

## **Indonesian Civil Aviation Act of 2009: Aviation Safety, Security and Climate Change**

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**ABSTRACT:** *The purpose of this article is to describe and analyze civil aviation and climate change regulations in Indonesia. This study specifically analyze the history of these issues, substance of the Civil Aviation Act of 2009 such as aviation safety and security; action to be taken to reduce climate change by Indonesia in the international level such as membership of UNFCCC. Further, its' commitment to support ICAO,s recommendation, environmental measure project, cooperation with IATA and other agency, discussion with Switzerland related to climate change and domestic level such as policy approach to climate change, socialization and coordination of a national action plan, eco-friendly airport, alternative fuel for aircraft operation, the emission trading scheme, establishment of national committee on climate change, aviation biofuels and renewable energy at the airport, aircraft's bombing water to fight forest fire. Finally, the conclusion and recommendation*

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### **I. INTRODUCTION**

Indonesia is the world's largest archipelago State. It consists of 17,508 Islands, about 6,000 of which are inhabited. Referring to the 2010 national census, the population of Indonesia was 237,6 million. In archipelagic State such as Indonesia, air transportation has a major role to play in connecting the Islands. It shall provide connectivity for national, regional and remote areas and connect Indonesia to national as well as international destinations. It enables to transport goods, passengers, business travel as civil servant, leisure peoples, business peoples, tourism, employment, family visit, friends and finally increase to support the development of the national economic in Indonesia. In addition, air transportation also provides for rapid, efficient and affordable connections to support national logistic flow of goods, including when necessary government missions for disaster relief. However, sustainable development of air transport and the aviation industry shall be consider and consistently keep an optimum balance between economic, social and global **environmental factors** (*emphasize added*).

Global climate change has impact to the air transport and aviation industry, taking into account that air transport and aviation industry growth can affect global climate change and contributes to the greenhouse gas (GHG) pollutant in terms of carbon emissions. In this connection, the President of the Republic of Indonesia (ROI) Joko Widodo, issued the Presidential Decree No.61 of 2011.<sup>4</sup> It provides for GHG emission reduction and the obligation for the energy and transport Sector is 26% cumulative up to the year 2020 and 41% with contribution of international support. This article purported to discuss and highlight certain matters such as aviation safety, aviation security and climate change.

### **II. HISTORICAL BACKGROUND OF CIVIL AVIATION AND CLIMATE CHANGE REGULATIONS**

#### **1. Civil Aviation Regulations**

##### **a. Indonesian Constitutional Law of 1945**

The Republic of Indonesia (ROI) is a country which adopts the laws system of the Netherlands (Dutch) is bound by the Indonesian constitution of 1945. Article 1 transition rule of Constitution provides that “:all existing legislation are still valid as long as a new one has not been enacted according this

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<sup>4</sup> Presidential Decree *Concerning National Action Plan to reduce GHG emissions (RAN-GRK)* (Pres. Decree No.61 Year 2011).

constitution”(emphasize added).<sup>5</sup> Sources of law inherited from the Dutch, as far as related to aviation activities, no more applicable in Indonesia.

#### **b. Sources Civil Aviation Regulations**

Source of law and regulation regarding civil aviation among other includes legislation, customs (*Adat Law*), and jurisprudence. Indonesia adopts a hierarchy system of legislation and the Indonesian Constitutional of 1945 is the highest in the hierarchy of legislation in Indonesia, as far as related to aviation activities follows by, within the regime of the Dutch, civil aviation regulated in Stb.1933-118,<sup>6</sup> Stb 1939-100,<sup>7</sup> and after the Indonesian independence replaced by (former) Act of 1958,<sup>8</sup> (former) Act of 1992,<sup>9</sup> and Act of 2009,<sup>10</sup> plus its implementation of the provisions.

#### **c. Civil Aviation Act of 2009**

An Indonesian’s old order regime tends to be of a socialist ideology, air transportation is completely conducted by state-owned enterprises such as Garuda Indonesian Airways (GIA)<sup>11</sup> and Merpati Nusantara Airlines (MNA), whilst the regulation is conducted by the Ministry of Air Communications (MOAC). All routes, frequencies, type of aircraft, capacities, tariff, utilization of jet or propelled aircrafts are controlled by the MOAC. Within the old order, there were no airlines owned by private companies, and there was no competition between airlines because all tariffs was set by the government. On the other hand, the new order in the regime of General Soeharto started to introduce a mixed ideology between socialist and liberal ideology (neo-liberal).<sup>12</sup>

In the order under the regime of General Soeharto, based on Act Number 1 Year 1967,<sup>13</sup> the political ideology clearly tended to be neo-liberal which was a mix between socialist and liberal ideologies. Based on this ideology, the government issued a Ministerial Decree Number SK 13/S/1971,<sup>14</sup> to permit a new airline owned by private companies. State-owned enterprises such as GIA serves trunk lines and MNA<sup>15</sup> serve feeder lines together with private-owned companies such as Zamrud Aviation, Bouraq Indonesia Airlines, Mandala Airlines, Seulawah Air Services, Indonesian Air Transportation. Besides scheduled and non-scheduled air transportation, there is also general aviation to cater to the aerial work and other activities using an aircraft.<sup>16</sup>

Previously, GIA opened as the main carrier, whilst private-owned companies functioned as supplement operators. In addition, GIA also set price leadership or guidance of tariff to prevent an unhealthy tariff competition between airlines. Tariff is determined by the government with consideration of market forces in flexible ways. In addition, there is also a possibly of cooperation with private-owned companies, but in the development based on the proposal of representative of Chairman of Temporary General Assembly (MPRS) Subchan, the position of the state-owned enterprise, in this case GIA and MNA, is similar to private-owned companies without any discrimination based on any other reason.

Based on the Ministerial Decree Number 31/U/1970,<sup>17</sup> the government issued a license for general aviation to serve an oil company, agribusiness, plumbing, banking and religion mission. The general aviation is non-commercial, just serving its own need between a headquarter and the center of activities, to carry the

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<sup>5</sup> Indonesian Constitutional Law of 1945; See Dr Amad Sudiro and Dr.K.Martono, *The Development of Civil Aviation Laws and Regulations Applicable In Indonesia*. International Journal of Business and Management Invention ISSN (Online): 2319 – 8028, ISSN (Print): 2319 – 801X www.ijbmi.org || Volume 5 Issue 12 ||December. 2016 || PP—45-53 www.ijbmi.org 45, at 45.

<sup>6</sup> Stb.1933-118 regarding Control of Aviation (Pengawasan Penerbangan)

<sup>7</sup> Stb.1939-100 regarding legal liability of air carriers ( Tanggung Jawab Pengangkut)

<sup>8</sup> Act Concerning Civil Aviation. Act No.83 of 1958, State Gazette Number 159 of 1958, Supplement State Gazette Number1687 [Civil Aviation Act of 1958]

<sup>9</sup> Act Concerning Civil Aviation. Act No.15 of 1992, State Gazette Number 53 of 1992 and Supplement to State Gazette of the Republic of Indonesia Number 3481 of 1992 [Civil Aviation Act of 1992]

<sup>10</sup> Act Concerning Civil Aviation, Act No 1 of 2009 [Civil Aviation Act], Ministry of Transportation Republic of Indonesia, online: Directorate General of Civil Aviation<http://hubud.dephub.go.id/?en/uu>

<sup>11</sup> Government Regulation Concerning Change from State Enterprise (PN) Perhubungan Udara to Limited Company (PT) Garuda Indonesian Airways, Indonesia reg.67/1971(1971);

<sup>12</sup> Martono K.H.Prof. & Dr.Ariawan Gunadi „Current Regulation of Aviation Tariffs in Indonesia. (2014), Vol. XXXIX-Part I, Ann.oof Air & Sp.L.at 204

<sup>13</sup> Act Concerning Foreign Investment (Act. No.1 year 1967)

<sup>14</sup> Minister Decree Concerning Requirements and Provisions Regarding Using Aeroplane for Commercial Purposes, Ministerial Decree No.SK 13/S/1971( 18 January 1971).

<sup>15</sup> Ministerial Decree Concerning Routes for PN Merpati Nusantara Airlines. Ministerial Decree No. S. 8/1/2/5-Phb

<sup>16</sup> Martono & Amad Sudiro, *New Indonesian Air transportation Policy Base on Civil Aviation Act of 2009*. Submitted to Third Annual International Conference on Law & Regulation of Air Transport and Space Application, 26-29 April 2012, National Law University, New Delhi, INDIA, at 177.

<sup>17</sup> Ministerial Decree Concerning Requirement and Provision of General Aviation Within Republic of Indonesia, Ministerial Decree No.31/U/P/1970 (2 February 1970).

directors, employees, workers and equipment owned by the legal entities concerned, with no remuneration or sale of all or part of its capacity with replacement of money for the use an aircraft.

The policy under the new order is limited to airlines system, provided by state-owned enterprises together with private owned companies. All routes, frequencies, type of aircraft used, capacity and tariff shall be controlled and over-sighed rigidly by the Ministry of Communications (MOC). In the air transportation policy with the old and new order mentioned above, all routes, frequencies, type of aircraft used, capacity of airlines and tariff available were rigidly regulated by the MOC. The routes regulated based on Ministerial Decree Number T14/4/4-U Year 1961,<sup>18</sup> determine GIA to serve trunk lines routes, whereas, those regulated based on Ministerial Decree Number S.8/2/5/-Mph, Year 1969,<sup>19</sup> determine MNA to serve regional routes.

There is a restriction of using jet aircraft. Only GIA was permitted to use jet aircraft, whilst private-owned companies only operated a propelled aircraft. This restriction was also applied for tariff. In this order, there was no competition between airlines and it was rigidly regulated by the MOC. All tariffs provided by private-owned companies shall be below GIA's tariff, and especially first class GIA's tariff was permitted 15% higher than normal price, for airbus aircraft.

In the era reformation order under the regime of General Soesilo Bambang Yoedoyono, the policy of air transportation tended to relax. Private airlines, scheduled, non-scheduled airlines, air cargo, charter flight as well as general aviation increasing rapidly. Based on Ministerial Decree Number KM.81 Year 2004,<sup>20</sup> the requirement to establish a new airlines company were very easy. They compete without paying attention to the consumers' interest. The relaxation policy truly benefits consumers, without having a negative effect against other modes of transportation. The negative effect of the relaxation policy is that the airlines are forced to compete rigidly. They reduce tariff under standard recommended by the government. Even they become predators. The existing war tariff indirectly kills other airlines companies, as well as sea transportation. The result of the relaxation policy is that the land transportation by bus from Jakarta to Padang and from Jakarta to Medan went bankrupt, ships owned by state-owned enterprise operated by the Indonesian Sea Transportation (PELNI) is forced to be transferred to Indonesian Navy because commercially it is not feasible. If the land and sea transportation has been killed, it is quite possible to kill airlines companies and the airlines which have a marginal capital will become bankrupt. Finally, only the giant airlines can operate, and consumers will be victimized.

The government, though, realizes that the negative effect of the relaxation polity. For that reason, the Ministerial Decree Number KM.81 Year 2004<sup>21</sup> requests that a new airlines must have a minimum of five aircrafts. Two of them shall be owned and the rest can be leased for a scheduled airlines and a minimum of three aircraft for non-scheduled airlines. One unit aircraft out of three units of aircraft shall be owned and the rest can be leased to support the operation of airlines. The total number of aircraft requirements is necessary because in reality very often delay in operations is due to lack of aircraft, especially for scheduled air transportation with holiday. As a result of the relaxation policy, the MOC has cancelled 27 business permits of airlines because they do not fulfill the requirements.

The victims of relaxation policy are not limited to land, sea and railways transportation, but also to the airlines themselves. The old players under the new order regime such as Zamrud Aviation, Bouraq Indonesia Airlines, Mandala Airlines, Seulawah Air Services and Indonesian Air Transportation went bankrupt due to their inability to compete with the new airlines players. In the development of era reformation, the victims are not limited to the old airlines players, even the new airlines players are forced to go bankrupt because they cannot guarantee to survive their operation. They come without enough capital, professional human resources, victimize the consumers and go bankrupt as victims of the relaxation policy. The new airlines risk against accidents, one fatal aircraft accident and the airlines goes directly bankrupt. The philosophy of the Civil Act of 2009, as other states, is that airlines companies do not need a lot of airlines but they have capability to compete and are not too weak. It is better small but capable to fulfill the air transportation need to support national economic development, capable to compete at national, regional and global levels. For that reason, the Civil Aviation Act of 2009 provides the requirement of establishment of airlines companies in order to survive and compete in the national, regional and global levels.

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18. Ministerial Decree Concerning Garuda Indonesian Airways Permit, Ministerial Decree No. T 14/4/4-U (11 July 1961).

19. Ministerial Decree Concerning Route Structure of PN Merpati Nusantara Airlines, Ministerial Decree No.S.8/2/5-Mphb (13 January 1969).

20. Ministerial Decree Concerning Engagement of Air Transport, Ministerial Decree No. KM 81 (2004)

21. Ministerial Decree Concerning Organizing the Air Transportation, Ministerial Decree No. KM25 (25 November 2008).

The Civil Aviation Act of 2009 (the CAA of 2009) provides for requirement of enough aircraft ownership, capital intensive, single majority shares, bank guarantee, professional human resources qualities as well as quantities, law enforcement and full regulation, regulated industry, high compliances, high technology, aviation safety, security and just culture. The CAA of 2009 requests that the new airlines shall transfer bank guarantee, own aircraft enough to support license given by the MOC for scheduled and non-scheduled air services, charter flights. All of the requirements are intended to lay down a legal ground in order that the airlines are capable to compete with foreign airlines. The CAA of 2009 also provides for cooperation between airlines, national as well as foreign airlines. But in the case of cooperation between domestic airlines and foreign airlines or Indonesian legal entities, the majority shares shall be owned by Indonesian citizens or Indonesian legal entities.

## **2. Climate Change in Indonesia**

### **a. Indonesian Constitutional Law of 1945**

With regards to environmental sustainability, Indonesian Constitution Law of 1945 provides that a good and healthy environmental shall be come the fundamental right to every citizen of Indonesia, for that reason the national economic development shall be organized based on the principles of sustainable and environmentally-friendly development. The environmental quality that is currently declining and has threatened the survival of human life and other living things and there is a need of protection and environmental management on serious and consistent basis by all the stakeholders. With regards the global is increasing to result a climate change that is exacerbating the environmental degradation, therefore it is necessary to conduct protection and management of environment. In order to ensure the legal certainty and the protection of the right of every person to earn a goods and healthy living environment as part of the overall protection of the ecosystem, it shall be necessary to issue an Act to enhance public welfares and achieve happiness of life based on the Pancasila, and implement environmentally sustainability development guided by an integrated and comprehensive national policy which take into consideration the needs of present as well as future generation.

### **b. The impact of Global Warming**

The impact of global warming is already evident in Indonesia and it will likely worsen due to further human- induce climate change. The review from the global conservation organization, climate change in Indonesia affects for human and nature. Highlights that annual rainfall in Indonesia is ready down by 2 to 3 per cent, and the seasons are changing. The combination of high population density and high levels of biodiversity, together with a staggering 80,000 kilometers of coastline and 17,500 Islands, make Indonesia one of the most vulnerable country to the impacts of climate change.

Shifting weather patterns have made it increasingly difficult for Indonesia's farmers to decide when to plant crops and erratic droughts and rainfall has led to crop failures. A recent study by a local research institute provides that Indonesia had lost 300,000 tons of crop production every year between 1997-2000, three times annual loss in the previous decade. Climate change in Indonesia means millions of fishermen are also facing harsher weather conditions while dwindling fish stocks affect their income.

As rainfall decreases during critical times of the year translates into higher drought risk, consequently a decrease in crop yield, economic instability and drastically more undernourished people. This will undo Indonesia's progress against poverty and food insecurity. WWF's review shows that increased rainfall during wet time of the year may lead to high flood risk, such as the Garut, Bandung, Chirebon cities (West Java) flood and others provinces that killed people and displaced nearly half a million people, with economic losses of US\$ 450 million.

Climate change impacts are noticeable throughout the Asia-Pacific region. More frequent and sever waves, floods, extreme weather events and prolonged droughts will continue to lead to increased injury, illness and death. Continued warming temperatures will also increase the number malaria and dengue fever cases and lead to an increase in other infection as a result of poor nutrition due to food production disruption.

With regards to aviation environmental protection, Indonesia gives high priority, for that reason, Indonesia has played an active role in drafting the Report on Aviation and the Global Atmosphere of the Intergovernmental Panel on Climate Change to provide comprehensive information for assessing and addressing aircraft engines emissions, and since 2012 is also participating in the ICAO CAEP process.<sup>22</sup>

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<sup>22</sup> Suprasetyo (Director General of Air Communications), *Speech delivered at the 34<sup>th</sup> Triennial Session of ECAC at Strasbourg, on 30 June-1 July 2015.*

**c. The Role of Indonesia Related to Climate Change**

The Indonesian government has taken its role seriously and lead the way in the fight against national and global climate change. Indonesia has to take up the challenge of climate change, putting climate adaptation in the development agenda, promoting sustainable land use, as well as demanding support from industrialized nations. Indonesia is already a significant emitter of GHG emission due to deforestation and land-used change estimated at 2 million hectares per year and accounts for 85 per cent of the country's annual GHG emissions. It is also a serious coal producer and use in the region.

With regards to air transport and aviation industry, Indonesia and neighboring countries such as Australia, Brunei, Malaysia, Singapore and other international organization such as International Civil Aviation Organization (ICAO), International Air Transport Association (IATA) and aircraft manufactures jointly take action to reduce climate change. In addition, all aviation industry such as Garuda Indonesia, Sriwijaya Air, Lion Air, airport operators such as PT Angkasa Pura I and PT Angkasa Pura II and government institution such as Badan Penanggulangan Bencana National (BPBN) join together to reduce climate change in Indonesia.

**III. SUBSTANCE OF THE CAC OF 2009**

The Indonesian Civil Aviation Act that came into force on 12 January 2009 (the CAA of 2009) aims to promote the development of Indonesian air transportation. It regulates a host of matters related to aviation, from sovereignty in airspace, aircraft production, operation and airworthiness of aircraft to aviation safety and security, aircraft procurement, aviation insurance, the independence of aircraft accident investigation, and the licensing of aviation professionals. The CAA of 2009 also regulates scheduled as well as non-scheduled air transportation, airline capital, the ownership of aircraft, aircraft leasing, tariffs, the liability of air carriers, air navigation facilities, airport authorities and services, and law enforcement related to air transportation. The CAA of 2009 also has provisions aimed at supporting the development of national and international air transportation in Indonesia, including provisions regarding the creation of a public services institute to further those goals.<sup>23</sup> As above-mentioned, due to the comprehensive nature of the Act of 2009, the present article is only able to discuss and highlight certain matters such as aviation safety, aviation security and environmental as follows:

**1. Aviation Safety**

With regards to aviation safety, Indonesia continues to fully support all relevant ICAO program and policies, including the Global Aviation Safety Plan (GASP, the Universal Safety Oversight Audit Program (USOAP), and implementation of performance based navigation (PBN). The DGCA has made significant efforts during the past years to enhance aviation safety, including the implementation of the National Safety Program (NSP) for Indonesia, the implementation of the Safety Management System (SMS) for all aviation service providers, and a revision of a large number of national standards, procedures and national regulations to bring them fully in accordance with the ICAO SARPs and requirements. The DGCA is continuing these efforts and gives this matter very high priority.<sup>24</sup> For the purpose to implement the above-mentioned commitment, the ROI regulates aviation safety. Such regulations, among others, the regulations of aircraft production, registration and nationality mark, aircraft operation and aircraft maintenance and safety and security in aircraft during flight as follows:

**a. Aircraft Production**

Aviation safety provided in Chapter VI of the CAA of 2009. In accordance with article 13 any aircraft, any engine, and any airplane propeller to be produced and eligible for utilization must have a conceptual design and have an approval letter from MOC after its airworthiness standard has been examined and test. The examination and testing must fulfill airworthiness standard requirements stipulated under provisions of the law and regulations. In addition, every person conducting any activity on conceptual design of an aircraft, aircraft engine, and airplane propeller shall be obligated to obtain an approval letter.

In order to produce any aircraft, aircraft engine and airplane propeller to be made based on the conceptual design must possess a type certificate. The type certificate shall be given by the MOC after the applicant completes demonstration of compliance with the certification basis such as an examination on conformity to initial airworthiness standard and has passed the type certification test. Any aircraft, aircraft engine, and airplane propeller designed and produced abroad and imported into Indonesia, must obtain a type

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<sup>23</sup> Dr Amad Sudiro and Dr. K. Martono, *National and International Air Transport Regulations in Indonesia*. IOSR Journal of Applied Chemistry (IOSR-JAC) e-ISSN: 2278-5736. Volume 9, Issue 3 Ver. I (Mar. 2016), PP 07-22 www.iosrjournals.org DOI: 10.9790/5736-0903010722 www.iosrjournals.org , at 7

<sup>24</sup> Suprasetyo (Director General of Air Communications)., *Speech delivered at the 34<sup>th</sup> Triennial Session of ECAC at Strasbourg*, on 30 June-1 July 2015.

certificate validation from the MOC. Further provision on the system and procedure of obtaining approval letter on conceptual design, design activities and change to aircraft design, type certificate, and type certificate validation shall be regulated under a Ministerial Regulation.<sup>25</sup>

Every Indonesian legal entity conducting production and/or assembling activities of aircrafts, aircraft engines, and airplane propellers, must possess certificate of production. In order to obtain production certificate, the Indonesian legal entity must meet requirements such as possession of type certificate or production license for manufacture based on an agreement with other party(s); production facilities and equipment; organizational structure having at least production and quality control divisions; competent production and quality control personnel; quality control warranty system; and product examination and production testing system.<sup>26</sup> The certificate of production shall be given after examination and testing are administered with a result of meeting the airworthiness standard.<sup>27</sup> Certification process of aircraft, engines, and airplane propellers shall be implemented by a public service management institution.<sup>28</sup> With regards to payments/fee, certification process shall be charged with payment/fee. Further provision on the public services management institution shall be regulated by the MOC.

#### **b. Aircraft Operation**

Anybody operating an aircraft for air transportation activity shall be obliged to possess a certificate. Such certificate consist of air operator certificate, extended to an Indonesian legal entity operating a civil aircraft for commercial transportation purpose; or aircraft operating certificate, extended to an Indonesian individual or legal entity operating civil aircraft for non-commercial air transportation. The certificate shall be given by the MOC upon passing examination and testing, and the applicant demonstrates his/her capability to operate the aircraft.<sup>29</sup> In order to obtain an air operator certificate an operator has to own a commercial air transportation business permit; own and possess aircraft(s) in accordance with the business permit owned; own and/or possess competent aircraft personnel in a total number of adequate ratio to operate and to maintain aircrafts; own an organizational structure of minimum divisions of operation, maintenance, safety, and quality control assurance; own competent management personnel in an adequate number; own and/or possess aircraft operational facilities; own and/or possess adequate spare-part supplies; own a company operation manual and a company maintenance manual; own a standard operating procedure; own a standard aircraft maintenance procedure; own educational facilities and a company training manual; own a company quality assurance manual for keeping up continuous operating and technical performance; *and* own a safety management system manual.<sup>30</sup>

In order to obtain an aircraft operating certificate an operator has to owning a non-commercial air transportation activity permit; owning and possessing aircraft(s) in accordance with the activity permit owned; owning and/or possessing aircraft operational personnel and aircraft maintenance personnel; owning standard aircraft operating manual; *and* owning standard aircraft maintenance manual.<sup>31</sup> Anybody violating the provisions shall be imposed with administrative sanctions such as warning; freezing of certificate; and/or revocation of certificate. Further provisions on the system and procedures of obtaining aircraft operator certificate or aircraft operating certificate and the imposition of administrative sanctions shall be regulated under a MOC.

#### **c. Aircraft Maintenance**

Anybody operating aircraft shall be obligated to perform maintenance on the aircraft including the aircraft engines, airplane propellers, and the components for keeping up the competency and continues airworthiness. In order to perform maintenance of aircraft, aircraft engines, airplane propellers and the components, one must issue a maintenance program and shall be approved by the MOC.<sup>32</sup> The maintenance of aircrafts, aircraft engines, airplane propellers and the components may only be conducted by an air transportation company already owning air operator certificate; a legal entity organization of aircraft maintenance already owning approved maintenance organization certificate; or a maintenance expert personnel already possessing an aircraft maintenance engineer license. The aircraft maintenance certificate shall be granted by the Minister upon passing an examination and testing.<sup>33</sup>

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<sup>25</sup> Art.18

<sup>26</sup> Art.19

<sup>27</sup> Art.20

<sup>28</sup> Art.21

<sup>29</sup> Art.41

<sup>30</sup> Art.42

<sup>31</sup> Art. 43

<sup>32</sup> Art.46

<sup>33</sup> Art.47

In order to obtain an approved aircraft maintenance organization certificate it must meet the requirements such as owning or possessing maintenance facilities and sustainable supporting equipment; owning or possessing competent personnel holder(s) of maintenance engineer certificate in accordance with their scope of works; owning company maintenance and inspection manuals; owning up-to-date maintenance manuals issued by the manufacturer in accord with the type of aircraft(s) being operated; owning quality assurance manuals to ensure and maintain sustainable performance of aircraft, engine, propeller and component maintenance; owning or possessing spare-parts to maintain competence and continues airworthiness; *and* owning manuals of safety management system.<sup>34</sup> The aircraft maintenance organization certificate may be given to aircraft maintenance organization abroad upon possession of aircraft maintenance organization certificate issued by aviation authority from the country concerned.<sup>35</sup>

Anybody violating the provisions shall be imposed with administrative sanctions, such as freezing of certificate; and/or revocation of certificate.<sup>36</sup> Further provisions on the procedures and issuance of aircraft maintenance organization certificate, maintenance engineer license, and the imposition of sanctions shall be regulated under a MOC Regulation.

#### **d. Safety in Aircraft During Flight**

Each Indonesian or foreign civil aircraft arriving or departing from Indonesia may land or take-off from the airport(s) pre-determined for that purpose. The provision shall not be valid during emergency circumstances. Anybody violating the provisions shall be imposed with administrative sanctions, such as warning; freezing of certificate; and/or revocation of certificate.<sup>37</sup> Anybody shall be prohibited from operating and/or flying an aircraft that may endanger aircraft safety, endanger the safety of aircraft passengers, crews, and cargo, endanger the safety of third party, disturb public security and order; and/or damage other people's property(ies). Anybody violating the provisions shall be imposed with administrative sanctions, such as freezing of certificate; and/or revocation of certificate.<sup>38</sup>

### **2. Aviation Security**

In the field of aviation security, the DGAC commits that Indonesia have introduced a National Quality Control Program and a National Security Training Program, along with Staff Instructions for Aviation Security. Furthermore, Indonesia have introduced an Airport Security Program, Aircraft Operator Security Program and a Regulated Agent Security Program, all under the supervision of the DGCA. In the framework of the National Quality Control Program, more than 200 airports across the country are subject to inspection, survey and testing. Further, Indonesia have developed a Civil Aviation Strategic Action Plan and have re-certified the major Indonesian airports in accordance with the international standards of ICAO. A corporatized single Air Navigation Service Provider for the whole of Indonesia has been set up as a state owned enterprise in 2012, called Air Navigation Indonesia.<sup>39</sup>

Indonesia has ratified aviation security instruments such as Tokyo Convention of 1963,<sup>40</sup> The Hague Convention of 1970<sup>41</sup> and Montreal Convention of 1971,<sup>42</sup> for that reason the CAC of 2009 provides aviation security to implement the aviation security instrument. Such provision provided at Chapter XIV from Articles 323 to 356 of the CAC. It consist of national aviation security, aviation security supervision, airport security, aircraft operation security, eradication of unlawful acts as follows:

#### **a. National Aviation Security**

The Minister shall be responsible for national aviation security. In order to implement responsibility with regards to aviation security, the MOC shall be authorized to establish a national aviation security committee; enact a state aviation security program; and monitor the implementation of state aviation security

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<sup>34</sup> Art.48

<sup>35</sup> Art.49

<sup>36</sup> Art.50

<sup>37</sup> Art.52

<sup>38</sup> Art.53

<sup>39</sup> Suprasetyo (Director General of Air Communications)., *Speech delivered at the 34<sup>th</sup> Triennial Session of ECAC at Strasbourg*, on 30 June- 1 July 2015.

<sup>40</sup> Convention on Offences and Certain Acts Committed on Board Aircraft, signed at Tokyo, on 14 September 1963; See also Dempsey P.S., (2005), Vol. XXX-Part I, Ann. of Air & Sp.L.at 185-193;

<sup>41</sup> Convention for the Suppression of Unlawful Seizure of Aircraft, signed at The Hague on 16 December 1970; See also Dempsey P.S., (2005), Vol. XXX-Part I, Ann. of Air & Sp.L.at 203-209;

<sup>42</sup> Convention for the Suppression of Unlawful Acts Against the Safety of Civil Aviation, signed at Montreal on 23 September 1971. ; See also Dempsey P.S., (2005), Vol. XXX-Part I, Ann. of Air & Sp.L.at 217-223;

program.<sup>43</sup> The national aviation security committee shall have the duties to coordinate the implementation of state aviation security program.<sup>44</sup> The national aviation security program shall at least contain aviation security regulation; aviation security targets; aviation security personnel; division of responsibilities on aviation security; protection of airports, aircrafts, and flight navigation facilities; control and guarantee security of human and goods on aircrafts; eradication of unlawful acts; adjustment of security system towards security threat level; and aviation security supervision.<sup>45</sup>

In implementing national security program, the Government may cooperate with other countries. Cooperation shall cover exchange of information; education and training; improvement of security quality; and request for security support.<sup>46</sup> In the framework of aviation security, the ASEAN Multilateral Agreement on Air Services (AMAAS) in which Indonesia is a member also provides aviation security provisions. Airport business entity or airport operation unit shall be obligated to develop, implement, evaluate, and enhance airport security program at every airport with the national aviation security program as a guideline. Airport security program shall be legalized by the MOC; airport business entity or airport operation unit shall be responsible for financing airport security.<sup>47</sup>

Every airport authority or airport operation unit shall be responsible for monitoring and controlling of airport security program. In order to carry out the responsibility airport authority or airport operation unit shall establish an airport security committee. The airport security committee shall have the duties to coordinate the implementation of airport security program.<sup>48</sup> Every air transportation business entity shall be obligated to develop, implement, evaluate, and enhance an air transportation security program with the national aviation security program as the guideline. Air transportation security program shall be prepared by air transportation business entity and shall be legalized by the MOC. Airport transportation business entity shall be responsible for financing air transportation security.<sup>49</sup> Further provisions regarding the mechanism and procedures of development or implementation of state aviation security program shall be stipulated under a MOC Regulation.

#### **b. Aviation Security Supervision**

The MOC shall be responsible for supervision of national aviation security. Such supervision of aviation security is a continuous monitoring activities aiming to ensure compliance to aviation security regulation implemented by the aviation services providers or other relevant security institutions, covering activities such as audit; inspection; survey; and test. The MOC shall take corrective and law enforcement actions on the results of monitoring.<sup>50</sup> Airport authority, airport operation unit, airport business entity, and air transportation business entity shall be obligated to implement internal monitoring and shall report the findings to the MOC.<sup>51</sup> Further provisions regarding national aviation security supervision shall be stipulated under a MOC Regulation.

#### **c. Airport Security**

Anybody, vehicle, cargo, and post entering restricted security area shall be obligated to possess entrance permit into the restricted areas, or airplane tickets for passengers and security check shall be enforced. The security check as meant in item (1) shall be conducted by competent personnel in aviation security field.<sup>52</sup> Passengers, aircrews, baggage, cargo, and post to-be transported shall have to pass the examination and fulfill aviation security requirements. Specific passengers and cargo may be given special treatment with regards to security examination. Any diplomatic pouch shall not be examined, except upon request by the agencies in charge of international relationship (foreign affairs) and national defense.<sup>53</sup> Any airplane passenger carrying any weapon shall be obligated to report and hand-over the weapon to the air transportation business entity transporting the passenger concerned. The air transportation business entity shall be responsible for the weapon received until the time it is returned to the owner at destination airport. Airport business entity and airport operation unit shall be obligated to provide or appoint an area at the airport territory as an isolated parking area

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<sup>43</sup> Art.323

<sup>44</sup> Art.324

<sup>45</sup> Art.325

<sup>46</sup> Art.326

<sup>47</sup> Art.327

<sup>48</sup> Art.328

<sup>49</sup> Art.329

<sup>50</sup> Art.331

<sup>51</sup> Art.332

<sup>52</sup> Art.334

<sup>53</sup> Art.336



for aircrafts experiencing security disturbance or threat. Further provisions regarding the mechanism and procedures of airport operational security shall be stipulated under a MOC Regulation.<sup>54</sup>

**d. Aircraft Operational Security**

Air transportation business entity shall be responsible for aircraft operational security at the airport(s) and while in flight. Responsibility towards aircraft operational security at airports shall at least include aircraft security examination prior to operation based on security risk rating (*check and search*); examination on passengers' cabin luggage left behind in the aircraft; examination on all personnel entering the aircraft; and examination on equipment, goods, food, and beverages entering the aircraft. Responsibility towards aircraft operational security while in flight shall at least include taking action necessary to guarantee aviation security; informing the pilot in command if there is any air marshal in the aircraft flight; informing the pilot in command of existence of any dangerous goods in the aircraft. Placement of security personnel on board of any foreign regular commercial aircraft from and to the territory of the Republic of Indonesia may only be done based on bilateral agreement.<sup>55</sup> Every air transportation business entity operating aircrafts of transport category shall be obligated to fulfill aviation security requirements. Further provisions regarding the system and procedures of implementation of aircraft operational security shall be stipulated under a MOC Regulation.<sup>56</sup>

**e. Eradication of Unlawful Acts**

Any person shall be prohibited to do any acts of unlawful interference endangering aviation and air transportation safety, such as taking unauthorized control of an aircraft during flight or on the ground; taking hostage(s) inside an aircraft or at an airport; entering an aircraft, restricted security area, or aeronautical facility area without any authorization; carrying a weapon, dangerous goods and equipment, or a bomb into an aircraft or airport without permit; and giving false information that endangering aviation safety.<sup>57</sup>

Airport Authority, airport operation unit, airport business entity, and/or air transportation business entity shall be obligated to eradicate unlawful acts. Eradication of unlawful acts shall be formulated as a contingency plan type. In the case there is an unlawful act the MOC shall coordinate and delegate a task and command for eradication of the unlawful act to the institution responsible for and in charge of security sector. Further provisions regarding the mechanism and procedures for eradication of unlawful acts and delegation of duty and commands of eradication shall be stipulated under the MOC Regulation.<sup>58</sup>

**f. Aviation Security Facilities.**

The MOC shall stipulate aviation security facilities used for realization of aviation security. Provision of aviation security facilities shall be undertaken in accordance with the needs by considering effectiveness of equipment; airport classification; and level of threat and disturbance.<sup>59</sup> Airport business entity, airport operation unit, and air transportation business entity using aviation security facilities shall be obligated to provide, operate, maintain, and modernize in accordance with stipulated standard; maintain accuracy of its performance by calibrating; and obtain complete certification of equipment. Any airport business entity, airport operation unit, and air transportation business entity violating the provisions shall be imposed with administrative sanctions, in the forms of warning; freezing of permit or certificate; and/or revocation of permit or certificate. Further provisions regarding aviation security facilities shall be stipulated under a MOC Regulation.

## **IV. ACTION TO BE TAKEN TO REDUCE CLIMATE CHANGE BY INDONESIA**

### **1. In the International Level**

The action to be taken to reduce climate change in the international level are membership of UNFCCC; commits to support ICAO's recommendation; environmental measure project (EMP); cooperation with IATA and other agencies; discussion with Switzerland Related to Climate Change as follows :

**a. Membership of UNFCCC**

On August 1, 1994, Indonesia ratified UNFCCC.<sup>60</sup> The documents of ratification has been submitted to the Secretary of the United Nations, consequently Indonesia is a Party of the UNFCCC which imply that Indonesia is bound to the rights and obligations, stipulated in the Convention. One of the obligations is to

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<sup>54</sup> Art.337

<sup>55</sup> Art.340

<sup>56</sup> Art.343

<sup>57</sup> Art.344

<sup>58</sup> Art.347

<sup>59</sup> Art.349

<sup>60</sup> Act Concerning Ratification of United Nations Framework Convention on Climate Change (Act No.6 Year 1994), (State Gazette of the Republic of Indonesia Year 1994 Number 42, Supplement Gazette of the Republic of Indonesia Number 3557.

communicate actions taken to mitigate. It is realized that the global warming is a real threat to human welfare in many ways.

**b. Commits to Support ICAO's Recommendation**

Indonesia commits to support ICAO's suggestion for States to develop and provide to ICAO an Action Plan to detail initiatives to be undertaken to manage aviation's impact on climate change as well as to provide annual updates on traffic data and fuel usage.<sup>61</sup> Indonesia will investigate the viability of alternate means of transport such as rail and buses as alternatives to flight. However, alternate forms of transport come with high infrastructure costs, availability of land for acquisition, practical limitations of being an archipelago and expectations from the community. For Indonesia, the continual increasing use of aviation for domestic travel is a reality with no real short-term alternatives.

International air transport remains outside of the Kyoto Protocol while domestic aviation emissions are included in country GHG emission targets. In 2010, Indonesia had some 500,000 domestic Regular Public Transport movements and these are expected to double by 2020. Hence, Indonesia supports a proactive program of change to limit or reduce the emissions of GHG emission from aviation through working through ICAO and with Indonesian domestic stakeholders and its regional neighbors.

Indonesia also announced that by 2020 will reduce GHG emission by 26% from Business as Usual (BU) and by 41 if supported.<sup>62</sup> Transport is the main sector where growth in GHG emissions is forecasted over the next 10 years. Currently transport emits only 3% of all GHG emission but consumes 52% of all oil. The domestic aviation sector continues to grow and be responsible for an increasing amount of GHG emission. This growth has both environmental and economic impacts that need to be managed. Indonesia, as an archipelago nation of 17,000 Islands relies on transport for economic, social and others. Management of aviation's impact on climate change must be conducted in a way that balances the needs of Indonesian people for a safe, regular and efficient transport services and the responsibilities we all have in protecting Indonesian environment for today.

**c. Environmental Measure Project (EMP)**

On 27 March 2013, the MOT of the ROI jointly with ICAO's Technical Co-operation Bureau (ICAO-TCB) to undertake launching a large-scale Environmental Measure Project (EMP). The purpose of EMP project such as master plan for Indonesian legislative improvements on emission, green flights and green airports operation program more efficient airspace, design utilization performance based on navigation guidelines, advice on appropriate market based measures; initiatives relating to alternative fuels; and the development of a comprehensive emissions inventory. In this event, Raymond Benjamin, ICAO's Secretary General, underscored that the initiative is part of the Organization's efforts to support member States towards mitigating international aviation carbon emissions. The DGCA work directly with ICAO-TCB in developing the project.

**d. Cooperation with IATA and Other Agencies**

The ROI has also closely cooperated with the IATA through participating in capacity building activities and technical assessments. In this connection, IATA have presented several joint working papers. In addition, the DGCA of the MOT has established cooperation with aircraft manufacturers such as the Airbus Company which is already giving technical support to Indonesia in implementing operational improvements and PBN, and in the field of Sustainable Alternative Fuels (SAF). Indonesia considers cooperation with other global partners a key support for the successful achievement of its State Action Plan (SAP) and significant progress has been achieved thanks to that cooperation.

In addition, on 23 October 2015, Indonesia also signed an agreement with the United States of America Federal Aviation Administration (US-FAA) regarding "the Promotion of Sustainable Aviation Alternative Fuels and Renewable Energy (PSAAFRE)." The purpose of an agreement is to promote developing and using sustainable alternative fuels for aviation and additional environmental collaboration between the two nations. The DGAC considers that a key international organization is required. In addition, the role of stakeholders and in particular of the aircraft operators is essential for the success of the Action Plan. For that reason, the DGCA of the MOT has involved from the very beginning some of its main national carriers in its drafting and implementation.

**e. Discussion with Switzerland Related to Climate Change**

During the meeting between Doris Leuthard, Federal Councillor of Switzerland and Rizal Ramli emphasized the challenges facing Indonesia is reducing GHG emissions. These challenges represent an

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<sup>61</sup> The 38<sup>th</sup> General Assembly Session

<sup>62</sup> The 38<sup>th</sup> General Assembly Session

opportunity for developing cooperation and economic relations between Indonesia and Switzerland. In addition, the head of the Federal Department of the Environment, Transport, Energy and Communications (DETEC) also held talks with Sofyan Djalil as well as with Siti Nurbaya Bakar. The numerous functions of forests in the context of the combat against climate change and the preservation of biodiversity were the main focus of the talks with these two ministers. During her visit to Jakarta, Doris Leuthard also met with Le Luong Minh, Secretary-General of ASEAN. The meeting provided an opportunity to exchange views, notably concerning the implementation of the climate agreement that was adopted in Paris, and problems associated with infrastructure.

Federal Councillor Doris Leuthard's program included several visits such as the Indonesian Institute of Sciences and the Centre for Meteorology and Climate, which is a participating partner in an international project aimed at monitoring and analyzing the consequences of climate change. This project is being coordinated by Swiss Meteorology. Federal Councillor Leuthard's visit was rounded off with a presentation of Indonesian projects relating to renewable energy, plus visits to a factory of the ABB Group and to the Indonesian national airline, Garuda Indonesia. The head of DETEC is being accompanied by a Swiss business delegation comprising representatives from the clean-tech and transport sectors.

## **2. Domestic Level**

The action to be taken to reduce climate change in the domestic level are regarding the policy approach to climate change; socialization and coordination of a national action plan (NAP); eco-friendly airport; alternative fuel for aircraft operation (FAO); sustainable air transport and aviation alternative fuels; the emission trading scheme; establishment of national committee on climate change (NCCC); aviation biofuels and renewable energy at the airport as follows:

### **a. Policy Approach to Climate Change**

The policy approach to climate change is to reduce the greenhouse effect, as shown in the SAP which Reduce the Greenhouse Effect (RGH). In addition, policy approach to climate change also based on Act Number 6 Year 1994,<sup>63</sup> Act Number 17 Year 2004<sup>64</sup> and Act Number 32 Year 2009.<sup>65</sup> After Indonesia have ratified of all conventions, the MOE has the obligation to identify GHG to formulate the policy on climate change.

### **b. Socialization and Coordination of a National Action Plan (NAP)**

In August 2010, Indonesia conducted a seminar on Aviation and Climate Change to commence the socialization and coordination of a National Action Plan (NAP). The speakers from ICAO, IATA, airlines' business entities, government and academician. The seminar provided information on what Indonesia can do to help and participate in reducing aviation emissions. As a result of the seminar, the regulators, airlines' business entities, service providers, research agencies, academician and regional partners work together to determine an appropriate action plan that minimizes aviation's impact on climate change. A draft of NAP has been established to help in the discussions and to raise a common understanding into the possible initiatives that are available. The draft of NAP uses the basket of measures to provide in the final report of the Group on International Aviation and Climate Change (GIACC) and covers aircraft modernization; improved engine technology; introduction of most efficient flight routes and flight paths; coordination of ground based infrastructure projects to better use available aircraft technology; operational efficiencies; eco-airports; and market-based measures.

### **c. Eco-Friendly Airport**

For the purpose to implement the policy on climate change, the ROI has issued a Presidential Decree No.61 of 2011,<sup>66</sup> and the Ministerial Decree No.KP 201 of 2013. As a national policy framework, it provides for GHG emission reduction and obligation for the energy and transport sector is 26% cumulative up to the year 2020, and 41% with contribution of international air transport. In addition, Indonesia has put in place new regulations concerning eco-friendly airport which are mandatory to be implemented in all Indonesian airports with reference to the NAP to reduce GHG emission. Airports operator are encouraged to use renewable sources

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<sup>63</sup> Act Concerning (Undang-undang tentang Pengesahan Konvensi Kerangka Kerja PBB tentang Perubahan Iklim (Ratification of United Nations Framework Convention on Climate Change (Act.No.6 Year 1994) (June 5<sup>th</sup>, 1994). (State Gazette of the Republic of Indonesia Year 1994 Number 42, Supplement Gazette of the Republic of Indonesia Number 3557.

<sup>64</sup> Act Concerning Ratification of Kyoto Protocol to the United Nations Framework Convention on Climate Change (Act No.17 Year 2004) State Gazette of the Republic of Indonesia Year 2004 Number 72, Supplement Gazette of the Republic of Indonesia Number 4403.

<sup>65</sup> Act Concerning Protection and Management of Environment, (Act No.32 Year 2009), State Gazette of the Republic of Indonesia No.140 Year 2009 ( 3 October 2009).

<sup>66</sup>Presidential Decree Concerning National Action Plan to reduce GHG emissions (RAN-GRK) (Pres. Decree No.61 Year 2011).

of energy such as solar cells and has also required more effective and efficient Air Traffic Management (ATM) measures. Among these are operational measures such as reducing the taxi and holding time and the use of PBN which will in return decrease gaseous emissions.

**d. Alternative Fuel for Aircraft Operation (FAO).**

In line with the commitment of the President of the ROI with ICAO and others, the DGAC of the MOT, actively participate and contribute to the global initiative of mitigation of climate change and reduction of GHG emission by 26% accumulative up to the year 2020 with its own activities on the basis of 2005 GHG emissions. These measure are considered with reference to the ICAO global policy and its guidelines. In this regard, Indonesia very much appreciates the ongoing of the ICAO Council to forge a consensus among ICAO' member States including a basket of measures and related action. This ongoing work is encouraging and Indonesia is prepared to fully support the emerging path towards consensus outlined by the ICAO-Council. Indonesia has initiated policy, strategy and implementation measure on alternative FAO such as domestic and/or international flights, for the period of 2016-2020.

In the connection of alternative FAO, the DGAC of the MOT, has taken several policy to implement measures in line with the ICAO's global policy and its guidance to contribute the global initiative of mitigation of climate change and reduce GHG emission by accumulative up to the year 2020 with its own activities on the basis of 2005 GHG emission. Regarding the global initiatives of mitigation of climate change and reduction of GHG emission, Indonesia is fully prepared to support the emerging path towards consensus outlined by the ICAO Council.

**e. Sustainable Air Transport and Aviation Alternative Fuels**

It is worthwhile to note here, that in the framework to implement the above mentioned policy, on 23 October 2015, the ROI has signed Memorandum of Understanding (MOU) with the USA regarding on Sustainable Air Transportation and Aviation Alternative Fuels (SATAAF). This MOU build on effort to protect the environment, reduce GHG emissions worldwide and provide Indonesian's nation and the broader global community with more sustainable energy resources. It builds on mutual interest and challenges for the USA and the ROI partnership, including the environment.

The MOU's primary focus areas are research and development of alternative aviation fuel; energy conservation; environmental protection and sustainable aviation growth; critical information and personnel exchange; strengthened capacity-building; and the sharing of best practices, with reference to the agenda item 17 of the 38th General Assembly Meeting conducted in Montreal on 2013 regarding environmental protection.

**f. The Emission Trading Scheme**

The clean development mechanism (CDM) is one of the mechanism under the Kyoto Protocol which will expire in 2020. Based on the Presidential Regulation Number 6 Year 2011, Indonesia specifies various activities which may directly or indirectly reduce the GHG effect in agriculture, energy, transportation, forestry, peat-land area, industrial areas, and waste management, as well as hot to monitor and report GHG emissions. In this regard, Indonesia has implemented the CDM which generates emission credits through projects that reduce GHG emission in various sectors. In addition, the government of the ROI also has a program called the Reducing Emission for Deforestation and Forest Degradation Plus (REDD+) to gain momentum in Indonesia, particularly after the ROI sign a letter of intent with Norway in 2010. In 2015, Presidential Regulation No.15 Year 2015<sup>67</sup> was issued, after BP REDD+ and the National Council on Climate Change (NCCC) is integrated into the and Forestry.

Various CDM-related regulations have been issued for the relevant sectors, such as energy, power-generation and forestry. For example, Ministry of Forestry Regulation (MFR) No.P.14/Menhut-II/2004<sup>68</sup> governs the procedures for a forestation and reforestation within the framework of the CDM. MOE Decree No. 206 of 2005 set up a National Commission on the Clean Development Mechanism (NCCDM) whose main role is to approve proposed CDM projects if they meet the national sustainable development criteria and to monitor and evaluate the progress of each project.

**g. Establishment of National Committee on Climate Change (NCCC)**

The main sources of CO<sub>2</sub> emission in Indonesia are energy and forestry sectors. These two sectors contributed for almost 98 per cent of total CO<sub>2</sub> emission. The CO<sub>2</sub> emission from forestry sector was resulted

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mainly from biomass burning during forest and grass-land conversion activities. To achieve its commitment to global effort to cope with climate change, Indonesia established the National Committee on Climate Change (NCCC). Its consist of representatives from various government agencies, non-government organizations, academician, and business communities to combat global warming. The NCCC has identified three principles as the foundation for Indonesia in developing national response strategy to address climate change. For the purpose of formulating and broader policy, the NCCC collects several data such as energy, transportation, agriculture, forestry, public health, coastal resources and waste which contribute significantly GHG emission in Indonesia.

To achieve the goal to prevent the GHG emission steps have been taken to gradual removal of energy market distortions, such as fuel and electricity subsidy; promote use and development of renewable energy through incentive such as breaks for investors on the technology; encouraging research; encourage public adoption of energy conservation and efficiency, by adopting techniques such as public campaigns, at the same time using economic incentives to further promote energy efficiency products and energy conservation practices; promote clean and efficient energy use for industry and commercial sectors. Various technologies, for example, clean production, is available to help the industry and commercial sectors become more efficient. Such technologies have been promoted by the government; restructure the price for various energy sources according to the emission and externalities that the energy source emits.

In addition, step have been taken promote use of public transportation by increasing the capacity and comfort of the public transportation system and a shift in the transportation policy towards use of electric trains and road; air traffic control system (ATCS) for regularly congested areas which will allow road users to realize the value of that public good; control vehicle emission and promote use of clean fuels through providing incentives for car users who would like to convert their cars to enable them to utilize better and cleaner of fuel.

#### **h. Aviation Biofuels and Renewable Energy at the Airport**

In December 2013, the DGAC of the MOT and Directorate General of Renewable Energy and Energy Conservation (EBTKEC) signed a MOU to pursue the use of aviation biofuels and renewable energy at airports. Based on the Ministry of Energy and Mineral Resources (MEMR) Decree No. 25 Year 2013, the use of bio-jet fuel has been mandated on a national level. This requires 2% bio jet fuel blending in 2016, 3% by 2020, and 5% by 2025. Due to national circumstances, the Task Force (TF) identified that the 2016 goal will not be achieved. However, Indonesia oil producer has shown their commitment to start production by late 2018, with a production capacity of 257,000 kl/year.

Based on the DGAC Decree No.517K/73/DJE/2014 was established Aviation Biofuel and Renewable Energy Task Force (ABRETF) as one of supporting elements in executing Indonesia's NAP to reduce GHG emission from the aviation sector. ABRETF aims to reduce these emissions through utilization of sustainable alternative fuels and renewable energy. The mid-term goal is to reinforce Indonesian utilization of bio-jet fuel by 2018. Based on the MEMR Decree No. 25 Year 2013, the use of bio-jet fuel has been mandated on a national level. This requires 2% bio jet fuel blending in 2016, 3% by 2020, and 5% by 2025. Due to national circumstances, the Task Force identified that the 2016 goal will not be achieved. However, Indonesia oil producer has shown their commitment to start production by late 2018, with a production capacity of 257,000 kl/year.

Partnership of ABRETF consisted MOT, MEMR, Ministry of Finance, National Development Planning Agency (NDPA), Airport Operators, Air Navigation Providers, airlines business entities such as Garuda Indonesia, Indonesia Air Asia, IATA, Indonesian National Air Carriers Association (INACA), Pertamina, UOP Honeywell, APROBI, Bandung Institute of Technology, University of Indonesia (UI), Padjadjaran University (UNPAD), Ikatan Ahli Bio Energy Indonesia (IKABI).

The achievements of ABRETF are establishment of Indonesian ABRETF (August 2014), 1st ABRE workshop: "Indonesia Initiatives on Energy Farming & Sustainable Aviation Biofuel and the ISPO/RSP Standard (August 2014); establishment of the Aviation Biofuels and Renewable Energy Task Force (ABRETF) (August 2014). This group consists of four Sub Task Forces (TF) working on: formulation of policy, regulation and capacity building program; research and development; testing and certification; commercial, risk analysis and sustainability, ABRETF Secretariat office at Pertamina building is ready to be used (August 2014), start of ICAO-TCB support program (October 2014), kick off meeting regarding standardization of aviation biofuels (December 2014), Indonesia's national oil company and its partners completed a feasible study (January 2015) and ABRETF to collaborate with national stakeholders, held the 2nd International Green Aviation Conference

(IGAC) in Denpasar, Bali (August 2015), Indonesia's DGCA and the U.S. FAA signed an MOU to promote the use of sustainable alternative aviation fuels and additional environmental collaboration between the two countries (October 2015). It is worthwhile to note here that since October 2014, the ICAO Technical Cooperation Bureau (ICAO-TCB) has supported Indonesia ABRETF through the MSA Annex 5 INS13801 project.

**i. Violation of Climate Change Regulations**

Based on an investigation by several environmental groups, the practice of setting forest fires to clear land for palm oil and timber plantation in Indonesia is spreading to the largely untouched province of Papua, worsening the annual haze that afflicts broad swaths of Southeast Asia.<sup>69</sup> At the end of August 2016, haze shrouds Kuala Lumpur, Malaysia. Neighbors blame a plantation-clearing practice in Indonesia for air-pollution problems. Blazes caused in part by plantation clearing are a recurring problem for Southeast Asia, causing severe pollution as far as Singapore, Malaysia and southern Thailand. Air pollution levels in both Indonesia and Singapore spiked to unhealthy levels, however, Indonesia has struggled to prevent the fires. Large tracts of native forest have been burned on the islands of Sumatra and Kalimantan in recent decades to make way for palm oil and pulp-and-paper plantations crucial to Indonesia's economy. In this connection, Indonesia have been arrested more than 450 people and nine companies are under investigation as part of its forest-fires prevention.<sup>70</sup>

**j. Jurisprudent Related to Climate Change**

The MK Court examined the constitutionality of Act No. 18 of 2013<sup>71</sup> and Act No. 41 of 1999<sup>72</sup> collectively called the "Forestry Laws", in Decision No. 95/PUU-XII/2014. The petitioners were several private individuals and nongovernmental organizations. The gist of the petitions pivoted primarily on the uncertainty of the provisions of the Forestry Laws that could lead to the unfair criminalization of certain local communities and indigenous people who have lived and built settlements in forestry areas for years. The MK Court decided that so long as the forest was not used for commercial purposes and it was only used for the necessary survival of the local community and indigenous people living in the forest, certain criminal provisions under the Forestry Laws do not apply.

**k. Aircraft's Bombing Water to Fight Forest Fire**

With regards aircraft's bombing water to fight forest fires, since 2005 Singapore consistently offered to Indonesia. Previously, Indonesia rejected any Singapore offered to help Indonesia by stating that Indonesia had enough resources to deal with the crisis.<sup>73</sup> In October 2015, the Indonesian National Board for Disaster Management (BNPB) requesting help from Singapore, Malaysia or other countries such as Australia, Russia, Canada to secure bigger aerial fire fighting aircraft for Indonesia. Singapore's Ministry of Foreign Affairs (SMFA) response the request then was offering Singapore's assistance package included a Singapore Civil Defense Force (SDCF), fire-fighting's assistance team, a C-130 aircraft for cloud-seeding and Chinook helicopter equipped with a water bucket for aerial fire-fighting, whilst Malaysia had also offered CL-415 Bombardier that can scoop and drop 6 tons water which pours water from a hanging tank would be joined by a Lockheed L-100 Hercules Tanker with a 15 tons capacity. Officials are adding to the 25,000 personnel that Indonesia has deployed to little effect.<sup>74</sup>

In Palangkaraya and Sumatra were still experiencing a very high PSI, aircraft operation, fire-fighting helicopters were unable to water-bomb certain areas due to very low visibility. Fire-fighting efforts involved Australia, Singapore and Malaysia. On 12 October 2015, Australia's L-100 Hercules aircraft arrive at Sumatra. This aircraft operates for five days in South Sumatra as it will be needed to fight fires in New South Wales.<sup>75</sup> On 15 October 2015, a Lockheed L100-30 Hercules aircraft of the Australian government landed in Sultan Mahmud Badaruddin II Airport in Palembang during preparations before being deployed to extinguish forest fires.

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<sup>69</sup> Sara Schonhardt, *Illegal Forest Fires Threaten Another Indonesian Province, Report Finds*. <http://www.wsj.com/articles/illegal-forest-fires-threaten-another-indonesian-province-report-finds-1472725709>

<sup>70</sup> Sara Schonhardt, *Illegal Forest Fires Threaten Another Indonesian Province, Report Finds*. <http://www.wsj.com/articles/illegal-forest-fires-threaten-another-indonesian-province-report-finds-1472725709>

<sup>71</sup> Act *Concerning Prevention and Eradication of Deforestation*, Act No.18 of 2013 ( 6 August 2013)

<sup>72</sup> Act *Concerning regarding Forestry*, Act No.18 of 2013 ( 30 September 2013).

<sup>73</sup> Siti Nurbaya Bakar, Indonesian Environment and Forestry Minister. See [https://en.wikipedia.org/wiki/2015\\_Southeast\\_Asian\\_haze](https://en.wikipedia.org/wiki/2015_Southeast_Asian_haze), 2015 Southeast Asian haze From Wikipedia, the free encyclopedia.

<sup>74</sup> Dr Sutopo Purwo Nugroho, Indonesian Disaster Management Agency (BNPB), see Wahyudi Soeriaatmadja Indonesia Correspondent In Jakarta and Shannon Teoh Malaysia Correspondent In Kuala Lumpur, On 5 October 2015.

<sup>75</sup> Sutopo Purwo Nugroho, BNPB spokesman.

Russia is also sending two amphibious water-bombing planes to help Indonesia to fight forest fires that have spread a "haze" over neighboring countries. According to the National Disaster Mitigation Agency (NDMA), the Russian-made aircraft the Beriev Be-200s were scheduled to arrive in Palembang. The planes can scoop 12,000 liters of water from rivers, lakes or the sea and dump it over the fire. Russia is taking over from Malaysia and Australia, which have ended their five-day missions.

Russian-made Beriev Be-200 water bombers were involved one of them had arrived on 21 Oct 2015. The Russian-made Beriev Be-200 carry out up to 37,200 kg of water and fly up to 3,850 km without refueling. Other aircraft Canadian-made CL-215 which smaller than Beriev Be-200 still packs a punch in terms of its flight range. Indonesia believes these bombers can be game-changes in its fight against forest fires raging in Kalimantan and Sumatra and had initially wanted Singapore and Malaysia's help to acquire them. These amphibious aircraft can fly then land on a river, take or sea to scoop up a very large amount of water and then take-off again to douse fires over an area of between 1 ha to 1.6 ha. So, with just one-strike fires are gone.<sup>76</sup>

Those aircraft have a solid track record in fire-fighting operation across Europe and North America. The Republic of Singapore (ROS) Air Force does not operate the two aircraft identified by the BNBI. After a meeting with Indonesian President Jokowi in Jakarta, Malaysian Prime Minister Najib Razak consider the haze a serious issue as it's burden to Malaysians and Indonesian, then Malaysia is prepared to increase their assistance in dousing the fire. Malaysia dispatch one Bombardier amphibious aircraft, one Hercules C-130 aircraft and a survey helicopter. The Bombardier amphibious aircraft uses a "water bombing" technique capable of putting out a fire the size of a football field. For the next five days, the Bombardier CL 415 from Malaysia's Maritime Enforcement Agency (MMEA) operated seven hours a day to put out the fires burning up large swathes of forest in South Sumatra. Malaysia is the only country in Southeast.

Meanwhile, the Dauphin helicopter will act as a fire spotter. Another C-130 from Malaysia's Air Force will be ferrying logistics to South Sumatra where the 25-member team will be stationed for a week. The week-long operation is expected to cost the Malaysian government up to 1.7 million ringgit or more than US\$400,000.<sup>77</sup> In relation to operate an aircraft bombing water, the South Sumatra governor Alex Noerdin apologized for the haze crisis in the area, acknowledging that he is most responsible for the haze situation,<sup>78</sup> however, Mr Alex Noerdin said that a change in wind directions contributed to the crisis, as smoke is also blown from Kalimantan to South Sumatra. The authorities in South Sumatra have done all they can to put out the fires, with help from the army, police and the National Disaster Management Agency (NDMA). All parties involved should work together to extinguish the fires.

## V. CONCLUSION AND RECOMMENDATION

### 1. Conclusion

The CAC of 2009 provides almost of the provision provided in the Chicago Convention of 1944. It modernize instead of the former civil aviation Act. It modernize taking into account that the CAC of 2009 has accommodate the recently development, especially related to climate change in Indonesia.

### 2. Recommendation

Taking into consideration that the CAC of 2009, have been set up consistent with the provision of Chicago Convention of 1944 and accommodated the climate change in Indonesia, the authors recommend that Indonesia keep sustainable to prevent and suppress climate change to guarantee the national prosperity, social, human welfare and complies with international conventions regarding environmental.

## BIBLIOGRAPHY

### Books

- [1]. Michael Milde., *Annals of Air and Space Law*, Vol. XVIII-Part I-1993. Toronto : The Carswell Company Ltd, 1993.
- [2]. Dempsey P.S., *Annals of Air and Space Law*, Vol. XXX-Part I-2005. Toronto : The Carswell Company Ltd, 2005.

### Articles

- [3]. Martono & Amad Sudiro, *New Indonesian Air transportation Policy Base on Civil Aviation Act of 2009*. Submitted to Third Annual International Conference on Law & Regulation of Air Transport and Space Application, 26-29 April 2012, National Law University, New Delhi, INDIA.

### Documents

- [4]. Stb.1933-118 *regarding Control of Aviation (Pengawasan Penerbangan)*

---

<sup>76</sup> Dr Sutopo Purwo Nugroho, Indonesian Disaster Management Agency (BNBI), see Wahyudi Soeriaatmadja Indonesia Correspondent In Jakarta and Shannon Teoh Malaysia Correspondent In Kuala Lumpur, On 5 October 2015.

<sup>77</sup> Hishammuddin Hussein, Malaysian Defense Minister (MDM) at the Subang military air base.

<sup>78</sup> Detiknews.com reported

- [5]. *Stb.1939-100 regarding legal liability of air carriers ( Tanggung Jawab Pengangkut)*
- [6]. Indonesian Constitutional Law of 1945
- [7]. Act Concerning Civil Aviation. Act No.83 of 1958, State Gazette Number 159 of 1958, Supplement State Gazette Number1687 [Civil Aviation Act of 1958]
- [8]. Act Concerning Foreign Investment (Act. No.1 Year 1967)
- [9]. Act Concerning Civil Aviation. Act No.15 of 1992, State Gazette Number 53 of 1992 and Supplement to State Gazette of the Republic of Indonesia Number 3481 of 1992 [Civil Aviation Act of 1992]
- [10]. Act Concerning (Undang-undang tentang Pengesahan Konvensi Kerangka Kerja PBB tentang Perubahan Iklim (Ratification of United Nations Framework Convention on Climate Change (Act.No.6 Year 1994) (June 5<sup>th</sup>, 1994). (State Gazette of the Republic of Indonesia Year 1994 Number 42, Supplement Gazette of the Republic of Indonesia Number 3557.
- [11]. Act Concerning Ratification of Kyoto Protocol to the United Nations Framework Convention on Climate Change (Act No.17 Year 2004) State Gazette of the Republic of Indonesia Year 2004 Number 72, Supplement Gazette of the Republic of Indonesia Number 4403.
- [12]. Act Concerning Civil Aviation, Act No 1 of 2009 [Civil Aviation Act], Ministry of Transportation Republic of Indonesia, online: Directorate General of Civil Aviation<http://hubud.dephub.go.id/?en/uu>
- [13]. Act Concerning Protection and Management of Environment, (Act No.32 Year 2009), State Gazette of the Republic of Indonesia No.140 Year 2009 ( 3 October 2009).
- [14]. *Convention on Offences and Certain Acts Committed on Board Aircraft, signed at Tokyo, on 14 September 1963.*
- [15]. *Convention for the Suppression of Unlawful Seizure of Aircraft, signed at The Hague on 16 December 1970.*
- [16]. *Convention for the Suppression of Unlawful Acts Against the Safety of Civil Aviation, signed at Montreal on 23 September 1971.*
- [17]. Government Regulation Concerning Change from State Enterprise (PN) Perhubungan Udara to Limited Company (PT) Garuda Indonesian Airways, Indonesia reg.67/1971(1971);
- [18]. Presidential Decree Concerning National Action Plan to reduce GHG emissions (RAN-GRK) (Pres. Decree No.61 Year 2011).
- [19]. Ministerial Decree Concerning Garuda Indonesian Airways Permit, Ministerial Decree No. T 14/4/4-U (11 July 1961).
- [20]. Ministerial Decree Concerning Routes for PN Merpati Nusantara Airlines. Ministerial Decree No. S. 8/1/2/5-Phb
- [21]. Ministerial Decree Concerning Route Structure of PN Merpati Nusantara Airlines, Ministerial Decree No.S.8/2/5-Mphb ( 13 January 1969).
- [22]. Ministerial Decree Concerning Requirement and Provision of General Aviation Within Republic of Indonesia, Ministerial Decree No.31/U/P/1970 (2 February 1970).
- [23]. Minister Decree Concerning Requirements and Provisions Regarding Using Aeroplane for Commercial Purposes, Ministerial Decree No.SK 13/S/1971( 18 January 1971).
- [24]. Ministerial Decree Concerning Engagement of Air Transport, Ministerial Decree No. KM 81 (2004).
- [25]. Ministerial Decree Concerning Organizing the Air Transportation, Ministerial Decree No.KM25 ( 25 November 2008).

**Others**

- [26]. The 38<sup>th</sup> General Assembly Session
- [27]. Siti Nurbaya Bakar, Indonesian Environment and Forestry Minister. See[https://en.wikipedia.org/wiki/2015\\_Southeast\\_Asian\\_haze](https://en.wikipedia.org/wiki/2015_Southeast_Asian_haze), 2015 Southeast Asian haze From Wikipedia, the free encyclopedia.
- [28]. Dr Sutopo Purwo Nugroho, Indonesian Disaster Management Agency (BNBI), see Wahyudi Soeriaatmadja Indonesia Correspondent In Jakarta and Shannon Teoh Malaysia Correspondent In Kuala Lumpur, On 5 October 2015.
- [29]. Dr Sutopo Purwo Nugroho, Indonesian Disaster Management Agency (BNBI), see Wahyudi Soeriaatmadja Indonesia Correspondent In Jakarta and Shannon Teoh Malaysia Correspondent In Kuala Lumpur, On 5 October 2015.
- [30]. Hishammuddin Hussein, Malaysian Defense Minister (MDM) at the Subang military air base. Detiknews.com reported