

Future Climate Regime and Climate Unilateralism

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1. Background

Since COP 15 held in Copenhagen in December 2009, international climate negotiation has seen some advances with parties putting in more efforts, but severe confrontations still persist among parties. It is not an overstatement to say that it will be extremely difficult to reach an agreement on a quantified emission reduction target for each nation that enables limiting temperature rise within 2 degrees C over pre-industrial revolution level.

Under such international situation, EU, on its own discretion, expanded the sectors subjected to EU Emissions Trading Scheme (EU ETS) to include aviation sector, since January 1, 2012.² In principle, airlines of any nations, including developing countries, are to have a cap on greenhouse gas emissions for every flight departs from and/or arrives at any airport in EU member countries. If their emissions exceed the cap, airline companies are asked to purchase EU ETS allowances or credits issued under Kyoto mechanisms. In case of non-compliance, EU will impose a penalty of 100 €/ton-CO₂ on such airlines with any deficiency payment to be charged to the next term. This can be considered as extraterritorial application of EU ETS, which is the very first time where practical border adjustment measure has been applied solely to remedy international unbalance in carbon restriction.³

EU's unilateral action is drawing attention not only in terms of emission reduction in aviation industry, which has rapid increase in emission, but also in terms of "carbon constraint and international competitiveness" and of "climate change governance." Border adjustment measure is the one adopted for the purposes of reducing risks of losing corporations' international competitiveness due to unbalance of carbon constraint, and of avoiding carbon leakage. In many cases, such measure is equivalent, in terms of economics, to have both

importer and exporter countries imposing common carbon taxes on international trading of assets and services, which production requires carbon emissions.⁴ Moreover, such measure can be a step forward in realizing a global scale emissions trading or world common carbon taxes, both of which have been considered near impossible unless there is a world government. It will certainly influence the governance of climate change regime based on international negotiation ongoing on UN forum.. In other words, this EU's measure may present greater significance than merely complimenting the governance of climate regime, which currently faces rigid confrontations among nations, making it extreme difficulty to agree on national emission cap, based on which the regime is to impose carbon restrictions.

If many countries in the world implement similar climate change measures or trade measures, and if the number of products and sectors covered by such measures will increase further, there will be considerable positive impacts on global fights against warming, while corporations can resolve their concerns on losing international competitiveness. In fact, EU is currently reviewing the possible application to marine transport sector, and France is recommending the implementation of similar measures against cement production sector. (Simiu 2010) Moreover, EU has begun active debate, at its policy-making platform, on the needs of adopting unilateral border adjustment measures in case the world fails to establish global emissions trading scheme participated by all major emitters. (King 2012)

A series of action taken by EU can be justified as a move to advance global measures to effectively, efficiently, and urgently reduce greenhouse gas emissions of the world. It may be too coercive and forcible, yet can be valued as "Norm Entrepreneur."⁵

On the other hand, the application of EU ETS to aviation sector has drawn oppositions from many governments and corporations as "EU's climate

² EU's Directive 2003/87/EC was modified in November 19, 2008 to include aviation industry under the Directive 2008/101/EC.

³ The amendment of EU Directive on EU ETS in 2003 stated the need of some kind of border adjustment on imports sometime in the future. (Directive 2003/87, Art. 10b(1)(b))

⁴ About corporations losing international competitiveness due to carbon restrictions, refer to Grub (2011), Asuka et al. (2011), etc.

⁵ Scott and Rajamani (2011)

unilateralism.” (Ares 2012) For example, a law (S.1956) requiring US Federal Aviation Administration to refuse participation in extraterrestrial application of EU ETS was proposed at the US Congress. India submitted a proposal at COP 17 held in Durban, South Africa, to oppose the application of EU ETS to aviation sector (Government of India 2011), especially criticizing EU’s measure in terms of “disguised restriction on international trade.” In June 2011, Air Transport Association of America, United Airlines, American Airlines, and others filed a suit in UK Court for the reasons of violating Chicago Treaty, etc. For this lawsuit, European Court of Justice made judgment on December 22, 2011, that there is no legal infringement in the application of such measure after 2012. On September 30, 2011, 28 member countries of International Civil Aviation Organization (ICAO) announced a joint declaration opposing EU’s unilateral action.⁶ In addition, 23 countries including China, US, Russia, India, Saudi Arabia, UAE, Singapore, South Africa, Brazil, Argentina, Japan, and Seychelles, which is a member of AOSIS, held a dialogue in Moscow, Russia, on February 21, 2012 to discuss countermeasures. In the meeting, participating countries reviewed the possibilities of cancelling aviation meeting with European countries, imposing additional collection of payments from European airline countries, and making a case for dispute resolution by ICAO regulations on the basis of Article 84 of Chicago Treaty.⁷ Ultimately, the meeting adopted the “Moscow Declaration.”⁸

Those countries opposing the application of EUETS to aviation sector are mostly those involved in a negotiation group established during the last 48 hours of COP 15 in Copenhagen, Denmark. They

also include those members of “Cartagena Dialogue”, which is said to bring “successes” at the COP 16 in Cancun, Mexico, and COP 17 in Durban, South Africa, such as Chile, Columbia, Mexico, Peru, South Africa and Thailand.⁹ This means that even among those countries coordinating efforts with EU the opposition against EU’s unilateral action exists.

However, the results of studies indicate that the application of EU ETS to aviation industry will not likely cause special economic losses to non-EU airlines, due to free allocation of allowances, low prices of carbon credits, and the possibility of shifting prices. (Faber and Brinke 2011; Ares 2012; Faber 2012) Moreover, many of those countries opposing EU’s measure seem not strongly opposing the introduction of carbon restriction to aviation sector, rather they are more critical of: 1) haste in preparation and insufficient development of procedures; 2) interaction and conformity of UN Framework Convention on Climate Change (UNFCCC), Chicago Treaty, World Trade Organization rules, ICAO and others; 3) infringement of equity principle; 4) giving precedence for climate unilateralism.

This extraterrestrial application of EU ETS is also a “Sectoral Approach of Aviation Industry.”¹⁰ Sectoral approach is a mechanism proposed by many governments and researchers and is likely to play an important role in the context of “raising the level of ambition” and “new market mechanism” both of which will likely be the focus of future international negotiation. Therefore, how the confrontation and negotiation on EU ETS’s application to aviation industry will conclude may provide significant implications when reviewing the effectiveness and

⁶ COUNCIL — 194TH SESSION, Subject No. 50: Questions related to the environment: INCLUSION OF INTERNATIONAL CIVIL AVIATION IN THE EUROPEAN UNION EMISSIONS TRADING SCHEME (EU ETS) AND ITS IMPACT, C-WP/13790,17/10/11(http://www.greenaironline.com/photos/ICAO_C.194.WP.13790.EN.pdf)

⁷ According to Article 84 of Chicago Treaty, the parties are allowed to emulate other party’s infringement of the contents of the Treaty. Actual example of exercising this Article includes the case of engine noise control equipment between US and Europe. This case was resolved by European side taking compromise before court decision. (Tunteng et al, 2012)

⁸ Joint Declaration on Inclusion of International Civil Aviation in the EU-ETS (22 February 2012) http://www.greenaironline.com/photos/Moscow_Declaration.pdf

⁹ Member countries of Cartagena Dialogue include: Antigua & Barbuda, Australia, Bangladesh, Belgium, Burundi, Chile, Colombia, Cook Islands, Costa Rica, Democratic Republic of the Congo, Denmark, Dominican Republic, Ethiopia, European Commission, France, Germany, Guatemala, Ghana, Indonesia, Kenya, Malawi, Maldives, Marshall Islands, México, Netherlands, New Zealand, Norway, Panama, Peru, Poland, Rwanda, Samoa, Spain, Switzerland, Sweden, South Africa, Tanzania, Thailand, Tajikistan, Timor-Leste, United Kingdom and Uruguay. (Yamin 2011) Six countries listed above are, in addition to being the member countries of Cartagena Dialogue, the signatories of joint communiqué opposing EU ETS’s application to aviation industry, announced at ICAO in September 2011.

¹⁰ For sectoral approaches, refer to Baron et al. (2007), Asuka (2008a, 2008b), Sawa and Fukushima (2008), etc.

acceptability of sectoral approaches.

Furthermore, market mechanism such as EU ETS can raise significant revenues to governments through auctioning of allowances. These revenues can provide funds for various climate change funds as one of “innovative fund procurement mechanisms” which discussion is ongoing without concrete planning.

This paper reviews the validity and future development of unilateral actions taken by Parties (and regions) under above situation. For this, the paper explores various aspects and impacts of EU ETS’s application to aviation industry. Section 2 discusses the possibility of extraterrestrial application of EU laws violating sovereign rights of other nations. Section 3 describes extraterrestrial application to aviation industry can conform to the ICAO, Chicago Treaty and WTO rules. Section 4 explores the conformity with UNFCCC, especially with its equity principle. Section 5 considers its possibility as a sectoral approach and proposals for designing the scheme at this time. Section 6 reviews possible compromises and future development, and Section 7 summarizes the conclusion.

2. Extraterrestrial application of EU laws

Application of EUETS to aviation industry can be considered as extraterrestrial application of EU laws, in view of regulating emissions other than those emitted within EU region, so that the scheme may present the problem of violating sovereign rights. In reality, however, there are many cases of extraterrestrial application of domestic (regional) laws, such as the case of Competition Laws, Crime Laws, Shengen Treaty, various regulation and controls for catch of fishes and fishing methods. The appropriateness of extraterrestrial application should be discussed case by case

2.1. Extraterrestrial application of Competition Laws and Crime Laws

When major illegal or unlawful activities are taken outside of a country, whether the originator is a

foreign company or domestic company, a nation affected by such activities is to apply own domestic law in many cases, based on the effect principle. Such cases of extraterrestrial application have many broad precedents ranging from Competition Law to Crime Law. If, for example, a domestic company is affected by the cartel formed among foreign companies, the anti-trust law of affected country will be generally applied. Recent measure in the United States makes unilateral request for every airplane departing from or landing at any airport in the United States to conduct maintenance work on fuel tanks. (Petsonk 2012)¹¹

2.2. Shengen Treaty

Shengen Treaty is the border control agreement for European countries made in 1985, allowing no border checks within the region. Later, the legal framework of Shengen Treaty was incorporated into the laws of European Union, excluding non-EU member countries to participate in any amendments related to Shengen Treaty. In other words, these countries are given practically the extraterrestrial application of EU’s legal frameworks.

2.3. Extraterrestrial application of regulations on fish catches and fishing methods

Currently, New Zealand, the United States, EU and other countries have introduced ITQ (Individual Transferable/Fish Quota),¹² Many of these today’s ITQ concerns the seas within the Exclusive Economic Zone (200 nautical miles) where each country has own sovereign right. However, some argues that commercial fishing quota should be introduced to open seas where overfishing is feared. (Stokes 1999) In case of EU, each country is allocated a commercial fishing quota in North Eastern Atlantic Ocean based on fish stock assessment conducted by ICES (International Council for the Exploration of the Sea), which is an

¹¹ The US has solely implemented various security measures at its airports after 9.11 terrorist attacks in 2001.

¹² ITQ allocates tradable commercial fishing quota in a specific sea region to each nation, or each company.

international fish control organization. If the subjected fish resources are share between EU members and non-members, then the European Commission is to negotiate with non-members¹³

The extraterrestrial application of EU ETS does infringe the UNFCCC principle of production site accounting method, which accounts emissions at production site. For the reasons of increase in carbon foot prints, avoidance of carbon leakage and reduction of risks in losing international competitiveness, some argues that the adverse effects of production site accounting methods¹⁴ should be mitigated by the implementation of border carbon cost leveling, as in the current case of EU ETS's application in aviation sector. (Grubb 2011)

Nonetheless, there are increasing cases in the public domain of the international community, where a unilateral rule makings and actions to realize some kind of "good" or to reduce "evil" are justified under the name of Effect Principle. In other words, it is becoming increasing difficult to argue against extraterrestrial application on the basis of being extraterrestrial. Therefore, the issue is not "whether extraterrestrial application is good or bad" but "whether unilateral extraterrestrial application is good or bad" or "whether the purpose of extraterrestrial application is good or bad."

3. Relationships with Chicago Treaty, ICAO and WTO rules

Here, we are to identify and organize the issues and challenges posed by EU ETS's application to aviation sector from the perspective of international laws.

3.1. Chicago Treaty

Chicago Treaty is an international treaty on the control and management of international civil aviation agreed during the Chicago Convention in 1944 Its Article 1 depicts that "the contracting States recognize that every State has complete and exclusive sovereignty over the airspace above its territory", confirming the principle of air sovereignty. Moreover, many countries reconfirmed the principle of air space sovereignty through bilateral aviation agreements (Open Sky Agreements). The Treaty of Chicago prohibits any financial measures such as unilaterally imposing taxes. There were criticism on EU ETS's application to aviation sector because of these provision, but the European Court of Justices determines that there will not be any problem as 1) EU is not a country so that it cannot be subjected to the Treaty of Chicago, and 2) EU ETS is for the trading of allowances and not a financial measure like taxes. (Gehring 2012)

3.2. ICAO

ICAO is an organization established on April 4, 1947, based on the Treaty of Chicago. Its purpose is to develop and establish principles and technologies concerning international civil aviation, and to realize its healthy and sound development.¹⁵ The Article 2.2 of the Kyoto Protocol states that "shall pursue limitation or reduction of emissions ...from aviation... working through the International civil Aviation Organization." However, the Kyoto Protocol does not necessary "limiting through ICAO." Moreover, in the Treaty of Chicago that established international cooperation in aviation sector does not contain any provision that prevents Parties to determine and voluntarily implement environmental protection rules other than those environmental protection rules determined by ICAO. The biggest challenge facing ICAO is the extremely slow pace of determining and adopting concrete measures to reduce emissions, due to disagreement

¹³ After commercial fish quota is allocated, the European Commission submits a plan on gross amount of commercial fish quota for EU as a whole, as well as a proposal for allocation to each member country. The Commission, in turn, will approve, reject or modify the plan and proposal and notify each member country about TAC allocation. (Nissui, 2007) As seen here, ITQ is an interesting institution both in terms of allowance trading scheme, and of extraterrestrial application of regulations.

¹⁴ In the case of production site accounting method, so-called embodies emission cannot be captured.

¹⁵ The Treaty of Chicago has become the Treaty of establishing ICAO and any rules and technical standards related to air planes and aviation related facilities are determined at the forum of ICAO, which would be become unified and standardized throughout the world.

among member countries. For example, ICAO adopted the resolution in 2010 to adopt annual 2% improvement in fuel efficiency until 2020.¹⁶ However, this target is non-binding intensity target, and definitely insufficient in realizing the temperature target of less than 2 degrees C increase over pre-industrial revolution period. Considering such situation, a EU negotiator stated that “only when carbon restriction measure ICAO is to introduce becomes equivalent to the level of EU ETS, then EU may review the application of EU ETS to aviation sector.” (Delbeke 2012)

3.3. Relationship with WTO rules

Another criticism of EU’s unilateral action is from the viewpoint of trade liberalization. The extraterrestrial application of EU ETS embraces similar problems as in the case of taxation on imported products. The main problem in this case is the conformity with financial measures, import/export quota, non-discriminatory principle, exemption for environmental conservation and other rules and regulations of General Agreement on Tariff and Trade (GATT) and General Agreement on Trade in Services (GATS).¹⁷

a. Financial measures and import/export quota

Whether EU ETS’s application to aviation sector is a financial measure like taxation or not? Opinions are divided among experts. As mentioned above, the European Court of Justices determines that the measure “is not taxation” and many experts of international laws support such decision. (Bartels 2012) The problem, however, is, if not a financial measure, whether it is import/export quota or not considering the fact that the measure will practically regulate or impose quantitative impacts on airplanes entering EU region, it may violate Article 11.1 of GATT that prohibits quota.

b. Non-discriminating principle

GATT Article 3.4 prohibits any disadvantageous treatment of products imported from other countries. (Principle of like national treatment). In the case of extraterrestrial application of EU ETS aviation, EU regional companies are already subjected to the same regulation as extraterrestrial companies, so that the measure is not necessarily be disadvantageous to a third party country. In view of equity, GATT Article 7 does allow a nation to have the right to impose tax on imported materials at the rate equivalent to the tax imposed on domestic products. Therefore, the issue here is how to calculate the carbon contents of “products” imported. In case of EU ETS application to aviation sector, however, the monitoring of airplane emissions is relatively easier than other cases, so the issue is not too difficult to deal with.

On the other hand, GATT Article 1.1 prohibits the not-discriminating treatment of a specific nation (most-favored nation treatment). Therefore, to differentiate the treatment of other nations solely because of differences in global warming measures is not permissible. In order to provide non-discriminating treatment, however, it is necessary to correctly and accurately grasp the contents of global warming measures taken by other countries, and to quantitatively assess the level of carbon restrictions. Actually, in the case of extraterrestrial application of EU ETS for aviation sector, any nation having “equivalent measures” is exempted from the scheme.¹⁸ Yet, it is not so easy to determine how “equivalent” they are and no definite criteria for this has been disclosed. Requiring airline companies to bear payment burden differentiated by the distances traveled to and from EU regional airports for the same services provided can be considered as unfair. So, the conformity with GATT Article 1.1 may become an issue in the future. (Bartels 2012)

¹⁶ ICAO resolution, A37-WP/402, P/66, 7/10/10.

¹⁷ In the case of GATS, it has supplemental provision providing the authority on aviation to ICAO. If the conformity with GATS becomes a problem despite such supplemental provision, it is still possible to adopt similar logic for not-discriminating principle and exemption for environmental conservation.

¹⁸ Recital 17 Directive 2008/101 statement. In addition, EU Commissioner Hedegaard stated in various occasions that she is discussing the contents of “equivalent measures” with a third country. (Such as EN E-005378/2011 “Answer given by the Ms. Hedegaard on behalf of the Commission”)

c. Exceptions for environmental conservation

As discussed in above a. or b., the conformity with WTO rules may become an issue. Even so, a measure may be permissible when the Article 20 of GATT (general exceptions) is applied. In the case of EU ETS application to aviation sector, it will be relatively easier to apply Article 20 item g (conservation of exhaustible natural resources). The application of Article 20 item b (to protect human, animal or plant life and health) is not so easy as it requires the identification of “quantified contribution.” Also, it is difficult to make quantified assessment of the level of environmental measures adopted in a third country, as described above. (Bartels 2012) Still, if these problems are resolved to a certain extent, GATT Article 20 is likely to justify the application of EU ETS to aviation sector. (Bartels 2012; Scott and Rjamani 2012; Gehlring 2012)

4. Conformity with UNFCCC and its equity principle

4.1. Issue of applying equity principle

Developing country governments maintain that the application of EU ETS to aviation sector will infringe equity principle. (Third World Network 2011) The Chinese Airline Association, for example, issued a letter of protest against the extraterrestrial application of EU ETS to aviation sector and clearly stated that “it is against the UNFCCC’s principle of Common but Differentiated Responsibility and Capability (CBDR/RC).” (CATA 2011)

The issues here can be divided to two questions of: 1) whether the principle “Common but Differentiated Responsibility and Capability (CBDR/RC)” stipulated in Convention Article 3.1 can be applied to a measure unilaterally adopted by the Party?; and 2) whether both countries and subsectors can be subjected to the application of CBDR/RC principle? The judgment by EU Court of Justices determines that, in regards to the relationship between EU ETS’s application to aviation sector and the CBDR/RC, 1) extraterrestrial application of EU ETS in aviation

sector is applied to business activities within EU market; 2) CBDR/RC can be applied to a nation; 3) therefore, extraterrestrial application of EU ETS in aviation sector does conform to CBDR/RC. (ECJ 2011) EU negotiators also made similar statement.¹⁹

On the other hand, some researchers viewed that “actions taken by each nation affect business activities under EU ETS, so each nation can be subjected to the application of EU ETS in aviation sector”. (Scot and Rajamani 2011; Muller 2011) Others argue that the application of CBDR/RC is not limited to a nation or a sub-sector, referring to the case of International Air Passenger Adaptation Levy (IAPA).²⁰ (Muller 2011)

4.2. Arguments among developing countries and the options for solution

The important points of developing countries’ argument in view of CBDR/RC include: 1) the application of EUETS to aviation sector imposes similar burden to both Annex I countries and non-Annex I countries of UNFCCC, so it violates CBDR/RC principle; and 2) only EU members countries are given the rights to determine the use of auctioning revenues from the extraterrestrial application of EU ETS to member countries. (Wei 2012; Third World Network 2011)

Therefore, the solution without relying on EU ETS will include: 1) expansion and scale up of technology and fund transfers from developed to developing countries; 2) taxation subjecting EU corporations only; and 3) implementation of efficiency regulation subjecting EU corporations only. The solution within the framework of EU ETS will include: 1) to exempt non-Annex I countries from EUETS; 2) to restrict the application to only those flights within EU region; 3) to change the level of application

¹⁹ Artur Runge-Metzger, European Commission –DG-CLIMA, Aviation and Emissions Trading, ICAO Council Briefing, 29 September 2011, slide 40, at:

http://ec.europa.eu/clima/policies/transport/aviation/documentation_en.htm

²⁰ IAPAL was proposed by Least Developed Countries Alliance at COP negotiation forum in 2008. It is about the financial resources of adaptation funds and proposes every passenger to be levied depending on the class (business or economy).

depending on the efforts of each country; 4) to reimburse auctioning revenues; 5) to introduce a favorable treatment for the use of CER from the applicable developing country; and 6) to use the auctioning revenues levied from developing country flights for the climate change measures in that country. (Wei 2012)

For above item 6), developing countries have shown strong opposition as the measure means that the funds will flow from developing countries to developed countries in the form of allowance purchases from EU, even though actual burden will be paid by airline companies. This so-called “no net incidence (refusal of developing countries to bear any additional financial burden)” is the issue developing countries side has raised in various international negotiation forum. For instance, at the “High-level Advisory Meeting (AFG) on Climate Change by UN Secretary General” in 2010, developing countries strongly insisted on this “no net incidence.” (Scott and Rajamani 2011) Proposed solutions include a way to grant developing countries a right to receive reimbursement by becoming a “part time member” of EU ETS. (Wei 2012; Muller 2012)

5. Significance as a sectoral approach

5.1. Proposals of sectoral approach

Sectoral approaches are generally the agreement or cooperation within an industrial sector. One example is to make international agreement on the intensity target for a specific sector (example: energy consumption or greenhouse gas emission per unit production) involving the said sector in developing countries. In Japan, the sectoral approach was originally proposed by its industries as a way to substitute quantified targets for each country, or to carve out some industry sectors from national targets. (Keidanren 2008) In international forum, sectoral approaches are considered as a way to compliment national quantified targets. (Baron et al. 2007) In the EU, it has taken a form of a new market mechanism called Sector Crediting Mechanism

(SCM)²¹, which EU has been proposing.

The significance of sectoral approaches and the background of their proposal include: 1) while UN negotiation has found much difficulty in setting national emission reduction targets, it may be easier to set emission reduction targets for a sector; 2) corporations in developed countries want to avoid losing international competitiveness to corporations in developing countries; 3) it is essential to collect and accumulate sectoral data to build a national inventory; 4) it is a useful tool to objectively compare and assess measures taken by each country; and 5) it is essential to create potentials of introducing technologies, and to measure the effects of GHG reductions.

5.2. Recent attempts of sectoral approaches and the fundamental problems

As described above, EU has been proposing SCM during UNFCCC negotiation. Outside of UNFCCC, various international organizations and research institutes have collected data and created indices that can lead to the designing of sectoral approaches. In the EU, a sectoral benchmark is set as the criteria for free allocation of allowances under EUETS. International Energy Agency (IEA) continues to exert efforts in reviewing sectoral benchmarks. The World Business Council for Sustainable Development (WBCSD) and World Resource Institute (WRI) developed GHG Protocol and ISO has standardized GHG accounting, with one of objectives to result in the international standards in setting sectoral benchmarks. China’s 12th Five-Year Plan identifies emission reduction target or compliance items for each sector, including iron and steel sector.

Despite such movement, no valid agreement on sectoral approaches that can lead to significant emissions reduction has been reached either at the UNFCCC negotiations or through voluntary activities taken by various nations and organizations

²¹ In the case of iron and steel industry, for example, a system to determine intensity (CO₂ emissions per ton) for the whole sector as a benchmark, and to issue credits when exceeded.

outside of UNFCCC. This may be because of two fundamental problems embraced in sectoral approaches, such as: 1) developing country governments and corporations must recognize and accept the need and merits of sectoral approaches, and for this it is essential to have political negotiation and international cooperation; and 2) it is difficult to set baseline and benchmark because of data availability and variance in corporations. Especially about 1), developing countries tend to consider that the sectoral approaches “are to increase burden of developing countries where many energy inefficient factories exist.”

There are only two measures that can enhance the participation of developing countries in sectoral approaches, such as: 1) to provide some kind of incentives that can resolve any concerns of developing countries mentioned above; and 2) to forcefully induce developing countries’ participation by introducing mandatory system like EU ETS’s application to aviation sector.²²

5.3. What EU ETS’s application to aviation sector suggested to sectoral approaches

Firstly, it is necessary to realize the uniqueness of “a sectoral approach in the form of EU ETS’s application to aviation sector.” In the aviation industry, emissions are increasing rapidly, so airline companies are predicted to resort to the purchase of credits from other countries for compliance with EU ETS, rather than relying on more technical measures. This indicates that an economic solution may exist where technical solution is not available. Nevertheless, the presence of some measures or options is quite significant in this kind of scheme. Also, the presence of market mechanism is important.

Secondly, the “product” of this sector is a simple and uniform “transportation services by airplanes”, so that it is comparatively easy to measure emissions and set benchmarks. Thirdly, in the aviation industry,

carbon costs can be transferred to product prices to some extent.

Of course the application of EU ETS to aviation sector has just been implemented and has not been considered as “success” yet. If it “fails”, then the primary reason will be because reduction targets are set for absolute quantities rather than efficiency targets, which corporations can readily accept. This is because corporations tend to strongly resist accepting emission reduction targets in absolute terms. The second and probably the most important reason is EU’s underestimation of developing countries’ aversion against the measure based on CBDR/RC. Unless EU clarifies criteria for “equivalent measures” in advance, the application of EU ETS to aviation sector is undoubtedly too soon, unprepared, and lacks appropriate level of communications. In the application of EU ETS to aviation sector, EU must re-realize the importance of “acceptability of developing countries” in sectoral approaches.

6. Significance as a sectoral approach

About the future development, following 4 scenarios are possible.

Scenario 1: EU cancelling the application of EUETS to aviation sector and powering up of ICAO

Currently, ICAO is discussing how to strengthen emission reduction efforts. ICAO has established a working group to introduce market mechanisms including emissions trading and the group plans to submit concrete proposals for ICAO’s annual conference to be held in December 2012. (Hemmings 2012) There may be some issues to be resolved such as the strictness of emissions cap and the relationship with EU ETS, but the introduction of some kind of emissions trading system may lead to a favorable result in terms of setting global warming measures and of maintaining relevant countries’ positions.

Scenario 2: Continuing the application of EUETS in aviation sector, while redirecting funds back to developing countries

²² EU’s various environmental regulations such as RoHS Directive to control the use of toxic substances have some successes in forcibly getting compliance from developing countries.

As described above, one major reason of developing countries aversion is the flow of funds from developing countries to developed countries, which can be considered as the infringement of equity principle. For this, if a scheme to flow back the allowance auction revenues of EU ETS to developing countries or airline companies of developing countries under certain rules can be established, developing countries may agree to a compromise.

Scenario 3: Continuation of EUETS's application to aviation sector and self-regulation of developing countries

According to the media report, China is currently considering an option to add aviation sector in the domestic emissions trading system they plan to introduce under the 12th Five-Year Plan (2011 to 2015). (Keating 2012) If such an option will be realized, and if such movement extends to other sectors including iron and steel, it will be the same situation as both exporters and importers introducing common carbon taxes voluntarily, as discussed at the beginning of this paper.²³ In such case, the concerns almost all developed country government have had, i.e. domestic companies losing global competitiveness against Chinese corporations, and the risks and problems of carbon leakage to China, will be diminished. From such viewpoint, this scenario can be an ideal development that can establish a level playing field, preferred by EU and many researchers.²⁴

²³ The merits of developing countries' self-regulatory measure will include: 1) as it is voluntary so less punitive; 2) it practically imposes carbon restriction; and 3) tax revenues will become the revenues of developing country governments. Demerits include: 1) not a legally binding scheme under UNFCCC, so that it hardly send out a message of "implementing it for global warming measures" to the international community; 2) developing countries must implement the system upon recognizing the needs; 3) it is not permanent, and may change depending on economic and/or political situations; and 4) it will be influenced by market environment (for example, if the products are considered price pursuer in the market, it is difficult to raise its price, making it difficult to implement. For the consumers of importer countries, the price of imported products will rise.

²⁴ Developing countries are to regulate the export of carbon intensive products voluntarily. (Such as the case of China imposing export taxes on iron and steel products.) Muller and Sharma (2005) identified the significance of this voluntary export control as a type of global warming measure commitment by developing countries, taking the precedence (in textiles) from the actual trade disputes between China and the international community. Wang and Voituriez (2009) quantitatively estimated the scale of this "indirect" carbon restriction in China.

Scenario 4: Continuation of EU ETS's application to aviation sector and the continuation of confrontations

It is quite possible that negotiations at UNFCCC or ICAO will continue and fail to reach any agreement. The issue may be put to the WTO for arbitration. In this case, it likely leads to negative impacts on the international community.

It is difficult to predict which scenario is likely to take place. It seems scenario 1 or scenario 3 is an ideal solution in terms of "international coordination" and "transaction costs." In the case of scenario 1, the focal point is how EU is to determine whether ICAO's emission reduction framework is sufficient to reach the required level of global warming measures. In the case of scenario 2, the key is how many countries will participate in it voluntarily. For EU, negotiations with individual parties such as the US, BASIC countries (Brazil, South Africa, India and China), and AOSIS will have importance. Moreover, the extraterrestrial application of EU ETS in aviation sector does win supports from NGOs and many environmental groups including those of the US.²⁵ How to take advantages of such "public opinion" will be another future challenge faced by EU.

7. Conclusion

It is a matter of course to find climate unilateralism.

This is because there is an overwhelming gap between the amount of global emission reductions needed to achieve 2 degrees C target and all the pledges submitted as of today (gross total of emission reductions pledged by country parties). Also, it has become increasingly clear that to have big expectations on the current framework negotiations will be extremely difficult as it will not advance without unanimous agreement among 190 and more parties (regions). Unfortunately, therefore, the current international negotiations and governance

²⁵ Annie Petsonk of Environmental Defense Fund, an environmental organization in the US, testified at the Committee of Commerce, Science and Transportation of US Senate held on June 9, 2012, that she would support the application of EU ETS on aviation sector.

regime will only allow agreement on lowest common denominator that is acceptable to every country including those not active in global warming measures.

This means that, while international negotiations under Framework Convention navigates through troubled water, those countries actively implementing global warming measures will advance sometime forcibly from the areas, sectors, or topics they can proceed with. Even if there will be some frictions with others, they will implement the system drawing in other countries with force. It will be no surprise to find increasing number of people and nations (regions) thinking there is no other option.

Furthermore, EU feels a pressure from their regional companies pushing for “the prevention of EU regional companies’ losing international competitiveness to extraterrestrial companies.” Another justification will be the prevention of carbon leakage. In this sense, pure unilateralism is hard to establish in terms of domestic politics. It is essential and inevitable to bring in other countries.

About the application of EUETS to aviation sector, there are various legal problems as described in this paper. However, if we are to apply the exclusion for

environmental conservation clause of GATT Article 20, many such barriers and hurdles are likely to be cleared. In regards to CBDR/RC, EU has not responded sufficiently and needs to address this problem quickly. It is necessary to present concrete proposals including the definition of “equivalent reduction” and the method of flowing back auction revenues. EU must adopt a strategy that addresses arguments at both UNFCCC and ICAO.

Such unilateral action is certainly a double-edged measure. It may exacerbate confrontations between countries and discourage the opportunities to build international cooperation. The important point for the future is how those countries wanting to advance both emissions reduction and international negotiation, such as EU, AOSIS, and least developed countries (LDCs) will think of such risks.

There are many cases in the world history, where “reality” was changed through one nation or the leadership and coalition of ambition by some countries. At the same time, there are plenty of failures where such attempts resulted in nation to nation confrontation or friction. In the future, each country will be required to undertake diplomatic adjustments, increasingly weaving between “unilateralism” and “coordination.”

References

- Ares Elena (2012) EU ETS and Aviation, SN/SC/5533 www.parliament.uk/briefing-papers/SN05533.pdf
- Asuka Jusen (2008a) “Outcome of global warming negotiation summit and future prospects: beyond the confusion over sectoral approaches”, ‘Sekai’, Iwanami Shoten, pp.82-94.
- Asuka Jusen (2008b) “Confusion over sectoral approaches and important challenges of future international negotiations (May 24, 2008 version)”, paper published during the 2008 annual meeting of Society of Environmental Economics and Policy Studies. http://www.cneas.tohoku.ac.jp/labs/china/asuka/_userdat a/sectoral_approach08.pdf
- Asuka Jusen (2010) Emissions Trading and International Competitiveness: Case Study for Japanese Industries, IGES CC Working Paper 2010-004 http://enviroscope.iges.or.jp/modules/envirolib/upload/3415/attach/ccworkingpaper004_etsmod.pdf
- Baron Richard, Reinaud Julia, Genasci Matt, Philibert Cédric (2007) SECTORAL APPROACHES TO GREENHOUSE GAS MITIGATION: Exploring Issues for Heavy Industry. https://www.iea.org/papers/2007/Sectoral_Approach_Inf o_WEB.pdf
- Bartels Lorand (2012) The Inclusion of Aviation in the EU ETS: WTO Law Considerations, Trade and Sustainable Energy Series, Issue Paper No. 6, <http://ictsd.org/downloads/2012/05/the-inclusion-of-aviation-in-the-eu-ets-wto-law-considerations.pdf>
- China Air Transport Association (CATA) (2012) Statement by CATA on Inclusion of International Aviation in the EU ETS. <http://www.wcarn.com/list/13/13140.html>.
- Delbeke Jos (2012) DG Clima, Feb.7, 2012
- Faber Jasper (2012) Market Based Measures for International Transport Economic and competitiveness impacts, Dialogue on Aviation, Climate Change and Trade, 13 April 2012, Geneva. <http://ictsd.org/downloads/2012/04/mr-faber-presentation1.pdf>
- Faber Jasper and Brinke Linda (2011) The Inclusion of Aviation in the EU Emissions Trading System: An Economic and Environmental Assessment. http://www.indiaenvironmentportal.org.in/files/file/faber_aviation-icsd_0.pdf
- Gehring Markus W. (2012) Air Transport Association of America v. Energy Secretary: Clarifying Direct Effect and Providing Guidance for Future Instrument Design for a Green Economy in the European Union, Review of European Community & International Environmental Law, Volume 21, Issue 2, pages 149–153, July 2012
- Government of India (2011) Proposals by India for inclusion of additional agenda items in the provisional agenda of the seventeenth session of the Conference of the Parties, FCCC/CP/2011/INF.2/Add.1
- Grubb Michael (2011) International climate finance from border carbon cost leveling, Climate Policy, 11, 1050-1057.
- Hemmings Bill (2012) Aviation and Climate Change, 13 April 2012, Dialogue on Aviation, Climate Change and Trade 13 April 2012, Geneva <http://ictsd.org/downloads/2012/04/bill-hemmings.pdf>
- Keating David (2012) Chance for compromise with China on aviation?, EuropeanVoice.com, 16.05.2012 / 04:10 CET <http://www.europeanvoice.com/article/imported/chance-for-compromise-with-中国-on-aviation-/74348.aspx>
- Keidanren (2008) “Responses to international framework negotiations for post Kyoto Protocol during the Toyako Summit”, published on April 15 2008. <http://www.keidanren.or.jp/japanese/policy/2008/024.html>
- King David (2012) The road to UNFCCC COP 18 and beyond, written evidence submitted to the UK Parliament, Energy and Climate Change Committee. <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmenergy/88/88we09.htm>
- Muller Benito (2012) From Confrontation to Collaboration? CBDR and the EU ETS Aviation Dispute With Developing Countries, Oxford Energy and Environment Brief
- Müller Benito and Sharma Anju (2005) Trade Tactic Could Unlock Climate Negotiations, SciDev.net.
- Nissui Co. “World Marine Resource Control” ‘GLOBAL’ August 2007 vol. 57. http://www.nissui.co.jp/academy/data/04/data_vol04.pdf
- Petsonk Annie (2012) Summary of Testimony of before the Committee on Commerce, Science, and Transportation, U.S. Senate, June 6, 2012. <http://www.edf.org/sites/default/files/EDF-Petsonk-Senate-Testimony-EU-ETS-Aviation-060612.pdf>
- Sawa Akihiro and Fukushima Fumiko (2008) “Sectoral Approach as a Post-Kyoto framework – A proposal of Japan’s Sectoral Approach”, The 21st Century Public Policy Institute, March 2008. <http://www.keidanren.or.jp/21ppi/pdf/thesis/080311.pdf>
- Scott Joanne and Rajamani Lavanya (2012) EU Climate Change Unilateralism International Aviation in the European Emissions Trading Scheme, European Journal of International Law, Vol. 23, No. 2, 2012
- Simiu Diane (2010) Non-paper – Application of the carbon inclusion mechanism to the cement sector, September 2010
- Stokes Adams (1999) PROPERTY RIGHTS ON THE HIGH SEAS: ISSUES FOR HIGH SEAS, Use of property rights in fisheries management, FAO fisheries technical paper 404/2.
- Third World Network (2011) CBDR must guide work on international transport emissions, say several developing countries, Durban News Update 4.

- Tunteng Verki Michael, Tanveer Ahmad, Katharina Rogalla von Bieberstein, Caroline Haywood, Yong-Min Bian, Fabiano De Andrade Corrêa, Sarah Marsolais-Ricard (2012) LEGAL ANALYSIS ON THE INCLUSION OF CIVIL AVIATION IN THE EUROPIAN UNUIN EMISSIONS TRADING SYSTEM, May 2012. http://www.cisd.org/public/docs/news/CISDL_EU_ETS_Expansion_Legal_Brief.pdf
- Wang Xin and Voituriez Tancrede (2009) Can unilateral trade measures significantly reduce leakage and competitiveness pressures on EU-ETS-constrained industries? the case of China export taxes and VAT rebates, *Climate Strategies*, 1/21.
- Wei Zhuang (2012) How to implement CBDR in Climate Response Measures, *Dialogue on Aviation, Climate Change and Trade*, 13 April 2012, Geneva. <http://www.edf.org/sites/default/files/EDF-Petsonk-Senat-e-Testimony-EU-ETS-Aviation-060612>.
- Yamin, Farhana (2012) Presentation at Climate Strategies Meeting, 20 January 2012, Copenhagen.

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