 International contribution

Attention to international contribution was quite low up to the COP3 conference in Kyoto. Few articles that appeared during the UNFCC negotiations and Rio Summit at the beginning of 1990s were on cooperation with the United States on climate change, the pledge and review proposal made at negotiations and international pressure on Japan to be a leader. After 1992, foreign policy disappeared from the coverage until 1997, when during pre-COP3 preparations policymakers participated in meetings with various governments to discuss the upcoming summit. Japan's proposal for the negotiations appeared in many articles, and it was discussed quoting critical and supportive views of foreign governments and domestic stakeholders. The coverage followed COP3 events almost every day of the two weeks long negotiations, but the attention was lower than during discussing Japan's proposal before the COP3 in October 1997.

After the summit, coverage of foreign policy declined for the period of two years. Some articles mentioned cooperation with Russia on offsets according to the flexible mechanisms available under the Kyoto Protocol and other focused on ongoing treaty negotiations. Coverage increased a little in November 2000, when during a COP summit Japan insisted on broader use of forest sinks as offsets. Soon after that interest of media declined until July 2001, which marked as the highest peak in attention to foreign policy. The topic of such interest was Japan's engagement in talks with the US, the EU and Russia after the US withdrawal from the treaty. It was the only time during which the media

interest in international contribution to climate change via foreign policy measures was as high as the interest in international events (see Figure 24).

Figure 24: Coverage of international contribution vs. attention to international events



After this peak in attention, the interest declined again until the end of 2006. During that time the most often appearing subject in the coverage was the use of offsets via the Clean Development Mechanism. In spring of 2007, several international meetings took place which made the coverage increase: talks on climate change with the US and China and G8 meeting in Germany during which Japan proposed to decrease global emissions by 50% by 2050. During meetings throughout 2007, PM Abe promoted this idea, and the coverage kept at a stable medium level. The next increase in the coverage was in May 2008 before the G8 summit in Hokkaido. At that time Japan proposed the sectoral approach to be used at COP negotiations, held meetings with various countries and promoted ODA through the PM Abe's Cool Earth Partnership at TICAD forum with African states. Surprisingly, attention to foreign policy was not high during the G8 summit held in Japan, despite the fact that preparations for the summit gained interest.

The coverage declined again until September 2009 when Prime Minister Hatoyama pledged 25% target at the UN summit in New York. The next peak in attention appeared quickly in December 2009 during COP15 in Copenhagen during which the pledge was supposed to be leverage in negotiations. After the summit, interest in climate change foreign policy declined sharply. The small peaks appeared

annually during COP meetings The 2010 COP meeting got critical coverage about Japan's withdrawal from the second commitment period. The next 2011 meeting coverage focused again on the issue of Kyoto Protocol and focused Japanese students protesting against nuclear power in Durban at the venue of the summit. The following year focused on Japan's still undecided target and unclear role at the negotiations. However since 2013, coverage featured the JCM technology transfer scheme a lot due to increased efforts by the government to promote the scheme and sign bilateral agreements with developing countries.

5. Conclusion on media attention to climate change

This chapter examined media attention to climate change issue in Japan by examining scale of coverage in editorials of four national newspapers and the volume of the coverage in the Asahi Shimbun. In Japanese mass media, newspapers continue to play an important role as news source. The previous studies indicated that the media holds closed ties to political and economic elites and reporting style is rarely critical towards government. Because the media to a big extend needs to rely on government as information source about climate change, investigative journalism may play a limited role. When talking about climate change, media is used by policymakers in their national campaigns and by activists to promote certain aspects of climate change policy.

Both trends in editorials and in the Asahi coverage showed that media was the most active during the COP3 conference in 1997 and during the 2007-2009 period. There was a sharp decline in media attention starting in 2010 and reaching the lowest point in 2011. Although the coverage increased since that 2011 level, the attention was still much lower than in the period following the Kyoto conference.

In case of climate change science and impacts, there was a strong focus on Japanese institutions being involved in the research, and few articles were skeptical about global warming. This category accounted for the least attention, but in the end of the checked coverage period, it started to dominate the discussion. Because the attention to policy issues and science was low, attention being higher to climate change mechanisms and impacts does not generate discussion on how to solve the problem. Peaks in interest in science and impacts coverage were attributed to international and domestic policy events. The reason for it is that many institutions published their research before important international events in order to put pressure on the political process. Without a political focusing event, media attention decreased. The fact that Climategate scandal did not trigger media attention speaks for low level of skepticism.

Also coverage on international developments was linked to triggering events. The most attention was given to the COP3 conference in Kyoto in 1997 and to the COP15 meeting in Copenhagen. Attention

to international developments was high during 2007-2009 period because of a series of international events happening at that time in preparation for the COP15 in Copenhagen.

In case of national policy, domestic policy accounted for the most part of the coverage on national policy. It means that international contribution did not dominate the discussion. During the time of decline in attention in climate change since 2010, media interest in domestic mitigation was still higher than interest in international contribution. It was the opposite in case of policymakers who tended to focus more on international contribution.

Despite the assumption that media coverage would focus on policymakers' perspective, there were opinions of various stakeholders in articles, often critical towards policy and proposals. However, the attention was mainly event-driven, which means that in the absence of political events, the level of coverage was low. It happened in the end of the analyzed period, when the level of attention was low due to the lack of political decisions in 2013. However during that time the coverage was rather critical and pointed out issues within the energy policy such as use of coal and need for a decision on a revised target. Also during prolonged discussions on technical aspects of policies, media attention tended to decline. In the case of foreign policy, the coverage followed COP3 and G8 events preparations closely but dropped during actual events. After the COP15 summit, interest in climate change foreign policy declined. Since 2013 there was more attention to international contribution through technology transfer, which means that coverage followed policymakers' actions, which were focused on expansion of the JCM scheme.

Chapter 6: Conclusion

In this dissertation, I explored the topic of public policy discussion on climate change in Japan. I looked at the Japanese policymakers' and media perspectives on climate change policy. Both domestic action and international contribution are necessary ingredients of global warming countermeasures. However, there is an impression that attention to domestic mitigation efforts has been declining in Japan. At the same time, the government continues to offer financial assistance to developing countries and promotes climate change cooperation through various initiatives. The main research question of this dissertation was whether international contribution dominated the discussion on climate change in Japan. The goal was to find out if policymakers' and media attention to domestic policy and international contribution changed, and whether the focus of the public debate in Japan shifted from domestic mitigation to international contribution.

There are several reasons why the topic of climate change remains to be important for Japan. The country is likely to experience impacts of climate change, and introducing mitigation policies would enhance its sustainability and energy security. Japan needs to expand renewable energy and focus on long-term policy which is beneficial for environment. In the situation when nuclear power is no longer an only solution, now more than ever there is a chance for a shift towards renewable energy, which together with energy saving measures are the best options also for dealing with climate change. Due to the feed-in tariff and carbon tax policies, the renewable sector is likely to continue growth, but it is necessary to carry out electricity market reform to break regional monopolies and to ensure a more sustainable energy market. International contribution is an important action for developed countries since they have the resources and the know-how on how to help developing countries avoid pitfalls of development that brings environmental degradation.

In domestic policy, several issues create an impression of lower attention to climate change. The first issue is keeping by policymakers the status quo regarding the legislation that required only voluntary measures from the industry. On the other hand, there have been some progress since the failure of the climate change bill, which was not passed twice in 2010 through the Diet, because two elements of the bill: carbon tax and feed-in tariff were actually implemented. However, emission trading, mitigation and renewable energy targets slipped from the list of priorities. Because of difficulties to decrease domestic emissions, Japan has been relying on buying offsets from abroad, and this situation is also unlikely to change with the new bilateral crediting scheme on its way. The scheme itself has many beneficial features for developing countries, which do not have many opportunities to participate in technology transfer projects due to the demise of the Clean Development Mechanism. Initiatives such as offering a new framework in which developing countries could host projects when the UN-led CDM framework has become weaker; robust contribution through climate change science; and being a generous donor of climate change assistance are positive examples of Japan's international efforts.

However, there are not enough incentives to shift away from carbon intensive fossil fuels such as coal. On the contrary, with looser regulations coal-fired power plants became easier to be built. Coal cannot be a long-term solution, but the current situation indicates that it is treated as one. It is also an integral part of international contribution, which is a controversial issue from the point of view of mitigation priorities. Both promotion of coal technologies as part of climate change countermeasure, as well as providing public finance for coal mining and power plants need to be further addressed.

Non-participation in the extended Kyoto Protocol could be treated as a symptom of lowering interest, but participation in the treaty itself did not decrease emissions for Japan in the first commitment period. It is unlikely that it would happen later on, since the agreement encourages buying offsets instead of focusing on domestic measures. Japan's participation in the UN-led anti-climate change process has started early, which confirmed that the issue was perceived as important. However, the problem stayed for a long time mostly within foreign policy, and it took two decades to finally implement carbon tax and promote renewable energy in a way that ensures its increase. Without a doubt, Japanese policymakers put the issue on the agenda at international forums such as the G8, Davos summit or COP meetings. However, the actual policy proposals and position at negotiations involved several difficult issues from point of view of climate change mitigation proponents, such as: advocating offsets, nuclear power, 'clean coal', bottom-up approach that allows setting up loose commitments; and using misleading targets to make pledges appear more substantial (such as using the 2005 levels instead of the 1990 levels).

My hypothesis was that attention to domestic mitigation and international contribution declined in recent years, and both Japanese policymakers and media showed similar patterns in their lack of attention. I assumed that the decline was triggered by the nuclear accident and urgency to put climate change mitigation aside in order to deal with a more pressing problem. Climate change is more of a distant global threat than the nuclear issue. Another reason for decline would be the fact that the climate change negotiations have been going on for already more than twenty years, and the annual meetings or even warnings from scientists can easily be a trigger for 'eco fatigue', especially in case of media. For policymakers, the meetings do not send signals that policies as required because there are no punitive measures against no compliance in case of an agreement; and there is no agreement to start with.

The research confirmed that attention of policymakers' to climate change declined. However, the decline happened earlier than the nuclear accident. In case of statements made by Prime Ministers, interest in international contribution tended to dominate speeches since 2010, while attention to domestic mitigation efforts declined. However, there was less statements on both issues. In the past international contribution dominated statements only around the time of prominent international events such as the COP3 in 1997 and the 2007-2008 international meetings such as G8 or Davos Forum.

Attention to domestic mitigation was the highest in 2008 during PM Fukuda administration and started declining in 2010. None of Prime Ministers proposed a realistic mitigation strategy. National campaigns aimed at citizens or international pledges with no domestic back-up plan were the core of Prime Ministers' advocacy. However, even if the content of their statements tended to be too general, the fact that they chose to talk about climate change was enough to raise interest. It could be observed in the media coverage, in which all proposals made by Prime Ministers triggered an increase in attention. In all statements the most often repeating issues related to international contribution were efforts in negotiations, technology transfer and leadership. However, since 2010 the dominating themes have been technology transfer, finance for developing countries and Japan's international initiatives. It shows a more pragmatic approach and disillusionment with the progress of negotiations. In case of domestic mitigation, Prime Ministers' attention declined in regard to key issues.

In case of questions submitted by the members of the Diet on climate change, attention to climate change declined from 2011. Majority of questions were about domestic mitigation issues, and only a few about international contribution. Decline in number of inquiries confirms decline in importance of climate change on policymakers' agenda. 2010 was a year during which the climate change bill, submitted by the DPJ government to the Diet, was questioned, but after the bill disappeared from the agenda, there was no discussion on climate change anymore. The failure of the climate change legislation impacted policymakers because it became more difficult to reintroduce the issue. Even though many legislators are involved in international cooperation with their counterparts on climate change through the GLOBE network, there are too few participants going to the summits to signalize that there is a need to learn from abroad about domestic mitigation measures.

Analysis of election manifestos showed that during the 2009 elections, climate change was the highest on the agenda of political parties. One year later, even though climate change was still talked about in manifestos, the ruling DPJ party started retreating from their proposals. The biggest parties LDP and DPJ were not the most involved in climate change issue. The most progressive were Communist Party, SDP, and Komeito. LDP was without a doubt the least progressive in their declarations about climate change policies, but DPJ used to advocate various measures in 2007 and 2009. Domestic mitigation dominated international contribution, but since 2010 there was an increase of attention to international contribution, and at the same time a decline of ambition in domestic mitigation shown by DPJ, Komeito, and LDP. Although domestic measures were more important in manifestos because voters are more likely to make decision based on issues that would impact their lives, international contribution appeared during 2010 and 2012 elections. It took form of issues such as: efforts in international negotiation, assistance for developing countries, renewable technology and coal technology export.

In a nutshell, decline in policymakers' attention was the most visible in the case of Prime Ministers' statements, which declined since 2010 more than by half and became more focused on international

contribution than on domestic efforts. Similar decline could be observed in case of election manifestos, although international contribution did not dominate domestic mitigation efforts. The Diet showed a lower attention to domestic policy since 2011.

In case of media attention, trends in editorials and in the Asahi coverage showed that media was the most active during the COP3 conference in 1997 and during the 2007-2009 period. There was a sharp decline in media attention starting in 2010 and reaching its lowest point in 2011. Although the coverage increased since that time, the attention was still much lower than in the period following the Kyoto conference. In coverage of climate change science and impacts, there was a strong focus on Japanese institutions being involved in the research. Also there was a low level of skepticism about global warming, and the scandal of leaked emails by scientists did not trigger a bigger response. This group of articles was the smallest, but in the recent years it started to dominate the other two issues: international developments and national policy. It happened because the attention to both of these categories was low, while coverage of science and impacts remained stable. Media interest in science and impacts was triggered by international and domestic policy events, during which many scientific reports are usually published to ensure higher attention and also to exert pressure on policymakers.

Coverage on international developments was linked to triggering events such as the COP3 conference in Kyoto in 1997 and the COP15 meeting in Copenhagen. Attention to international developments was also high during the 2007-2009 period because of a series of international summits held then.

In case of national policy, domestic policy accounted for the most part of the coverage on national policy (with the exception of 2001), which means that international contribution did not dominate the discussion. However, attention to both issues declined. During the decline in interest in climate change since 2010, media talked about domestic mitigation more than about international contribution. In case of policymakers, it was the opposite: international contribution was more dominant.

The previous studies indicated that the media would follow policymakers, so why was there a difference in attention to domestic efforts and international contribution? In case of climate change, government tends to be one of the main sources of information. On top of that, Japanese media is characterized by neutral reporting style and avoiding confrontations with policymakers. Despite that, the coverage showed opinions of various stakeholders, and critical opinions appeared too. It was true though, that the coverage followed political events, and in their absence, like in case of the 2013 waiting for a decision about mitigation target, it declined. Even though the coverage level was low, articles posed important questions about the use of coal and the future of mitigation commitment. When there was no political event but only technical discussions between ministries on various measures, the coverage declined too. Foreign policy coverage followed closely preparation for important international events such as COP3 and G8, but declined during those events. Attention to

international contribution declined after the 2009 Copenhagen summit. Since the Abe administration took charge of climate change policies in 2013, the media started to follow technology transfer such as the JCM scheme.

I assumed that decline in attention appeared due to the Fukushima accident in 2011, but in fact it happened before the accident; and in most cases in 2010. It could be attributed to economy being more important than environmental issues, or to a general decline in interest in climate change worldwide experienced after the disappointment of the 2009 COP15. PM Hatoyama's pledge was aimed to be a tool at international negotiations, and with no success in Copenhagen, it was questioned what purpose it could serve. The climate change bill after being passed by the Lower House was close to being passed also through the Upper House, if not for Prime Minister's resignation that disrupted the legislative process. It was clear than that the bill missed its 'opportunity window', and it was difficult to maintain focus on it later on. With no powerful international triggering events anymore, the importance of climate change started to wane.

On one hand, the decline in attention by policymakers' in their statements, election commitments and lower media coverage means a decline in public debate. Without it, policy decisions lack transparency. It was the case of the COP19 summit and the announcement of the new mitigation target. However, despite the decline in attention to climate change, important policies such as FIT and carbon tax were passed in 2011-2012. It led to expansion of renewable energy, which is framed now more as "alternative to nuclear" than as "solution to climate change". Despite the peaks in attention in the past, these measures were not easy to pass at that time. It means that peaks in attention to climate change do not necessary mean willingness to implement policies. It leads to a question whether climate change is a powerful enough association for shift towards more sustainable and environmentally friendly energy sources. Another issue is that even though the attention to climate change is low now, Japan will most likely become more active on this issue before the 2015 Paris COP21 summit, which is supposed to end with a new international agreement.

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