

EXTERNAL WORKSHOP REPORT

**Supporting the Development of
a Sustainable and Clean Ports Program
for the Port**

NOVEMBER 2014

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BACKGROUND

Based on the following legal bases:

- I. The programme of Work of UNEP for 2012/2013, subprogramme 1 (*Climate Change*), Expected Accomplishment B (*Low carbon and clean energy sources and technology alternatives are increasingly adopted, inefficient technologies are phased out and economic growth, pollution and greenhouse gas emissions are decoupled by countries based on technical and economic assessments, cooperation, policy advice, legislative support and catalytic financing mechanisms*), Output 3:

Knowledge networks to inform and support key stakeholders in the reform of policies and the implementation of programmes for renewable energy, energy efficiency and reduced greenhouse-gas emissions are established and supported

And

- II. One of the seven transformational initiatives of the Climate and Clean Air Coalition (CCAC) agreed upon at the first meeting of the CCAC High Level Assembly on 24 April 2012 in Stockholm, Sweden and identified as quick-start actions that will ensure rapid delivery of scaled-up climate and clean air benefits by reducing key short-lived climate pollutants (SLCPs), including methane, black carbon (BC) and hydrofluorocarbons (HFCs):

Reducing Black Carbon Emissions from Diesel Heavy Duty Vehicles (HDV) and Engines: The Coalition will work to reduce the climate and health impacts of black carbon and particulate matter (PM) emissions in the transport sector.

United Nations Environment Programme (UNEP) and The Center for Transportation and Logistics Studies (Pustral) mutually signed an agreement for the implementation of program referred as “Supporting the Development of a Sustainable and Clean Ports Program for the Port”.

The program itself is part of continuing work by UNEP in cooperation with Indonesian stakeholders to improve air quality in Indonesia. Started with the successful phasing out of leaded petrol followed by the promotion of fleet management strategies that reduce their environmental impacts (Clean Fleet Management). In addition, UNEP is supporting stakeholders develop policies for improved fuel quality as well as reduced automotive emissions. Hand in hand with these efforts, UNEP is also supporting Indonesia to work on

standards for improving automotive fuel economy which when fully implemented will greatly reduce the CO₂ emissions from Indonesia's transport sector, thus helping to reduce global climate change.

Further, UNEP is implementing a global CCAC initiative aimed at achieving large scale and replicable reductions of BC emissions from the transport sector and in particular heavy duty diesel vehicles and engines. As part of this, UNEP have ongoing projects in Southeast Asia (ASEAN), Africa as well as Latin America and the Caribbean.

The overall objective of this SSFA is to build on the ongoing efforts in Indonesia as well as the ASEAN to improve air quality and mitigate climate change by supporting the reduction of PM/BC emissions related to operations at the Port Tanjung Priok in Jakarta, i.e. emissions from ships, harbor craft, cargo-handling equipment, trucks, trains, etc.

A successfully implemented program to reduce PM/BC emissions at the Port of Tanjung Priok will positively impact the environment, the people that work in the port as well as those that live in neighboring communities. Although the reduction of PM/BC emissions from port operations is of paramount concern, there are other challenges to be addressed when implementing a sustainable and clean ports program e.g. traffic congestion, efficiency of port operations (logistics), solid waste, noise pollution, safety, energy consumption, etc. Therefore, it is critical to link this initiative with ongoing activities/initiatives at the Port of Tanjung Priok to ensure that all the issues are encompassed and addressed in a comprehensive, sustainable and clean ports program.

OBJECTIVES

The development of a sustainable and clean ports program for the Port of Tanjung Priok, Jakarta aims to fulfil several objectives:

- a. Review's result in the form of white paper on international best practices for development of a sustainable and clean port-city program especially within a city master plan framework and in cooperation with the UNEP Transport Unit.
- b. Input from experts and stakeholders on how to gather and analysis data to calculate the baseline AEI at Tanjung Priok.
 - For data that is not readily available, provide data needs assessment to accurately quantify port emissions.
 - Data collected from in-port emission sources (ships, harbor craft, cargo-handling equipment, etc) as well as for sources outside the port e.g.

locomotives and on-road trucks transporting port cargo within a defined Tanjung Priok air shed boundary.

- The emission inventory include oxides of nitrogen (NO_x), carbon monoxide (CO), particulate matter less than 10 microns (PM₁₀) and 2.5 microns (PM_{2.5}) in diameter, Black Carbon (CB) and sulfur dioxide (SO₂).

POINTS OF EXTERNAL STAKEHOLDERS' WORKSHOP AND POINTS OF MEETING WITH DIRECTORATE GENERAL OF SEA TRANSPORTATION, MINISTRY OF TRANSPORTATION

11. There is urgent for need of better documentation system both for the business operation in the port itself and in the port operation regulation system. The emission inventory activities mostly hindered by the lack of readily available accurate data thus resulting the use of assumption. With better documentation, especially electronic documentation will also enable the port operation stakeholders to monitor and achieve much better port operation quality.
12. Access for document and the documentation system itself needs to be improved for ease of data procurement and analysis.
13. Second important thing found during the workshop is that the high number of stakeholders involved in the port business operation required much better cooperation and coordination among them. During the workshop it was revealed that many of the data are either available or partially available but unable to be used due to the difference of standard and function among them. Better coordination and cooperation among stakeholders will enable the data to be used and efficiently analyzed in the future study.
14. Port operator already understand the importance of port electrification to reduce the air emission due to port operation activities, therefore the plan to electrify the terminal is readily available to be implemented.
15. PBM has tried and invested to purchase and operate the loading and unloading equipment with low emissions. But the quality of diesel fuel in Indonesia is not appropriate for the equipment (high sulfur content). While the use of dex diesel fuel is difficult due to it is unavailability in the gas station within the port area. Purchase of stock in large quantities is also hard to do because it will be considered as an illegal hoarding fuel act.
16. The number of empty running truck is still relatively high due to either an empty truck entering the port then exit with or an incoming truck with cargo but goes out in empty condition. To remedy this Truck Booking System (rules for queuing systems) is being developed. In principle it will be pursued in order that truck getting into and out of the TO3 should always carry

payload. The data that will be recorded through this system is very complete including plate number of the vehicle, year of truck manufacture, company's name, driver's name, etc.

17. Better cooperation with INSA will enable better study process in the future especially for the data collection process.
18. Ministry of Transport via Directorate General of Sea Transport is currently preparing regulations for ship fuel specifications to be more environmentally friendly.
19. INSA pointed out the importance of government incentive for port revitalization and modernization with much more modern and environmentally friendly equipment.

POINTS OF MEEETING WITH DIRECTORATE GENERAL OF SEA TRANSPORTATION, MINISTRY OF TRANSPORTATION

1. There are still many Indonesian ships that have not complied with the Marpol rules on Prevention of Pollution from Ships (MARPOL Annex VI).
2. The Emission Inventory study by UNEP-PUSTRAL should be regarded as sensitive information, thus the publication should be carried out carefully.
3. Regulated traffic management within port operation area can be the key in controlling air pollution emission. The example of the ports that have regulate their traffic management is the Surabaya Container Port (Pelindo III) where the trucks must also use gas fuel.
4. To solve the fuel supply problem in port area, Central Government can help to create the procurement regulation of dex diesel fuel so that it pro-industry.
5. There are cooperation with the Ministry of Finance and the Coordinating Minister for Economy to set up tax exemptions or tax reduction as an incentive for the environmentally friendly new trucks.
6. The traffic condition inside Tanjung Priok Port requires them to have a Buffer Zone (a waiting area for a heavy vehicle that will do activity) but this issues always restricted by land acquisition problem.

ANNEX- 1 DOCUMENTATION



The venue of the event



Opening speech from the representative of Tanjung Priok Port Authority



Opening remarks by Mr. Kuncoro



Honorary speech by Mr. David Rubia



Presentation by Prof. Danang Parikesit



Session of Prof. Danang Parikesit's presentation



Presentation by Mrs. Restiti



The representatives from HUBLA, KLH and Dishub



Photo session by all participants



All participants took a picture together



Prof. Danang and Mr. Damantoro discuss with Dishub representative



Pelindo representatives and the Chairman of ALFI discuss each other

ANNEX- 2 MEETING NOTES

Meeting Notes of External Workshop

Venue: Aston Hotel

Dated: July 15, 2014

1. Mrs. Reta – Sea Transportation:

- Power data (specifications) can be obtained from the Port Authority or from the Sea Transportation's website, but it can only be accessed by those who have SIUPAL or SIOPUS.
- Ministry of Transportation via Directorate General of Sea Transportation is currently preparing regulations for ship fuel specifications to be more environmentally friendly.
- The Agency which is responsible on the ship emissions is Hublaadalah Sub-Directorate of Pollution Control – the Ship Directorate.
- Suggests to involve the Port Authority in workshop.

2. Mr. Tarigan – Angsuspel:

- Number of trucks in and out of TO3 can be estimated from number of containers. It is assumed one truck one container.
- Empty running truck is either an empty truck entering the port then exit with or an incoming truck with cargo but goes out in empty condition. Based on Local Government Regulation No. 5 of 2014, the vehicle age limit is 10 years. It is also set incentives from Jakarta City Government for the use of environmentally friendly fuels.

3. The activity doer or the PBM Representatives:

- Consideration of stevedoring equipment selection is from the speed of activity, it is the sooner the better.
- The technology of environmentally friendly tools require a fuel quality that meets the requirements.
- PBM has tried and invested to purchase and operate the loading and unloading equipment with low emissions. But the quality of diesel fuel in Indonesia is not appropriate for the equipment (high sulfur content).
- The use of dex diesel fuel is difficult due to it is unavailability in the gas station within the port area. Purchase of stock in large quantities is also hard to do because it will be considered as an illegal hoarding fuel act.

4. Mr. (Manager of Containers (Peti Kemas) TO3):

- There is a data of truck getting into and out of the port.
- PBM has been instructed to do an equipment electrification (using of power resources) immediately. But it should be anticipated the availability guarantee of the supply of electricity from the State-Owned Electricity Enterprise (PLN).
- The number of empty running truck is still relatively high due to either an empty truck entering the port then exit with or an incoming truck with cargo but goes out in empty condition. To remedy this, Truck Booking System (rules for queuing systems) is being developed. In principle it will be pursued in order that truck getting into and out of the TO3 should always carry payload. The data that will be recorded through this system is very complete including plate number of the vehicle, year of truck manufacture, company's name, driver's name, etc.

5. Mr. Christanto, Jakarta Transportation Agency:

- The Local Government Regulation as a substitute of the Local Regulation on Traffic, etc. is already available.
- The Port Authority and the Port Operator regulate ships and trucks in and out of the harbor.
- The container transport is governed by a Regulation of the Minister.

6. Mr. Prakoso:

- The Ministry of Environment is being in the stage of preparation of the Emissions Inventory. There are already 13 cities that have the Emissions Inventory.
- Ship-in-use under 400 GT has been set its emission load.
- The Ministry of Environment has measured the emission of 40 ships-in-use.
- Suggests to be followed up with a modeling.
- Suggests to add HC pollutants in the emissions inventory.
- Emissions Inventory Guidelines for the Port is being made with three pilot ports: Tanjung Priok, Tanjung Perak and Belawan.

7. Mrs. From ALFI (?) Indonesian Logistics Association:

- Suggests to invite INSA (Indonesia National Shipowners Association) to the discussions.
- Heavy equipment is need to be revitalized but there is no government alignments to provide incentives (for example, a reduction of customs duties, etc.).

Meeting Notes of Discussion
with Secretary of the Directorate General of Sea Transport
Venue: Office of Directorate General of Sea Transport
Dated: July 16, 2014

1. Mr. Junaidi:

- Data of ships specifications can be obtained from the OP if it is known the name and the flag of the ship.
- Emission factors of a truck can be taken from the Regulations that has been issued.
- Emissions inventory and mitigation are being done, but it still not sure by means of calculation.
- Prevention of Pollution from Ships has been set in an international conventions (MARPOL Annex VI).
- There are still many Indonesian ships that have not complied with the Marpol rules on Prevention of Pollution from Ships (MARPOL Annex VI) so it needs to re-powering.
- Regulated traffic management within port operation area can be the key in controlling air pollution emission. The example of the ports that have regulate their traffic management is the Surabaya Container Port (Pelindo III) where the trucks must also use gas fuel.

2. Mr. Rajalis (PKKPJT):

- Emissions inventory has been done to 3 cities.
- Mitigation has also been done but it is still not sure by means of the calculation of emission reduction potency.
- The management of the port will also continue to be improved.
- It is needed traffic management arrangements within the port, for example, providing mass transit for the Ro-Ro passengers who is in general currently use private vehicles to reach the terminal.
- To solve the fuel supply problem in port area, Central Government can help to create the procurement regulation of dex diesel fuel so that it pro-industry.

3. Mr. Gunung (Tanjung Priok Port Authority):

- A traffic management improvement has been pursued in the area of Tanjung Priok Port. Trucks that enter Tanjung Priok Port are about 23,000 per-
- There are cooperation with the Ministry of Finance and the Coordinating Minister for Economy to set up tax exemptions or tax reduction as an incentive for the environmentally friendly new trucks.

- The traffic condition inside Tanjung Priok Port requires them to have a Buffer Zone (a waiting area for a heavy vehicle that will do activity) but this issues always restricted by land acquisition problem (it takes about 25 ha).

4. Mr. Alwan:

- The Emission Inventory study by UNEP-PUSTRAL should be regarded as sensitive information, thus the publication should be carried out carefully.
- Based on IMO, ships are categorized by power, machinery and fuel.
- Which should be calculated is not only exhaust emissions but also VOC (Volatile Organic Compound) or steam from tankers and also refrigerant.

5. Mrs. Rita & Mrs. Ita:

- Study of the Emissions Inventory is specifically for the identification of sources potency has been carried out to 4 ports in 2013.
- In 2014, Emission Inventory to 3 Ports is being conducted by the consultants from UNDIP (Diponegoro University, Semarang).

ANNEX- 3 LIST OF ATTENDEES

WORKSHOP “DEVELOPMENT OF A SUSTAINABLE AND CLEAN PORTS PROGRAM FOR THE PORT OF TANJUNG PRIOK”

PT. PELABUHAN INDONESIA II

- 1. DIRECTOR OF OPERATIONS**
- 2. DIRECTOR OF ENGINEERING**
- 3. DIRECTOR OF COMMERCIAL AND BUSINESS DEVELOPMENT**

PT. PELABUHAN INDONESIA II, BRANCH OF TANJUNG PRIOK

- 4. GENERAL MANAGER OF TANJUNG PRIOK**
- 5. DEPUTY GENERAL MANAGER OF TERMINAL 1 OPERATIONS**
- 6. DEPUTY GENERAL MANAGER OF TERMINAL 2 OPERATIONS**
- 7. DEPUTY GENERAL MANAGER OF TERMINAL 3 OPERATIONS**
- 8. SERVICE MANAGER**
- 9. GUIDANCE MANAGER**
- 10. MANAGER OF ENGINEERING**

Ministry of Transportation

- 11. Director of Traffic and Sea Transport, represented by Mrs. Renta, Section Head of Port Development.**

Minsitry of The Environment

- 12. Assistant Deputy for Air Pollution Control of Moving Sources (Head)**

Government of DKI Jakarta

- 13. Head of Transportation Agency, represented by Mr. Christianto, Section Head of Freight and Train.**

PBM/ Terminal Operator

- 14. Director of PT. Multi Terminal Indonesia represented by Mr. Sulaeman, Manager of Engineering.**

GIZ Sustainable Port Development Project

- 15. Mrs. Monica**

Associations

16. Chairman of Organda (Organization of motorized road transport entrepreneurs, DKI Jakarta, represented by 3 representatives.
17. Chairman of Angsuspel (Special Transport for Port), Organda DKI Jakarta.