

Appendix 11-1: ITWG Meeting

11-1-7 : 7th ITWG Meeting

7th Inter-agency Technical Working Group (ITWG) Meeting

Technical Cooperation Project (TCP) for Capacity Development on Improving Solid Waste Management (SWM) through Advanced/Innovative Technologies

18 November 2022 | 1:00 PM | Friday

Virtual Meeting Setup

TENTATIVE PROGRAMME

TIME	ACTIVITY	SPEAKER
1:00 PM	Philippine National Anthem	SWMD-Project Management Office (PMO)
	Prayer	
1:20 PM	Meeting Objectives, Tentative Agenda, & Acknowledgement of the ITWG Members and Sub-group Members	Ms. Elvira S. Pausing <i>Supervising EMS, EMB-SWMD & Assistant Project Manager, SWMD-PMO</i>
<p>Meeting proper will be presided by: ITWG Chairman - Director William P. Cuñado, EMB-DENR ITWG Co-Chairman- Ms. Ruby B. de Guzman, REMB-BEMD, DOE</p> <p>Welcome Message/Call to Order Adoption of the Agenda</p>		
1:30 PM	Project Output 1: <ul style="list-style-type: none"> Updates on the Project Activities under OP1 For approval: Manual for Planning, Formulation, Evaluation, and Contract Management (PFEC) of WTE Project in the Republic of the Philippines. 	Mr. Makoto Kosaka <i>SWM-PPP Expert</i>
	<ul style="list-style-type: none"> Updates/Status on the endorsement and approval of the following: <ul style="list-style-type: none"> a. Case Study Analysis for BAT and BEP Guidelines b. JAO on the Guidance Document for the Operation of WtE Facilities on Appropriately Controlled Combustion (ACC) 	Ms. Juvinia P. Serafin <i>OIC-Chief, SWMD & Project Manager, SWMD- PMO</i>
1:50 PM	Project Output 2: <ul style="list-style-type: none"> Updates on the Project Activities under OP2 	Mr. Takahiro Kamishita <i>Chief Advisor, JET</i>
	<ul style="list-style-type: none"> Updates/Status of the partner LGUs' WtE Project implementation 	Representatives of partner LGUs: Mr. Lakandiwa Orcullo <i>CCENRO, LGU Davao City</i> Mr. Arlie Gesta <i>CCENRO, LGU Cebu City</i>
2:10 PM	Project Output 3: <ul style="list-style-type: none"> Updates on the Project Activities under OP3 For approval: ERLSD Laboratory SOPs 	Mr. Satoshi Miyaichi <i>EMP/ESC, JET</i>

	<ol style="list-style-type: none"> 1. Determination of Polychlorinated Dibenzo p-dioxins (PCDDs), Polychlorinated Dibenzofurans (PCFs) in Ambient Air by High Resolution Gas Chromatography with Magnetic Sector Mass Spectrometer 2. Determination of Polychlorinated Dibenzo p-dioxins (PCDDs), Polychlorinated Dibenzofurans (PCFs) in Stationary Source Emissions by High Resolution Gas Chromatography with Magnetic Sector Mass Spectrometer 	Mr. Roger Evangelista <i>DENR-ERLSD</i>
2:40 PM	<i>Open Forum (30 mins.)</i>	
3:10 PM	Wrap-up (Issues/Agreements/Way Required Actions/Timelines)	Ms. Andrei Mallare <i>Project Assistant, JET</i>
3:20 PM	Closing Remarks	Ms. Ruby B. de Guzman <i>Chief, Biomass Energy Management Division, REMB, DOE</i>
	<i>Master of Ceremonies</i>	Engr. Roxanne Barcenas <i>Technical Assistant, EMB-SWMD-PMO</i>

1. Updates on the Project Activities under OP1

- The following activities are conducted since last ITWG meeting
 - **Activities 1-6**: Prepare manual for planning, evaluation, formulation and supervision for WTE projects and improve evaluation criteria of EMB for 10-year SWM plans
 - **Activities 1-7**: Illustrate Model Procedure to Introduce WTE Facility
 - **Activities 1-8**: Review and update the existing regulations of sanitary landfill for municipal solid waste where incineration ash will be disposed of

1. Updates on the Project Activities under OP1

- 13th Subgroup meeting for Output1 (October 5, 2022)
 - **The Manual for Planning, Evaluation, Formulation, and Supervision of WTE project was presented** including model procedure to introduce WTE facility, which had been updated based on the comments from SG member (Activities 1-6, 1-7)
 - JET to respond to NEDA comments.
The meeting between NEDA and JICA was held on November 2 to confirm manual modifications for NEDA comments
 - **Recommendations was shared** on the existing regulations of sanitary landfill (as results of Activities 1-8).
 - No technical comment was provided from SG members.
No comment from EMB/HWMS while the recommendation was shared with EMB/HWMS for their review, which was suggested by Ms. Raquel Reyes.

4. NEDA comments #2 and Update Plan for Ver.6.1,

Chapter/Table of Contents (In Ver.4)	Page Number(s) (of Ver.4)	NEDA-IS Comments	JET Response	Remark
Chapter 2: Positioning the various plans regarding the development of waste treatment facilities (WTFs)	24	<p>Item No. 2: Features of Selection Methods</p> <ul style="list-style-type: none"> Considering that the proposed framework for the selection methods of procuring consultants is based on laws established by the Japanese Government, JICA may be requested to conduct an assessment of the framework, whether it is in agreement with or relevant to the Government Procurement Reform Act (GPRA). The coverage of selection methods may be expanded to include allowable and alternative modes of procurement consistent with the national laws and regulations other than the Japanese methods. 	<p>Thank you for your comment. We agree on it. However, most of this section is moved to "Appendix A. CONSIGNMENT OF PROFESSIONAL ENGINEER" in Ver. 5 as the Secretariat in Japan. So, determine if such reference information in Japan is still considering limited project period, we are not able to conduct the gap analysis at this time.</p> <ul style="list-style-type: none"> Not Addressed (we defer to DENRY (the Secretariat of Environmental Agency)) 	

Comment #2: Selection methods of procuring waste treatment consultant
 (1) Features of selection methods
 There are four types of selection methods for Waste Treatment Consultants: Proposal, Comprehensive evaluation for Quality and Cost Based Selection as (OCBS), Competitive bidding (Price Bid), and no-bid contract (negotiation).
 According to Figure 7-1, at LG level in Japan, competitive bidding accounted for about 71% of all selection bids, and no-bid contracts accounted for about 24%. However, in recent years, the method of comprehensive evaluation system (OCBS) is gradually increasing.
 Update plan for Ver.6.1:
 - To assess RA9184 (Government Procurement Reform Act (GPRA)) and its IRR,
 - Section 33 of GPRA IRR introduces Quality-Cost Based Evaluation (OCBE) and QBE (Quality-Based Evaluation) for the highly-specialized types of consulting services,
 - JET's evaluation and recommendation will be supplemented;

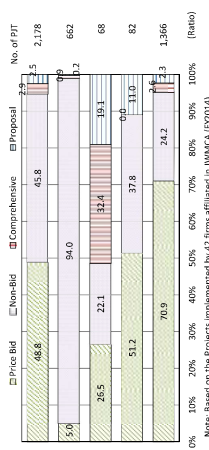
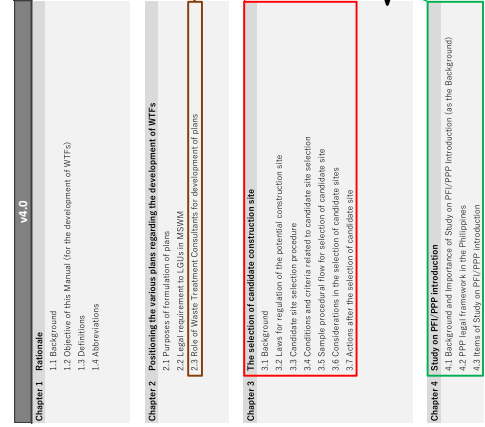


Figure 7-1: Selection method of waste treatment consultant in Japan (FY2014)

5. Next Steps

Activity	C/O	Deadline
Approve PFEC Manual v6 and proposed update plan for v6.1 and endorse to the JCC	ITWG Members	November 18, 2022
Prepare PFEC Manual v6.1 based on the update plan	JET	November 23, 2022
Disseminate PFEC Manual v6.1 to the JCC members	EMB-SWMD-PMO	November 23, 2022
Present PFEC Manual v6.1 to JCC members for approval	JET	November 25, 2022

Restructuring of Chapters



Restructuring of Chapters

Chapter	Version	Chapter	Version
Chapter 5	v4.0	Chapter 3	v5.0
Chapter 6	v4.0	Chapter 5	NEW
Chapter 7	v4.0	Chapter 6	NEW
Chapter 8	v4.0	Chapter 7	NEW
Chapter 9	v4.0	Chapter 8	NEW

2023/1/26

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Draft Manual for the Planning, Formulation, Evaluation and Contract Management of WTE Projects

- 1. Rationale
 - 1.1 Background
 - 1.2 Objective of the Manual (for the development of WTEs)
 - 1.3 Consignment of Professional Engineer
 - 1.4 Access to the Project Development Finances
 - 1.5 Definitions
 - 1.6 Abbreviations
- 2. Planning Phase
- 3. Formulation Phase
- 4. Evaluation Phase
- 5. Contract Management Phase
- 6. Dismantling of WTE-ACC

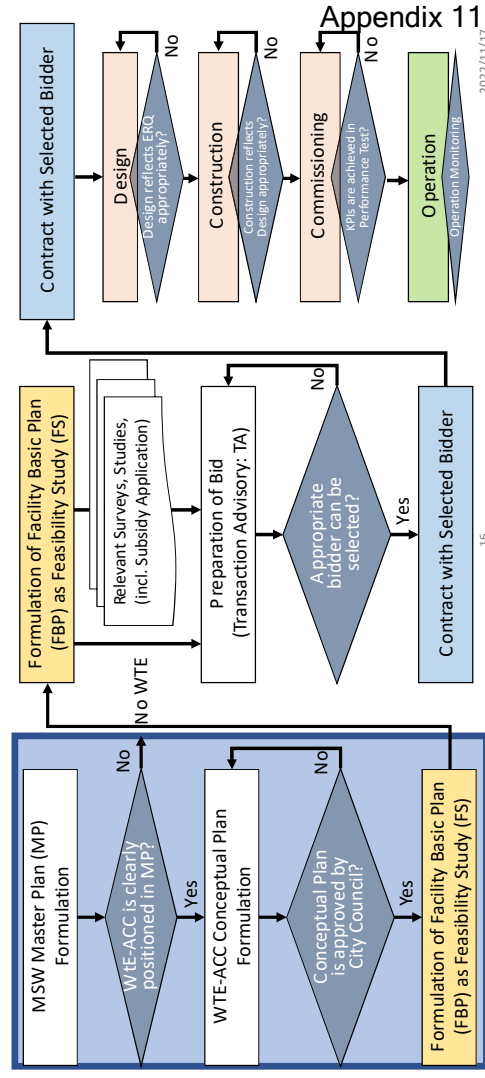
- Appendix

Draft Manual for the Planning, Formulation, Evaluation and Contract Management of WTE Projects

Chapter 1	Rationale
Chapter 2	Planning Phase <ul style="list-style-type: none"> 2.1 Components of the Planning Phase 2.2 Legal requirement to LGUs in MSWM 2.3 Positioning of 10-year Solid Waste Management Plans 2.4 Facility Conceptual Plan 2.5 The selection of candidate construction sites
Chapter 3	Formulation Phase
Chapter 4	Evaluation Phase
Chapter 5	Contract Management Phase
Chapter 6	Dismantling of WTE-ACC
Appendix	

1. Planning Phase

WTE Project Procedure



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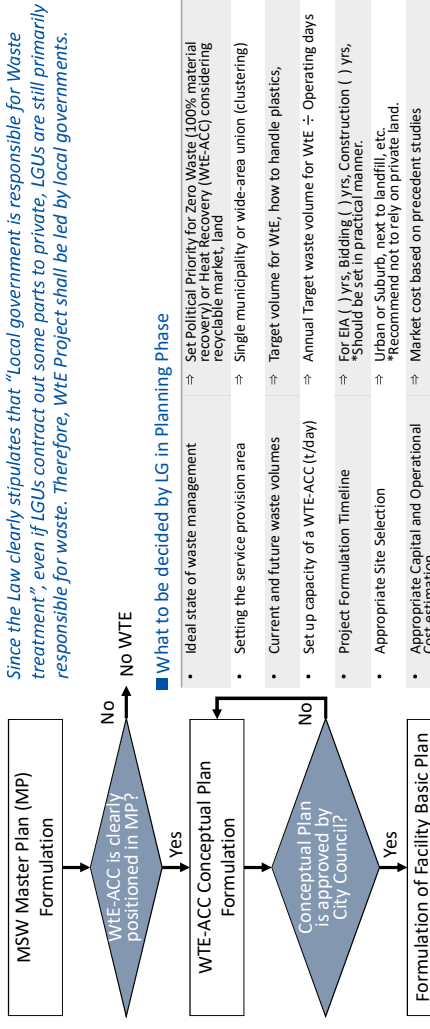
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1. Planning Phase

(1) Procedure of WtE Project Planning

Since the Law clearly stipulates that "Local government is responsible for Waste treatment", even if LGUs contract out some parts to private, LGUs are still primarily responsible for waste. Therefore, WtE Project shall be led by local governments.



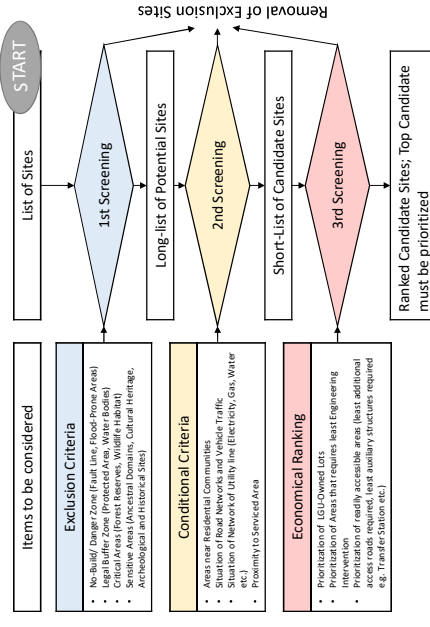
What to be decided by LG in Planning Phase

- Ideal state of waste management ⇒ Set Political Priority for Zero Waste (100% material recovery) or Heat Recovery (WtE-ACC) considering recyclable market, land
- Setting the service provision area ⇒ Single municipality or wide-area union (clustering)
- Current and future waste volumes ⇒ Target volume for WtE, how to handle plastics,
- Set up capacity of a WtE-ACC (t/day) ⇒ Annual Target waste volume for WtE ÷ Operating days
- Project Formulation Timeline ⇒ For EIA () yrs, Bidding () yrs, Construction () yrs, Should be set in practical manner.
- Appropriate Site Selection ⇒ Urban or Suburb, next to landfill, etc.
- Appropriate Capital and Operational Cost estimation ⇒ *Recommend not to rely on private land. ⇒ Market cost based on precedent studies

→ The WtE-ACC Conceptual Plan must be approved by City Mayor/Council.

1. Planning Phase

(2) Recommended Site Selection Procedure for WtE (Tentative)



- | | |
|-------------------------------|--|
| Items to be considered | Exclusion Criteria |
| | <ul style="list-style-type: none"> • No-Build/ Danger Zone (Fault Line, Flood-Prone Areas) • National Natural Monuments (National Park, etc.) • Critical Areas (Forest Reserves, Wildlife Habitat) • Sensitive Areas (Ancestral Domains, Cultural Heritage, Archaeological and Historical Sites) |
| | Conditional Criteria |
| | <ul style="list-style-type: none"> • Areas near Residential Communities • Situation of Road Networks and Vehicle Traffic • Intervention of Network of Utility line (Electricity, Gas, Water etc.) • Proximity to Served Area |
| | Economical Ranking |
| | <ul style="list-style-type: none"> • Prioritization of LGU-Owned Lots • Prioritization of Areas that requires least Engineering Intervention • Identification of readily accessible areas (least additional access roads required, least auxiliary structures required e.g. Transfer Station etc.) |

→ Transparent and Public Involved Process shall be required bcs WtE is NIMBY

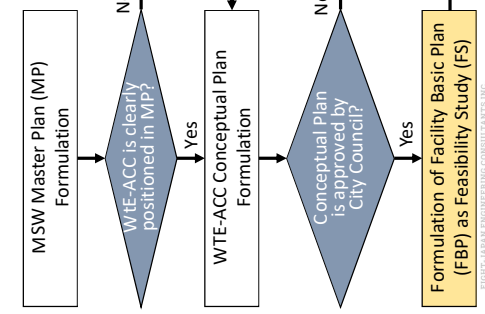
- JET tried to combine some WtE site selection procedures used in Japan and the SLEs site suitability assessment flow of MSWMC2013-64 as left.
- From the list of candidate sites, areas which are prohibited by law for the WtE-ACC construction are excluded in 1st Screening as mandatory exclusion criteria, supported by GIS, etc.
- After that, some conditions set force by the LG and local residents will be removed in the 2nd screening.
- Finally, the evaluation of cost attached to the shortlisted sites will be carried out. An additional iteration of screening considering cost/financial prior to final site ranking is recommended.

Draft Manual for the Planning, Formulation, Evaluation and Contract Management of WtE Projects

1. Rationale
2. Planning Phase
3. Formulation Phase
 - 3.1 Formulation of Feasibility Study (F/S)
 - 3.2 Technology selection
 - 3.3 Target Waste Amount
 - 3.4 Target waste quality
 - 3.5 Pollution prevention standards
 - 3.6 Waste heat utilization
 - 3.7 Financial model (Case of BOT/BOO)
 - 3.8 Business scheme
 - 3.9 Role demarcation
 - 3.10 Value Chain Analysis
 - 3.11 Other Aspects
4. Evaluation Phase
5. Contract Management Phase
6. Dismantling of WtE-ACC
7. Appendix

3. Formulation Phase

(1) WtE Project Procedure

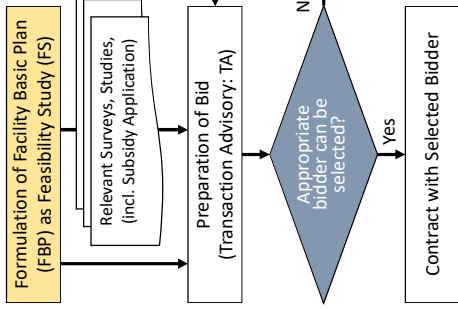


- | | |
|---|---|
| Formulation of Facility Basic Plan (FBP) as Feasibility Study (FS) | Contract with Selected Bidder |
| <ul style="list-style-type: none"> • Relevant Surveys, Studies, (incl. Subsidy Application) • Preparation of Bid (Transaction Advisory: TA) | <ul style="list-style-type: none"> • Design (Design reflects ERQ appropriately?) • Construction (Construction reflects Design appropriately?) • Commissioning (KPIs are achieved in Performance Test?) |
| | Operation |
| | Operation Monitoring |

→ Transparent and Public Involved Process shall be required bcs WtE is NIMBY

3. Formulation Phase

(2) Facility Basic Plan as LGU oriented Feasibility Study



What to be decided by LG in the FS Phase

- Treatment Technology Selection ⇒ Thermal (Stoker, fluidized bed or gasification, etc.) or Non-thermal (Biomethanation, etc.)
- Quantity / Quality of WTE Feedstock ⇒ How much MSW can be "continuously" supplied to WTE? ⇒ How much LCV can be guaranteed? (This is out of control of private proposer)
- Pollution Control Standards (Exhaust gas, Wastewater, Residues, etc.) ⇒ Under Clean Air Act (National Standards), International Standards, and/or Stricter Voluntary Standards?
- Business Scheme ⇒ Monitoring frequency shall also be identified.
- Project cost estimation ⇒ Study on applicability of PPP modality (BOT, BOO or DBO, Concession, JV, etc.)
- Total cost, amount of funds to be procured ... ⇒ Basic concept of task demarcation shall be identified at this phase so that **gov. budget can be forecasted**.
- Role demarcation (Scope of Work) ⇒ Upstream arrangement (Segregation classification, pretreatment, how to deliver segregated waste, etc.)
- Value Chain Analysis (Treatment Process, flow for upstream/downstream) ⇒ Downstream arrangement (Handling of bottom ash and fly ash, disposed at TSD? Monofill?)

⇒ Since there are NO "Zero T/F" WTE projects in the World, LGU shall concept out what LGU can provide and what LGU expects to Private Operator, in such aspect, security of annual expenditure for T/F through project period must be the most important point.

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3. Formulation Phase

(3) Technical : Technology Selection

Thermal / Stoker Incinerator	Thermal / BFB Incinerator
<ul style="list-style-type: none"> Widely applied in the world, Mechanically driven stoker grates sequentially dry, combust and post-combust the waste for 1 to 2 hrs. Bottom ash falls into the ash water-sealed conveyor from the tail end of the stoker together with the incombustibles, and after cooling, it is discharged by a conveyor. Dust (fly ash) which captured in the exhaust gas treatment system contains poisonous components shall be collected, and treated before disposal. 	<ul style="list-style-type: none"> Widely applied in the world. Crushed waste is fed into the fluidized bed of hot sand and dried, burned, and post-combusted almost at the same time (up to a dozen seconds). The ash is discharged from the upper part of the furnace together with the combustion gas and collected as fly ash in the gas cooling chamber and dust collecting equipment.

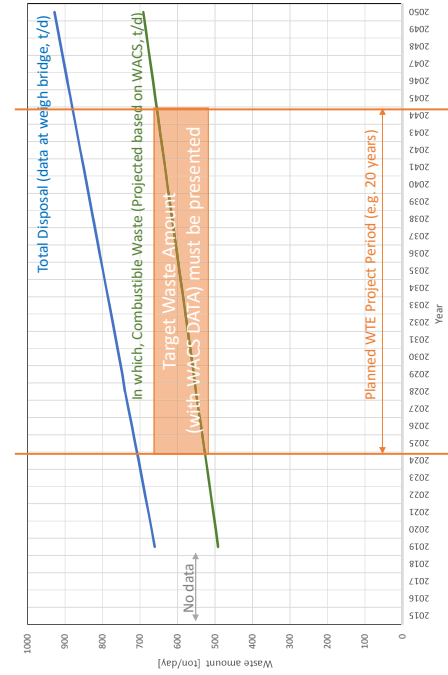
Other MSW Treatment System	Explanations
	<ul style="list-style-type: none"> A technology which the biodegradable waste is anaerobically fermented and obtain combustible biogas. Segregated food waste will be crushed and separated to biodegradable fraction and non-bio fraction. Biodegradable fraction will be fed to digester after pulping, fermented in the digester for 3 weeks then collect digested gas (biogas). Captured biogas can be used for fuel and digested sludge can be utilized after drying. Quantity of sludge might be the problem.
	<ul style="list-style-type: none"> There are several RDFs, following explains about RDF fluff. A technology which the combustible waste is shredded and wrapped to be the alternative fuel. Segregated paper and plastic waste will be further separated manually in the conveyor and air separator. Light combustible fluff will be shredded and wrapped as a cube-shaped fuel (RDF fluff). RDF fluff can be used as fuel at cement kiln, or WTE facility.
	<ul style="list-style-type: none"> A technology which the biodegradable waste is aerobically fermented and converted to compost. Segregated food waste will be manually separated, mechanically crushed (< 5cm) and piled up around 2.5m, add micro-organism for fermentation. Pile will be mixed by wheel loader once in a couple of days and aged for 60 days. Matured compost will be sieved by trommel to be the products,

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⇒ Which kind of system is the most appropriate to address LGU's needs?
 ⇒ It is necessary to avoid to choose "un-proven" technology/provider.

3. Formulation Phase

(4) Technical : Quantity and Quality of Target Waste (to be fed to WTE-ACC)



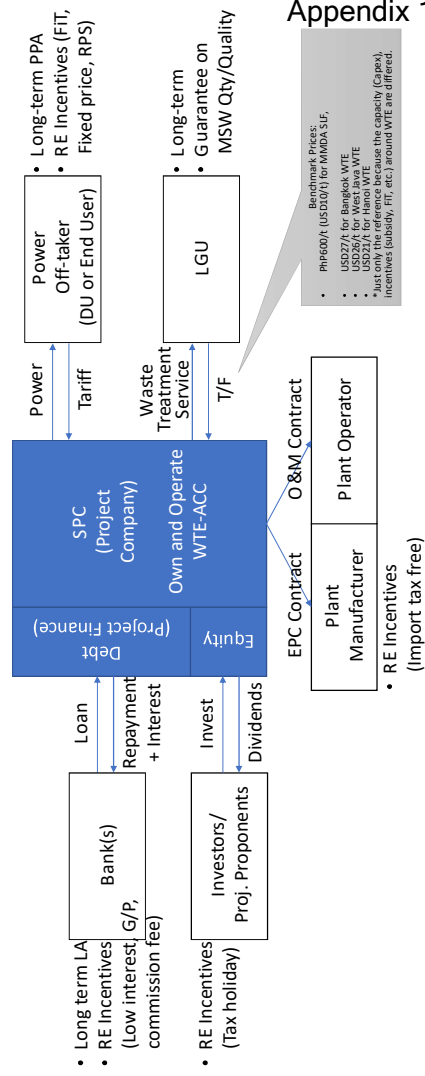
- The planned waste amount is the basis for setting the scale/size of the facility, and is important for the prediction of future amount, and must have high accuracy.
- This Planned waste amount (t/d) x Tipping Fee (PHP/t) must be budgeted in annual basis.
- Considering the recent plastic ban and plastic recycling tech innovation, several scenarios shall be developed and reflected to the WTE project FS.
- In the PPP Contract for WTE, waste quantity as well as quality (LCV) usually guaranteed by LGUs.

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3. Formulation Phase

(5) Financial : Business Model (Case of BOT/BOO)



⇒ To ensure "Bankability" of the Project which is composed of "Financial Viability", "Risk Optimization" and "Contractual Robustness"

Appendix 11

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3. Formulation Phase

(6) Financial : Business Scheme / PPP Modality

PPP Modalities	Role						Owner of Facility		Explanation
	Construction Period			Operation Period			Op. Period	After Op. Period	
	Design	Const.	Finance	Op.	Mt.	Const.			
BOO	Private	Private	Private	Private	Private	Private	Private	Private	PFIs cover BOO/BOT, which Private sector raise funds, design, construct, and operate the facility thru project period.
BOT	Private	Private	Private	Private	Private	Private	Public	Public	Ownership will not be transferred to the public even after the operation period.
BTO	Private	Private	Private	Private	Private	Private	Public	Public	Ownership will be transferred to the public at the end of operation period.
DBO	Public	Public	Public	Private	Private	Public	Public	Public	The public sector raises funds through bonds and grants, and comprehensively outsources the design, construction, operation of the facility to the private.
DBM	Public	Public	Public	Public	Private	Public	Public	Public	The public sector raises funds through bonds and grants, and comprehensively outsources the design, construction, maintenance of the facility to the private.
Public Build + long term O&M contract	Public	Public	Public	Private	Private	Public	Public	Public	The public sector designs and constructs the facility, and the private is entrusted with the operation for multiple years.

3. Formulation Phase

(7) Project Boundary : Role Demarcation / Scope of Work in ASEAN BOT

Category	No	Role	Gov.	SPC
Land Acquisition	1	Project Site and water supply facility		✓
	2	MSW Acceptance Facility (Weighbridge and Registration Office, etc.)		✓
	3	Sample sorting facility (Dumping box, etc.)		✓
	4	Processing system and visitor center		✓
	5	Water supply piping		✓
	6	Adherent Landfill and Leachate Treatment Facility		✓
Design and Construction (including commissioning & testing)	7	Supporting Infrastructure (Road, rainwater drainage, etc.) in MSWIM complex but outside of Waste Treatment Facility Plot		✓
	8	Supporting Infrastructure (Road, rainwater drainage, etc.) in Waste Treatment Facility Plot		✓
	9	MSW supply to site and Unsuitable Waste removal prior to site delivery		✓
	10	Processing system (from MSW weighbridge until residue loading station), visitor center		✓
	11	Water supply		✓
	12	Landfill and Leachate Treatment Site operation including residue transfer to landfill		✓
Operation and Maintenance	13	Supporting Infrastructure (Road, rainwater drainage, etc.) in MSWIM complex but outside of Waste Treatment Facility Plot		✓
	14	Supporting Infrastructure (Road, rainwater drainage, etc.) in Waste Treatment Facility Plot		✓
	15	Land for Project Site		✓
	16	Weighbridge, Registration Office, Sample Sorting, Processing System, visitor center		✓
	19	Water supply facility		✓
	20	Supporting Infrastructure (Road, rainwater drainage, etc.) in TPPAS complex but outside of Waste Treatment Facility Plot		✓
Financing	21	Supporting Infrastructure (Road, rainwater drainage, etc.) in Waste Treatment Facility Plot		✓

➔ Not fully relying on to the Private, roles where LG has specialty should be responsible for LG to secure bankability. 2022/11/17

3. Formulation Phase

3. Formulation Phase

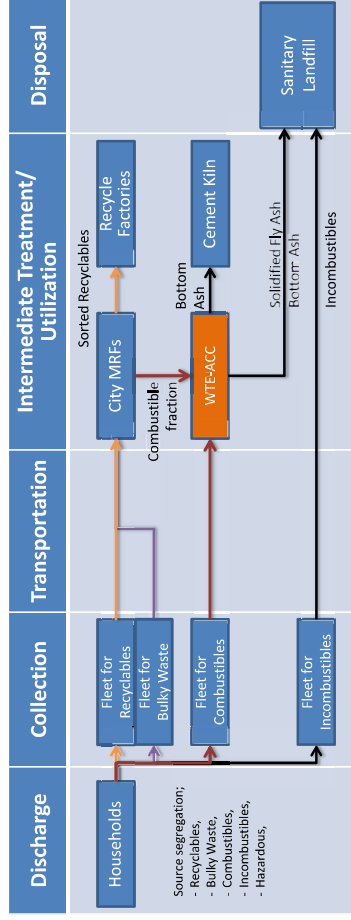
() Project Boundary : Role Demarcation / Scope of Work in Japanese DBO

Phase	Responsibility of LG	Responsibility of Private Partner
Design and Construction Phase	<ul style="list-style-type: none"> ✓ Security of Land ✓ Topographic Survey ✓ Geological Survey ✓ Obtain project approval from government agencies, EIA*, etc. ✓ Application of the permission*, Supervision of Design/Construction*, etc. 	<ul style="list-style-type: none"> ✓ Support LG on Topo/Geo Survey, ✓ Support LG on the documentation for applications to gov. agencies, ✓ Design and Construction of WTE, ✓ Process and disposal of construction waste, ✓ Preparation of manuals for operation*, ✓ Provision of spare parts, etc.
Operation and Maintenance Phase	<ul style="list-style-type: none"> ✓ Delivery of Waste Feedstock, ✓ Sales of Recovered Material, ✓ Monitoring of the operation, etc. 	<ul style="list-style-type: none"> ✓ Reception, weighing, collection of fee, ✓ Operation management (prepare plan, implement, etc.) ✓ Consumables management (prepare plan, procurement, etc.), ✓ Maintenance management (prepare plan, regular inspection, repair, back up, etc.),

Note: In DBO facility will be owned by LG so permissions including EIA usually be secured by LG.

(7) Project Boundary : Value Chain Analysis

Which parts of MSWM are you going to contract out to WTE partner? From Upstream to Downstream?



LEGEND: ➔ : Recyclables, ➔ : Bulky Waste, ➔ : Combustible Waste, ➔ : Incombustible Waste

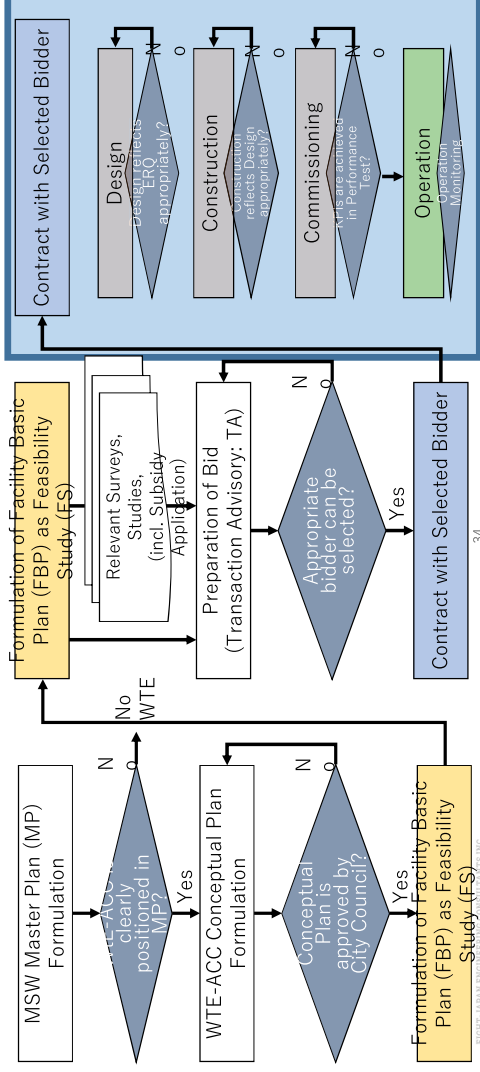
➔ Upstream arrangement (Segregation classification, segregated waste transport) is usually the role of LGU,
 ➔ Downstream arrangement (bottom/fly ash disposal) can be tasked to private but T/F must be increased.

1. Rationale
2. Planning Phase
3. Formulation Phase
4. Evaluation Phase
5. Contract Management Phase Chapter 5 Contract Management Phase
6. Dismantling of WTE-ACC 5.1 Background
7. Appendix 5.2 Purpose of Contract Management

- 5.3 Differences in Business Schemes and Contract Management between Japan and Philippines
- 5.4 Design and Construction Stage
- 5.5 Detailed Procedure in DBO Case and Implication to BOT/BOO;
- 5.6 Operation Phase

5. Contract Management Phase

(1) WtE Project Procedure

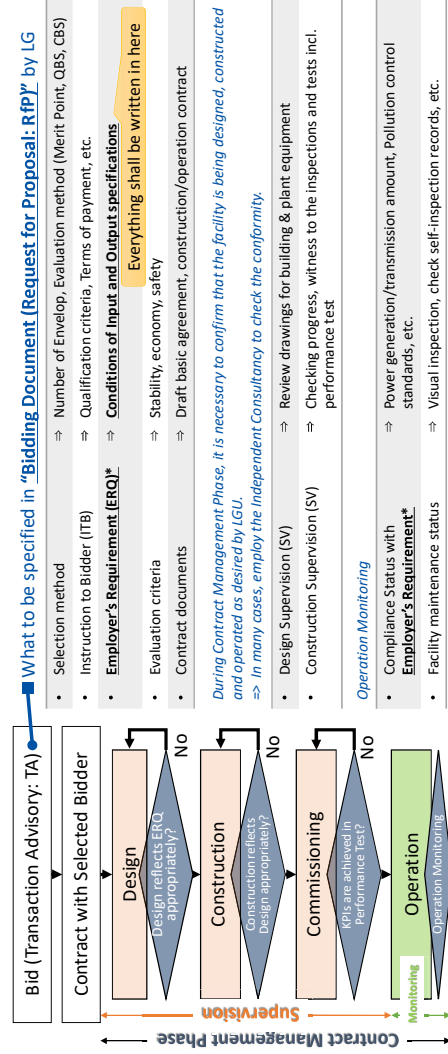


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5. Contract Management Phase

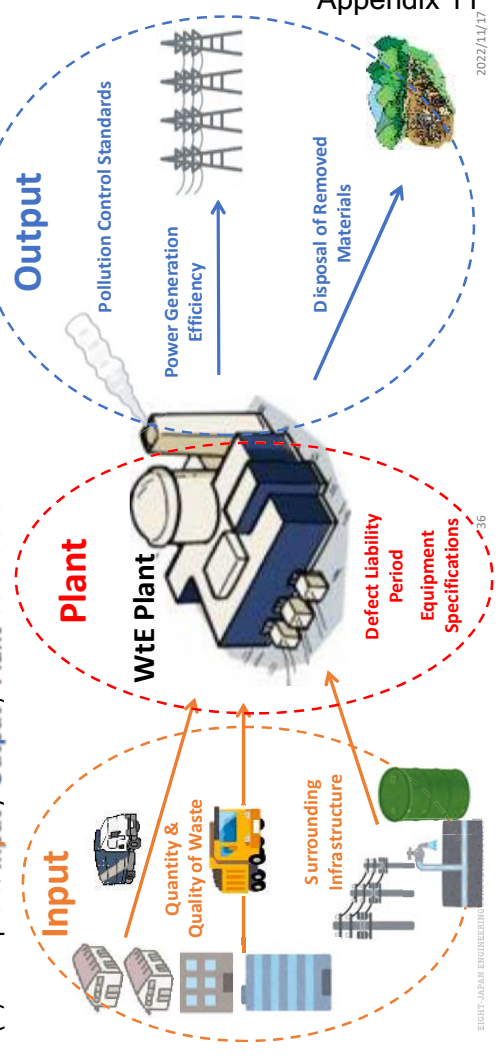
(1) Procedure of Contract Management (in the aspect of LGU)



- Selection method ⇒ Number of Envelop, Evaluation method (Merit Point, QBS, CBS)
 - Instruction to Bidder (ITB) ⇒ Qualification criteria, Terms of payment, etc.
 - **Employer's Requirement (ERQ)*** ⇒ **Conditions of Input and Output specifications**
Everything shall be written in here
 - Evaluation criteria ⇒ Stability, economy, safety
 - Contract documents ⇒ Draft basic agreement, construction/operation contract
- During Contract Management Phase, it is necessary to confirm that the facility is being designed, constructed and operated as desired by LGU.*
- ⇒ In many cases, employ the Independent Consultancy to check the conformity.
- Design Supervision (SV) ⇒ Review drawings for building & plant equipment
 - Construction Supervision (SV) ⇒ Checking progress, witness to the inspections and tests incl. performance test
- Operation Monitoring*
- Compliance Status with **Employer's Requirement*** ⇒ Power generation/transmission amount, Pollution control standards, etc.
 - Facility maintenance status ⇒ Visual inspection, check self-inspection records, etc.

5. Contract Management Phase

(2) Example of Input / Output / Plant Conditions



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5. Contract Management Phase

(2) Example of **Input / Output / Plant** Conditions

Main contents of "Employer's Requirement (ERQ)" in Bidding Document

(A) COMMON	(B) CONSTRUCTION	(C) OPERATION
1. Capacity of the Facility, Project scheme	1. Quantity and quality of waste	1. Project implementation structure
2. Construction Site, Area	2. Performance Guarantee Matters;	2. Development of manuals and plans
3. Project period, time schedule	(1) Power generation efficiency	3. Operation and maintenance contents;
4. Topography and geology conditions	(2) Pollution control standards, etc.	(1) Operation management
5. Surrounding infrastructure, city planning related matters	3. Performance guarantee method	(2) Inspection, testing, repair and renewal
	4. Defect Liability Period	(3) Disposal of removed materials
	5. Equipment specifications	(4) Information management
	(1) Mechanical equipment specifications	4. Handling after the Project Period
	(2) Electrical instrumentation equipment specifications	
	(3) Civil engineering and building works specifications	

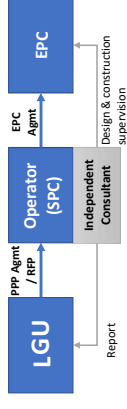
Source: Outline of WTE Technology and Requirements for WTE Project (JICA-TCP Online Training, 10Dec2021)

5. Contract Management Phase

(3) Relationship among LGU, Operator (SPC) and EPC contractor

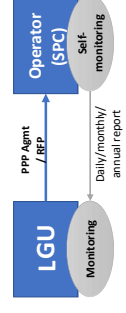
Design/Construction Supervision:

- In the design/construction phase, LGU, the client of the Project, directly or indirectly through (SPC) monitor the design and construction of EPC contractor's drawings, as well as the work plan for commissioning and performance test.
- The purpose of monitoring is to confirm, through approval and confirmation of drawings and implementation of inspections and tests, whether the construction work is planned and executed in accordance with the agreement, RFP, and the project proposal.



Operation Monitoring:

- In the operation phase, the purpose of monitoring is to provide citizens with high-quality public services based on an appropriate division of roles between the LGU and the Operator (SPC) by monitoring and confirming the implementation status of various tasks related to the operation and reflecting the results in the payment of fees.



*Specific rules and procedures shall be designed in Contract Management Manual

➔ Even though BOT/BOO, LGU can design the level of intervention to the Private Partner's role because this is Public Project.

5. Contract Management Phase

(3) Design and Construction Supervision / 4 PPP case studies in Japan

DBO (K union, 2019)	BOT (N city, 2019)	BOO (K city, etc., 2019)
<p>Contract/Requirement level documents</p> <p>Design & Construction Supervision (Approve)</p> <p>DBO/Contractor</p> <ul style="list-style-type: none"> No SPC. No monitoring on the business side. The union supervisor approves the various drawings and procedures. When the union lacks the capacity, it outsources the work. The consent of the union is a condition for proceeding to the next step. 	<p>Member, Council, etc. (Special Approval)</p> <p>Contract, etc.</p> <p>SPC (BTO)</p> <p>Contract</p> <p>EPC</p> <p>Design & Construction Supervision (Approve)</p> <ul style="list-style-type: none"> City asks SPC to hire supervising company. The supervising company (supervisor) approves the various drawings. Only the list of approved books and test procedures are approved by the city. Other drawings are reported* by SPC to the city. When the city lacks the capacity, it outsources the work. 	<p>Contract, etc.</p> <p>PFI entity (SPC)</p> <p>Contract</p> <p>EPC</p> <p>Design & Construction Supervision (Approve)</p> <ul style="list-style-type: none"> The city requests SPC to supervise the construction. Supervisor of SPC approves the various drawings. Report and obtain confirmation* of the approved documents from SPC to the city.
<p>Contract, etc.</p> <p>Municipality confirm</p> <p>SPC</p> <p>Contract</p> <p>EPC</p> <p>Design & Construction Supervision (Confirm)</p> <ul style="list-style-type: none"> The union requests SPC to supervise the construction. SPC approves the various drawings. Report and obtain confirmation* of the approved documents from SPC to the city. 	<p>Contract, etc.</p> <p>Municipality confirm</p> <p>SPC</p> <p>Contract</p> <p>EPC</p> <p>Design & Construction Supervision (Approve)</p> <ul style="list-style-type: none"> The city requests SPC to supervise the construction. Supervisor of SPC approves the various drawings. Report and obtain confirmation* of the approved documents from SPC to the city. 	<p>Contract, etc.</p> <p>Municipality confirm</p> <p>SPC</p> <p>Contract</p> <p>EPC</p> <p>Design & Construction Supervision (Approve)</p> <ul style="list-style-type: none"> The city requests SPC to supervise the construction. Supervisor of SPC approves the various drawings. Report and obtain confirmation* of the approved documents from SPC to the city.

5. Contract Management Phase

(4) Design and Construction basic approach to construction monitoring

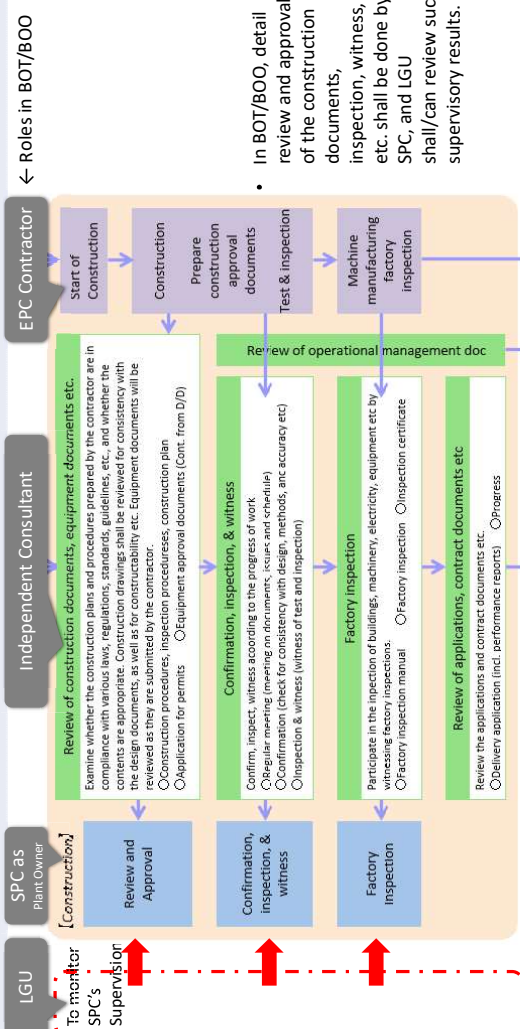
- In general, WTE-ACC facilities are ordered under the lump-sum design-build (performance order) system, so LGU shall confirm that the contents specified in the RFP are reflected in the design documents.
- LGU shall confirm that the work is being performed in accordance with the approved design documents.
- The facilities must be developed to reflect the intentions and requirements of the client, keeping in mind that they are environmental infrastructure facilities that provide public services over a long-term operational period.
- This is a public project led by the private sector, and the private sector's ingenuity and know-how must be used to the maximum extent possible.
- Quality control must be carried out by project operators to ensure that only economic efficiency is not pursued, such as the use of poor quality materials, poor quality construction, and economic design.
- Each process must be prevented from being delayed without clear and unavoidable reasons, and the provision of public services must be prevented from being delayed.
- When applying for subsidies, etc., the progress and completion of construction must be confirmed and reported in an appropriate and transparent manner.
- The commissioning of facilities, performance tests and various inspections and completion inspections must be carried out properly in accordance with predetermined methods.

2022/11/17

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3. Contract Management Phase

(4) Design and Construction Supervision / Detail Procedure in DBO Case / and Implication of BOT/BOO; C

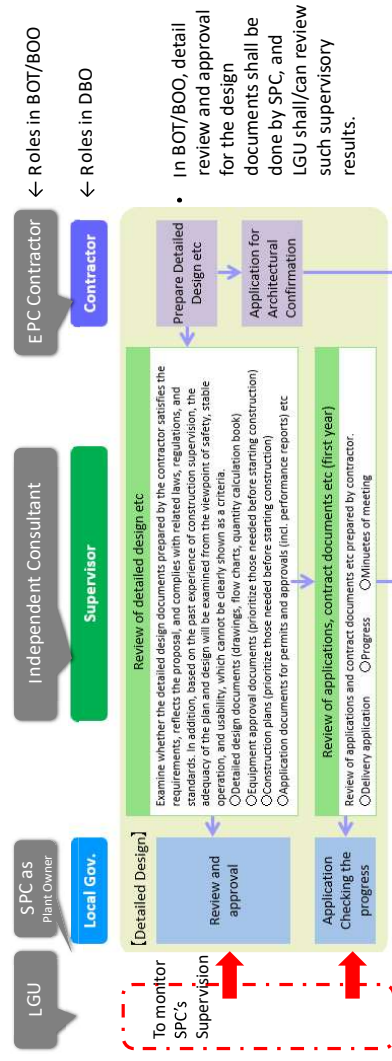


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3. Contract Management Phase

(5) Design and Construction Supervision / Detail Procedure in DBO Case / and Implication of BOT/BOO;

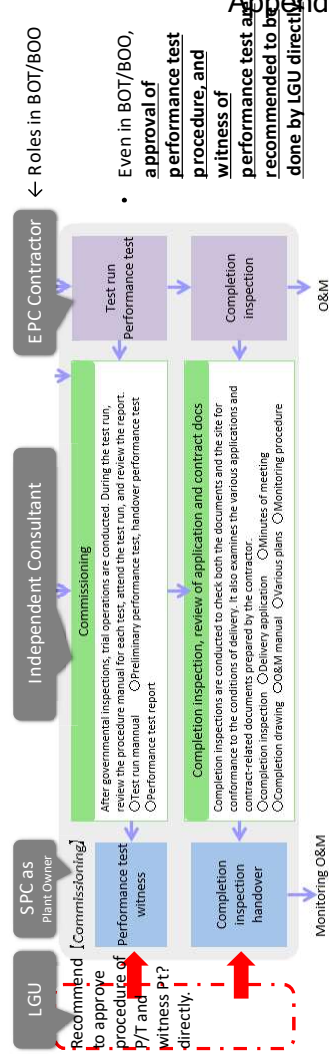


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BOET-JAPAN ENGINEERING CONSULTANTS INC.

3. Contract Management Phase

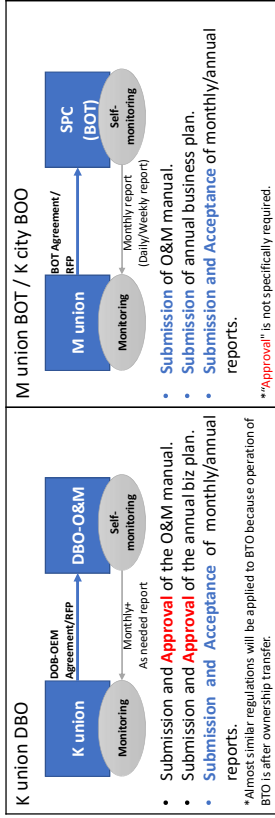
(5) Design and Construction Supervision / Detail Procedure in DBO Case / and Implication of BOT/BOO;



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BOET-JAPAN ENGINEERING CONSULTANTS INC.

(6) Operation Monitoring / 3 PPP case studies in Japan

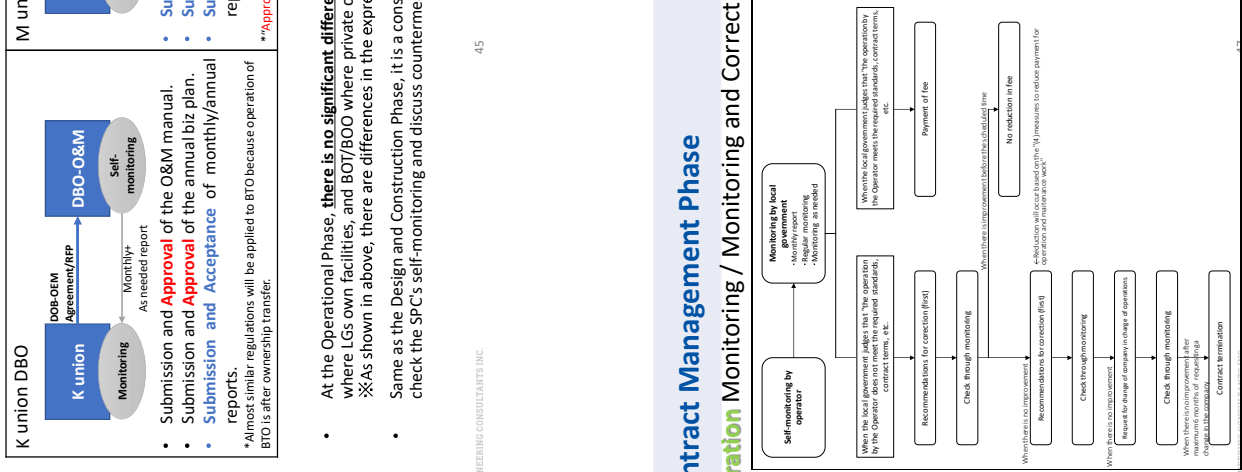


- At the Operational Phase, there is no significant difference in the RFP documents between DBO/BTO where LGs own facilities, and BOT/BOO where private companies own facilities.
 - ※As shown in above, there are differences in the expressions used for "Acceptance" or "Approval".
- Same as the Design and Construction Phase, it is a considerable matter if to assign experts who can check the SPC's self-monitoring and discuss countermeasures when any problems occur.

(6) Operation Monitoring / List of Documents to be requested to prepare to SPC

Name of Works / Period applied for	Description	Manuals			Work Plans for the period determined period (All annual, monthly) based on the requirements in Manuals			Reports correspond to the work plans
		Through Operation Period	Through Operation Period	Through Operation Period	Annually	Monthly	Monthly	
1. Operational Management (Operation Works)	Operational Management Manual	Operational Management Manual	Annual Operation Plan (AOP) (Included in AOP)	Monthly Operation Plan (Included in above)	Annual Operation Report (AOR) (Included in AOP)	Monthly Operation Report (Included in AOP)	Annual/Quarterly Operation Report (AOR) (Included in AOP)	
2. Maintenance Management (Prevention, Check and Repair)	Maintenance Management Manual	Inspection, maintainable MSW (Included in AOP)	Annual Maintenance Plan (Included in AOP)	Monthly Maintenance Plan (Included in above)	Annual Maintenance Report (Included in AOP)	Monthly Maintenance Report (Included in AOP)	Annual/Quarterly Maintenance Report (Included in AOP)	
3. Environmental Management (Environmental Protection)	Environmental Management Manual	Emergency Response Manual (Included in AOP)	Annual Environmental Protection Plan (Included in AOP)	Monthly Environmental Protection Plan (Included in above)	Annual Environmental Protection Report (Included in AOP)	Monthly Environmental Protection Report (Included in AOP)	Annual/Quarterly Environmental Protection Report (Included in AOP)	
4. Emergency Response (Others)	Emergency Response Manual	Emergency Response Manual (Included in AOP)	Annual Emergency Response Plan (Included in AOP)	Monthly Emergency Response Plan (Included in above)	Annual Emergency Response Report (Included in AOP)	Monthly Emergency Response Report (Included in AOP)	Annual/Quarterly Emergency Response Report (Included in AOP)	
5. Safety Management (Fire Prevention)	Safety Management Manual	Safety Management Manual (Included in AOP)	Annual Safety Management Plan (Included in AOP)	Monthly Safety Management Plan (Included in above)	Annual Safety Management Report (Included in AOP)	Monthly Safety Management Report (Included in AOP)	Annual/Quarterly Safety Management Report (Included in AOP)	
6. Quality Management (Quality Control)	Quality Management Manual	Quality Management Manual (Included in AOP)	Annual Quality Management Plan (Included in AOP)	Monthly Quality Management Plan (Included in above)	Annual Quality Management Report (Included in AOP)	Monthly Quality Management Report (Included in AOP)	Annual/Quarterly Quality Management Report (Included in AOP)	
7. Training Management (Education and Training)	Training Management Manual	Training Management Manual (Included in AOP)	Annual Training Management Plan (Included in AOP)	Monthly Training Management Plan (Included in above)	Annual Training Management Report (Included in AOP)	Monthly Training Management Report (Included in AOP)	Annual/Quarterly Training Management Report (Included in AOP)	

(7) Operation Monitoring / Monitoring and Corrective Action



(7) Operation Monitoring / Monitoring and Corrective Action

- Flow of Monitoring and Corrective Action in Operation Phase (example of DBO project in Japan).
- Based on self-monitoring by business operator, the monitoring method/frequency and evaluation criteria for LGU are stipulated.
- Check-sheet (draft)

Draft Manual for the Planning, Formulation, Evaluation and Contract Management of WTE Projects

1. Rationale
2. Planning Phase
3. Formulation Phase
4. Evaluation Phase
5. Contract Management Phase
6. Dismantling of WTE-ACC
 - Chapter 6 Dismantling of WTE-ACC
 - 6.1 Dismantling of WTE-ACC
 - 6.2 Dismantling manual
 - 6.3 Estimation of dismantling costs and financial resources
7. Appendix

6. Dismantling of WTE-ACC

Dismantling manual

- Revisions of the Occupational Safety and Health Regulations, Outline of Measures, and the Waste Incineration Facility Dismantling Work Manual

Method of dismantling

- Dismantling work must be conducted according to the stipulation, starting with the maintenance of the promotion system as described in the Dismantling Manual and notifying the Labor Standards Inspection Office of the plan

Estimation of dismantling costs and financial resources

- the number of companies dismantling and the actual records of dismantling work are increasing, and it is possible to estimate the appropriate level of cost.

Draft Manual for the Planning, Formulation, Evaluation and Contract Management of WTE Projects

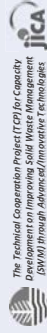
1. Rationale
2. Planning Phase
3. Formulation Phase
4. Evaluation Phase
5. Contract Management Phase
6. Dismantling of WTE-ACC

7. Appendix

Chapter 7 Appendix

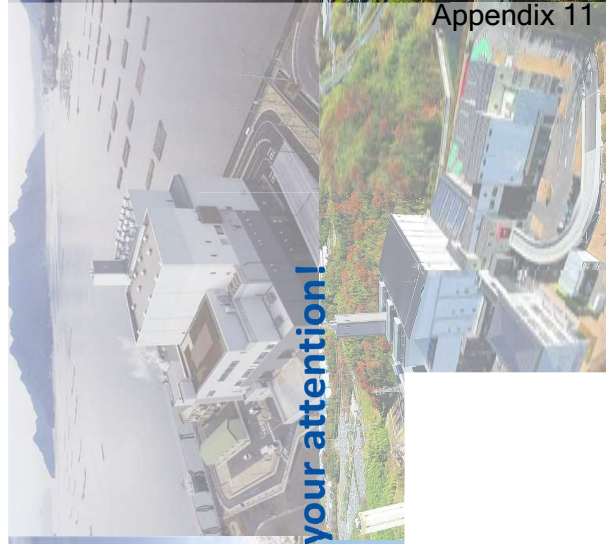
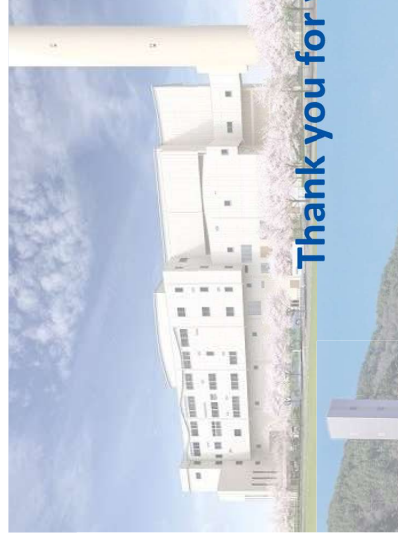
- A: Consignment of Professional Engineer
- B: Applications/Notifications to the Governments (Example in Japan)
- C: General Structure of WTE/WTF
- D: WTE-ACC as a Stable Power Source Cases in Japan
- E: Safety Measures
- F: Responsiveness to Disaster Waste

7. Appendix



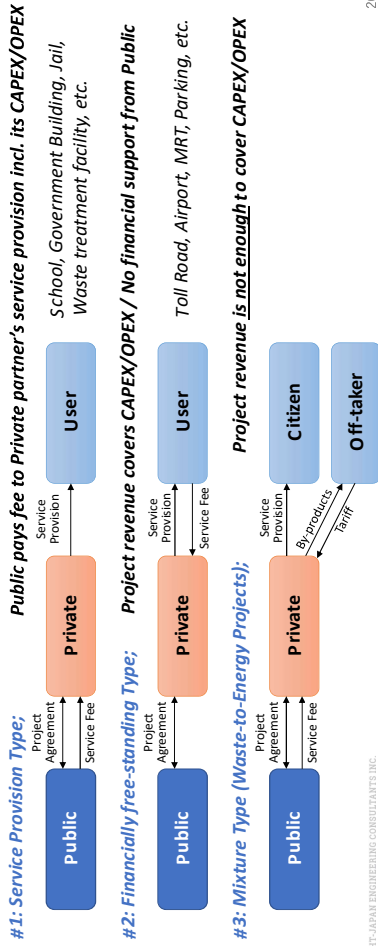
The following sections consist of the Appendix, which highlight the examples and suggestable issues associated in the development of this guide

- ❖ **A: Consignment of Professional Engineer**
- ❖ **B: Applications/Notifications to the Governments (Example in Japan)**
- ❖ **C: General Structure of WTE/WTF**
- ❖ **D: WTE-ACC as a Stable Power Source Cases in Japan**
- ❖ **E: Safety Measures**
- ❖ **F: Responsiveness to Disaster Waste**

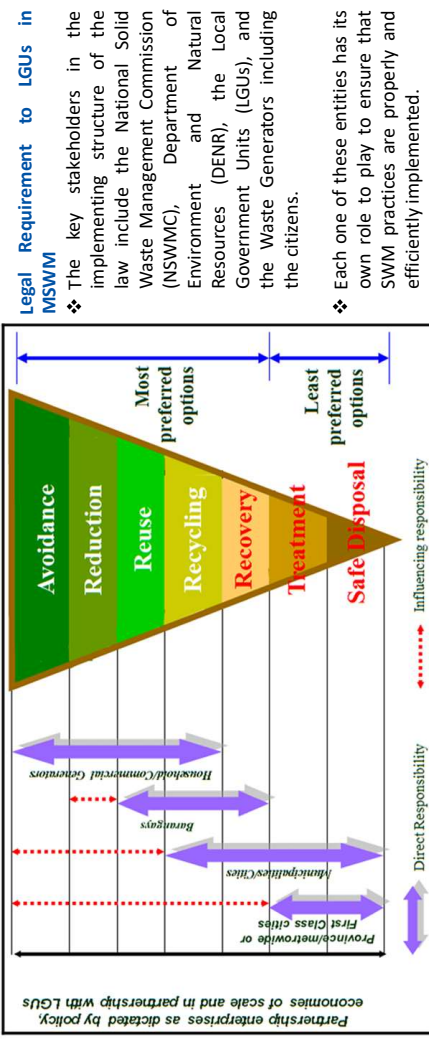


2. WTE Project Development, (2) Correct understanding of Waste Management PPP,

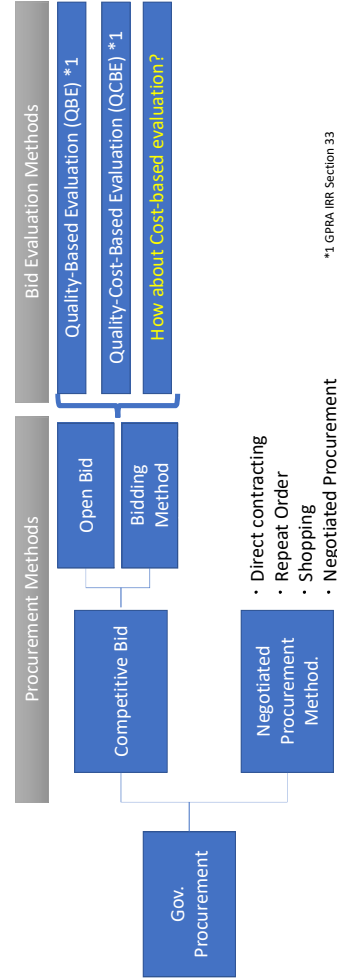
- ✓ There are 3 types of PPP projects, #1: Service provision, #2: Financially free-standing, and #3 Mixed, in general, waste treatment facilities are categorized in #1 and WTE is categorized in #3. They never fall into #2, However, in many private proposals say "no tipping fee", "power tariff covers all CAPEX/OPEX", etc. and never realize. LGUs shall have correct understanding of Waste-to-Energy financial situation in other countries.



2. Planning Phase



Under development



*1 GPRA IRR Section 33



TECHNICAL COOPERATION PROJECT
(TCP) FOR CAPACITY DEVELOPMENT ON
IMPROVING SOLID WASTE MANAGEMENT
(SWM) THROUGH ADVANCED/
INNOVATIVE TECHNOLOGIES



7th INTER-AGENCY TECHNICAL WORKING GROUP (ITWG) MEETING

UPDATES/STATUS OF THE ENDORSED CASE STUDY ANALYSIS FOR BAT/BEP GUIDELINES

18 NOVEMBER 2022 | FRIDAY | 1:00 PM | MS TEAMS

THANK YOU

UPDATES

- EMB-SWMD-PMO prepared a CSW for the endorsement of the ITWG and JICA approved Case Study Analysis for BAT/BEP Guidelines to EMB.
- The CSW, including the signed JCC Minutes, and the final copy of the Case Study Analysis for BAT/BEP Guidelines, was endorsed directly to the office of Undersecretary Jonas R. Leones and was signed on 29 June 2022.
- Signed/approved copy of the Case Study Analysis was emailed to DOE and JICA on July 1, 2022.
- The Case Study Analysis will be officially used by EMB as a guide document in preparing the formal policy on BAT/BEP Guidelines.
- Formal policy development – 1st quarter of CY 2023



TECHNICAL COOPERATION PROJECT
(TCP) FOR CAPACITY DEVELOPMENT ON
IMPROVING SOLID WASTE MANAGEMENT
(SWM) THROUGH ADVANCED/
INNOVATIVE TECHNOLOGIES



7th INTER-AGENCY TECHNICAL WORKING GROUP (ITWG) MEETING

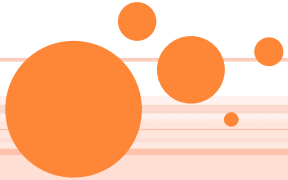
FINALIZATION AND ENDORSEMENT OF THE JOINT ADMINISTRATIVE ORDER (JAO) ON THE GUIDANCE DOCUMENT FOR THE OPERATION OF WTE FACILITY ON APPROPRIATELY CONTROLLED COMBUSTION (ACC)

18 NOVEMBER 2022 | FRIDAY | 1:00 PM | MS TEAMS

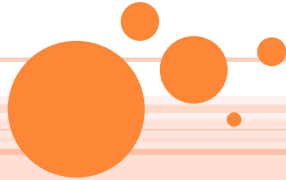


UPDATES

- The ITWG and JICA-approved Guidelines for the T/S of WtE Facility was deliberated during the EPTWG Meeting last July 15, 2021.
- It was unanimously agreed by the EPTWG members that the document shall be formulated as a JAO, instead of a DAO, amongst DENR, DOE, and DOST noting that several provisions on the document were outside the mandates of EMB.
- The SWMD-PMO drafted the JAO and was able to receive concurrence from DOST and DOE on March 24, 2022.
- The final draft JAO was endorsed to EPTWG for further deliberation.
- On 12 August 2022, the draft JAO was presented to the EPTWG.
- Consultation/Write shop will be conducted with HWMS – tentatively scheduled last week of November 2022.



THANK YOU





Contents

1. Coordination with LGUs,
2. Coordination activities with PPPC,

7th Inter-Agency Technical Working Group

(ITWG)

Output2 (OP2): Target LGUs' capacity on planning, evaluation, formulation & supervision of WTE projects is enhanced.

Updates on the Project Activities

under OP2

November 18, 2022

1

1. Coordination with LGUs

- Meeting with Representatives of LGU Quezon City and LGU Cebu City
- **Quezon City: August 5, Meeting with Department of Sanitation and Cleanup Works**
 - The decision on the WTE project is still being discussed in LGU
 - The invitations for the project activities are acceptable for the city. No commitment by the city to the TCP because MOU has not been signed.
- **Cebu City: August 11, Meeting with Mayor Rama**
 - The MOU signed by former Mayor has to be reviewed and approved by the new City Council
 - Mayor acknowledged that activities and support of the TCP are beneficial to the city
 - Mayor instructed for Cebu City to continue to collaborate in the TCP activities through CCENRO

1. Coordination with LGUs

- Activity with LGU Davao City
JET visited the LGU for meetings, discussions, and site visits
 - June 7
 - Discussion and confirmation of cooperation needs
 - The city expressed needs of JET support through provision of supplementary explanation materials to NEDA-FCC regarding their WTE project
 - Technical input to develop new sanitary landfill receiving WTE ash was discussed
 - July 12
 - Support to sanitary landfill procurement was confirmed. JET and DC highlights that the development of the Landfill for WTE ash is indispensable for the WTE operation.
[This cooperation is aligned to the objective of Output2, and also utilizes the result of Activity1-8.](#)
 - Site reconnaissance at new sanitary landfill site



1. Coordination with LGUs

- **Activity with LGU Davao City**
 - September 14
 - Explanation of the Table of Contents (TOC), which serves as framework for the technical specifications to procure sanitary landfill in design-build scheme
 - Review of preliminary layout of sanitary landfill to be prepared by City Engineering Office (CEO) was requested by the LGU
 - The layout plan has not been completed by CEO for JET review



2. Coordination activities with PPPC

- **Closing of the cooperation**
 - JET and PPPC formalized the expanded cooperation through a **Work Plan**. This work plan covered the period June 2021-September 2022, after several deadline adjustments following delays due to the pandemic and of the recent elections.
 - JET prepared the **Accomplishment Report** to summarize the cooperation achievements, activity conclusions, and overall findings that were determined through the conduct of the activities.
 - **JET and PPPC were able to deliver all the needs and requests stipulated in the Work Plan** and left the implementation to PPPC to materialize the support provided by the team.
 - JET submitted the Accomplishment Report to PPPC last October 19, 2022.
 - The report is being finalized by PPPC.

2. Coordination activities with PPPC

JET's Technical Assistance	Specifics	Progress
Provide expertise on better management of SWM PPP Projects	Provide comments and inputs on the development, evaluation, management and implementation of solicited and unsolicited SWM PPP Projects	[DELIVERED] While JET/PPPC commented on a private proposal to LGU General Santos, the LGU did not respond to it and decided to put the project on hold in light of the elections. Same is also true for other projects in the PPPC pipeline.
Conduct capacity development activities	Facilitate Knowledge Sharing Sessions (KSS) and other relevant activities on SWM for PPPC, LGUs, and other implementing agencies	[ACCOMPLISHED] KSS was held in Nov. 2021. PMO and JET participated as resource persons, where JET discussed the Case Study for BAT/BEP Guidelines prepared under Output 1.
Assist in the preparation of PPP Guide on Unsolicited JV WTE Projects	Provide comments in the PPP Guide on Unsolicited JV WTE Projects for LGUs that PPPC is currently drafting	[DELIVERED] JET commented on the draft Guide in Oct. 2021. PPPC to update the Guide and consolidate with the other SWM-PPP materials.
Assist in the preparation of the Conceptual Framework on SWM	Review and Provision of Recommendations to the Conceptual Framework on Solid Waste Management PPPs	[DELIVERED] JET transmitted comments on the Conceptual Framework on October 19, 2022. PPPC to update the Framework accordingly and consolidate with the other SWM-PPP materials.

Thank you for your attention!



7th Inter-agency Technical Working Group Meeting

Output 3

"Updates on the Project Activities under OP3"

18th November 2022 (Friday)

The Technical Cooperation Project (TCP) for Capacity Development on Improving Solid Waste Management (SWM) through Advanced/Innovative Technologies

1

2

Contents

1. Progress of Activities
 - a. Current Status
 - b. Troubleshooting
 - c. Training
 - d. Achievements of the recent activities
2. Remaining Activities and way forward



1-a. Current Status of OP3

Activity	Contents	Status
3-1	Review of the current capacity and activities in central and regional EMB	Done
3-2	Analyze gap between the present capacity of the central EMB laboratory and required capacity and formulating training plans	Done
3-3	Prepare Standard Operation Procedures (SOP)	Done (SOPs are already prepared and being modified by ERLSD based on the results of the Activity 3-4.)
3-4	Conduct training of sampling, analysis and QA/QC of Dioxins and Furans	Now in the process of finalizing of the detailed analytical conditions
3-5	Prepare Sampling Plan (Design) for ambient air samples	Done (AQMS and ERLSD have already started the discussion. The plan has already been formulated.)
3-6	Implement sampling, analysis and QA/QC of Dioxins and Furans	Partially done (Sampling by AQMS and preparation for analysis (soxhlet extraction) by ERLSD have begun)

3

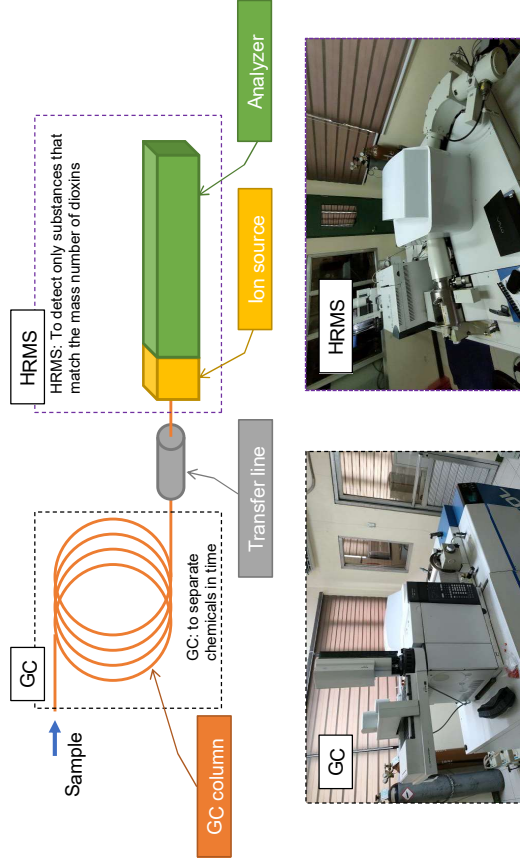
1-a. Current Status of OP3

- Resumption of JET visits
 - JET was able to resume the visits to ERLSD lab from March 2022. GC/HRMS training was able to be started.
 - Since March 2022, JET visited ERLSD lab for a total of 46 days. (March 4, 7-9, 11, 14-16, 18, 21, 24, 31, April 4, 6-8, May 13, 16-20, June 28-July 1, July 4-8, 11-15, Oct 10-14, 17-21)
 - During the above period, intensive trainings were conducted. ERLSD and JET have continued to have meaningful discussions through the activities.
 - After the resumption of JET visits, some unexpected troubles had occurred, but we have already overcome these troubles and continued the activities.

4

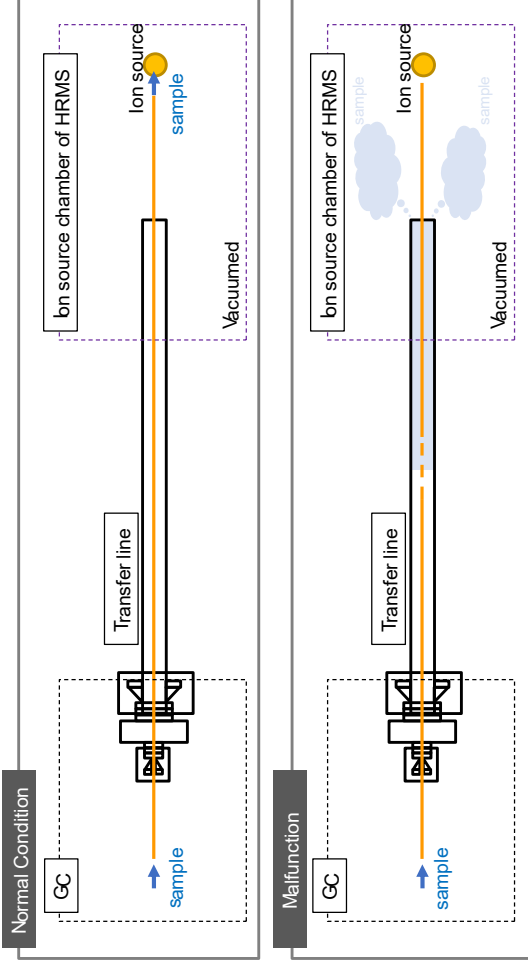
1-b. Troubleshooting

- GC/HRMS malfunction and repair
 - Sensitivity of GC/HRMS significantly lowered ($\approx 1/200$). The cause was the GC column had broken and clogged in the transfer line.



1-b. Troubleshooting

- GC/HRMS malfunction and repair
 - Sample did not directly reach the ion source, presumably.



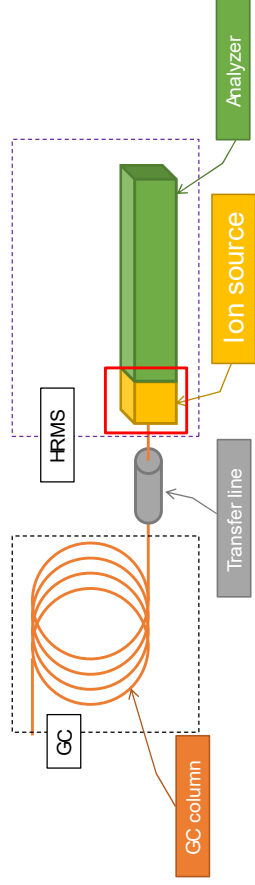
1-b. Troubleshooting

- GC/HRMS malfunction and repair
 - Due to EMB's procurement procedures and the local service provider's capability, it was difficult to perform the repair immediately.
 - Based on a request for assistance, JICA agreed to dispatch a JEOL engineer and shoulder the cost. Repairs were completed in June.



1-c. Training

- Capacity enhancement on the GC/HRMS maintenance
 - Since there is only one GC/HRMS in the Philippines, it is difficult to learn maintenance skills especially for ion source part of HRMS such as cleaning, filament replacement, GC column replacement. The local service provider is in charge of maintenance, but they are not easily available. Furthermore, their work has to be guided online by the Taiwanese distributor, resulting in prolonged GC/HRMS downtime.
 - These difficulties must be overcome to achieve a more frequent routine analysis.



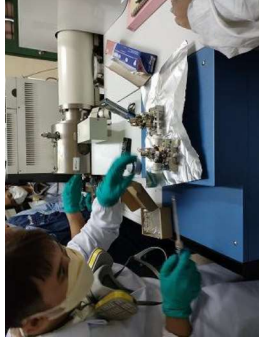
1-c. Training

■ Capacity enhancement on the GC/HRMS maintenance

- Since it is inadvisable for ERLSD to continue to rely on local service providers for GC/HRMS maintenance, JICA approved an increase of JET input to enhance GC/HRMS maintenance technical capabilities. Trainings were conducted in May and July to capacitate the ERLSD staff on routine maintenance activities.



1-c. Training



Ion source removal/ installation



Ion source cleaning



Ion source disassembly

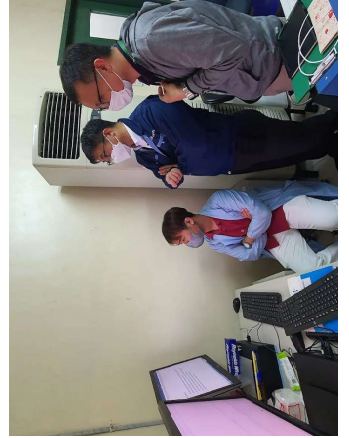
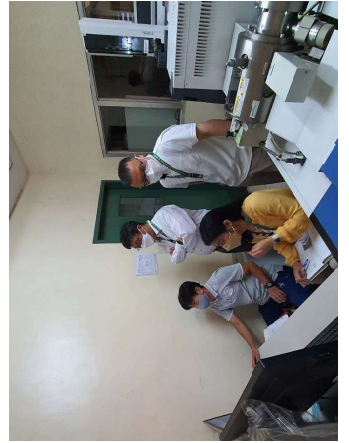


Ion source assembly

1-c. Training

■ Customize analytical conditions for GC/HRMS

- The local service provider did not allow ERLSD to change the GC/HRMS conditions. However, JET emphasized the need to perform changes in the parameters to understand the best operating conditions for the equipment. Trial and error by changing the conditions is necessary to establish the analytical method. Trainings were conducted in July and October to capacitate the ERLSD staff in performing these changes.



1-c. Training

■ Pre-treatment

- Some supports on key techniques for pre-treatment were provided for HCl treatment, Soxhlet extraction, fraction test of automated cleanup equipment, manual cleanup, and preparation of test samples, etc. Trainings were conducted in October.



1-d . Achievements of the Recent Activities

- GC/HRMS operation (the biggest challenge to overcome)
 - The repair of the GC/HRMS has enabled the implementation of the activities due to the JICA's additional support.
 - ERLSD can now perform GC/HRMS maintenance work required in daily operations due to additional JET input approved by JICA.
 - ERLSD can now perform column exchanges at its own discretion and can successfully verify GC/HRMS operation and set GC/HRMS operating conditions. ERLSD has also successfully generated calibration curves and has been trying many tests to establish the analytical methods.
 - As a side effect, JEOL recognized the weakness of the technical support from the supplier side. JEOL showed its willingness to participate in bidding for preventive maintenance work for GC/HRMS.
- Sample pre-treatment
 - As indicated in the gap analysis conducted at the beginning of the project, ERLSD is already highly skilled through POPs analysis. The capacity for contamination control techniques, which are particularly important in dioxin analysis, has been strengthened.

2. Remaining Activities and way forward

- Activity 3-4
 - Completing the analytical method development: finalizing the settings for automated cleanup equipment, and then proceed to method blank, method detection limit, etc.
- Activity 3-5
 - Considering the current situation, there is no substantial necessity for assistance from JET. Moreover, MOEJ will provide the POPs sampling trainings in ambient air in November, it will also be a good opportunity for technical enhancement.
- Activity 3-6
 - Actual samples need to be analyzed in numbers, since different techniques are required for different sample characteristics. For stack emission, it will be difficult to obtain many samples. Measuring samples of fly ash, which has a similar dioxin composition, will also help enhance the ability to measure stack emissions.

Appendix 11-2: Sub-group Meeting for Output 1

- 11-2-1 : 1st SG1
- 11-2-2 : 2nd SG1
- 11-2-3 : 3rd SG1
- 11-2-4 : 4th SG1
- 11-2-5 : 5th SG1
- 11-2-6 : 6th SG1
- 11-2-7 : 7th SG1
- 11-2-8 : 8th SG1
- 11-2-9 : 9th SG1
- 11-2-10 : 10th SG1
- 11-2-11 : 11th SG1
- 11-2-12 : 12th SG1
- 11-2-13 : 13th SG1

Appendix 11-2: Sub-group Meeting for Output 1

11-2-1 : 1st SG1



Republic of the Philippines
 Department of Environment and Natural Resources
ENVIRONMENTAL MANAGEMENT BUREAU
 DENR Compound, Visayas Avenue, Diliman, Quezon City 1116

NOTICE OF MEETING

TO : **ALL SUB-GROUP MEMBERS (PROJECT OUTPUT 1)**

Selected Concerned Government Agencies

Mr. Nonilo Peña – DOST-PCIEERD
 Mr. Romeo Galamgam – DOE-REMB
 Atty. Ma. Rhodora Flores – DILG-BLGS
 Mr. Carlo Mari Crisregionald C. Tan – DILG-BLGS
 Mr. Aldwin U. Urbina - NEDA-IPG
 Ms. Justine Padiernos - PPPC

Local Government Units (LGUs)

Mr. Vincent Ferdinand Paul G. Vinarao – EPWMD/LGU Quezon City

EMB Regional Focal Persons

Project Output Coordinators

Director Angelito V. Fontanilla – DENR-FASPS
 Mr. Conrado A. Brabante, Jr. - DENR-FASPS
 Ms. Marianica Phillina L. Obmerga - DENR-FASPS
 Ms. Consolacion P. Crisostomo – EMB-PPPDD
 Engr. Nolan B. Francisco – EMB-SWMD/PMO
 Ms. Elvira S. Pausing – EMB-SWMD/PMO
 Mr. Takahiro Kamishita – JICA/JET
 Mr. Tomoyuki Hosono – JICA JET

All SWMD-PMO Staff

FROM : **THE EMB DIRECTOR**

DATE/TIME/VENUE: **18 February 2019 (Tuesday)/ 2:00 PM/EMB-AQMTC Bldg.**

SUBJECT : ***1st SUB-GROUP MEETING: ENHANCEMENT OF NATIONAL GOVERNMENT'S CAPACITY FOR SUPPORTING AND COORDINATING OF LGU'S WTE PROJECT UNDER THE TECHNICAL COOPERATION PROJECT (TCP) RE CAPACITY DEVELOPMENT ON IMPROVING SOLID WASTE MANAGEMENT THROUGH ADVANCED/INNOVATIVE TECHNOLOGIES***

AGENDA:

1. Call to Order/Objectives of the Meeting
2. Presentation/Introduction of Sub-group Members for Project Output 1
3. Presentation on the Outline of the Specific Activities under Project Output 1 including deliverables based from the Inception Report
4. Presentation and discussions on the following:
 - a. Implementation of Activity 1-1, Activity 1-2 (information collection and consolidation of BAT/BEP guideline)
 - b. Implementation of Activity 1-4 and Activity 1-5 (Introduction of technical and O&M standards of WTE facility in Japan including management of bottom ash and fly ash)
 - c. Proposed outline of the TCP Newsletter (*Sub-group members may provide proposals for the title of the Newsletter*)
 - d. Capacity Assessment of Sub-group members (*Kindly fill up the attached checklist and send to the Secretariat via email by Friday 14 February 2020*)
 - e. Participants to the Training in Japan
5. Finalization of Comments/Agreements/Timelines
6. Way Forward

Your participation/attendance is enjoined.

ENGR. WILLIAM O. CUÑADO



1st Sub Group Meeting for

Output 1

“The Enhancement of National Government’s Capacity for supporting and coordinating of LGU’s WTE project”

18th February 2020 (Tuesday) 14:00

The Technical Cooperation Project (TCP) for Capacity Development on Improving Solid Waste Management (SWM) through Advanced/Innovative Technologies

1

2. Objectives of the meeting

- **ITWG (Inter-Agency Technical Working Group)** was created under EMB SO 2019-347. ITWG shall serve as core group to undertake important tasks such as providing technical and operational guidance to the project.
- ITWG creates **4 Sub-Groups (SG)** within the members of ITWG that would take a lead in the implementation of TCP on a per Output basis.

No.	Objective of each Output
Output 1 (SG01)	The enhancement of National Government’s capacity for supporting and coordinating of LGU’s WTE project
Output 2 (SG02)	The enhancement of Target LGUs’ capacity for Planning, Evaluation, Formulation and Supervision of WTE project.
Output 3 (SG03)	The enhancement of the National government’s capacity of environmental monitoring for WTE project
Output 4 (SG04)	The enhancement of the National Governments and target LGUs’ capacity to identify issues and provide suggestions/ recommendations for other SWM technologies other than WTE.

3

0. Agenda

1. Call to Order
2. Objectives of today’s Meeting
3. **Outline of the Specific Activities under Project Output**
4. Presentation and discussions on the followings:
 - i. Activity 1-1 (Prep. BAT/BEP GL for WTE),
 - ii. Activity 1-2 (Study WTE policy/mechanism in other countries)
 - iii. ~~Activity 1-3 (Seminar disseminate WTE tech)~~
 - iv. Activity 1-4 (Prep. Tech+O&M Standards of WTE facility),
 - v. Activity 1-5 (Prep. Manual for bottom/fly ash),
 - vi. ~~Activity 1-6 (Prep. Procedural manual for introduction WTE)~~
 - vii. ~~Activity 1-7 (Illustrate model procedure to introduce WTE)~~
 - viii. Other Inter-output activities
(Newsletter, Training in Japan, Kick-off Seminar, Capacity Assessment of Sub-group members)
5. Comments/agreements/Timelines
6. Way Forward

2

2. Objectives of the meeting

□ SG Members for Output 1

	Agency/Office	Members
Selected Concerned Government Agencies	DOST-PCIEERD	Engr. Nonilo A. Peña
	DOE-REMB	Mr. Romeo M. Galamgam
	DILG-BLGS	Atty. Ma. Rhodora Flores Mr. Carlo Mari Crisregionald C. Tan
LGUs	QC-EPWMD	Mr. Vincent Ferdinand Paul G. Vinarao
Project Output Coordinators	DENR-FASPS	Director Angelito V. Fontanilla Mr. Conrado A. Bravante, Jr.
	DENR-PPPDD	Ms. Marianica Phillina L. Obmerga
	EMB-SWMD/ PMO	Ms. Consolacion P. Crisostomo Engr. Nolan B. Francisco Ms. Elvira S. Pausing
	JICA Experts Team	Engr. Takahiro Kamishita Engr. Tomoyuki Hosono
		Engr. Satoshi Higashinakagawa Engr. Makoto Kosaka

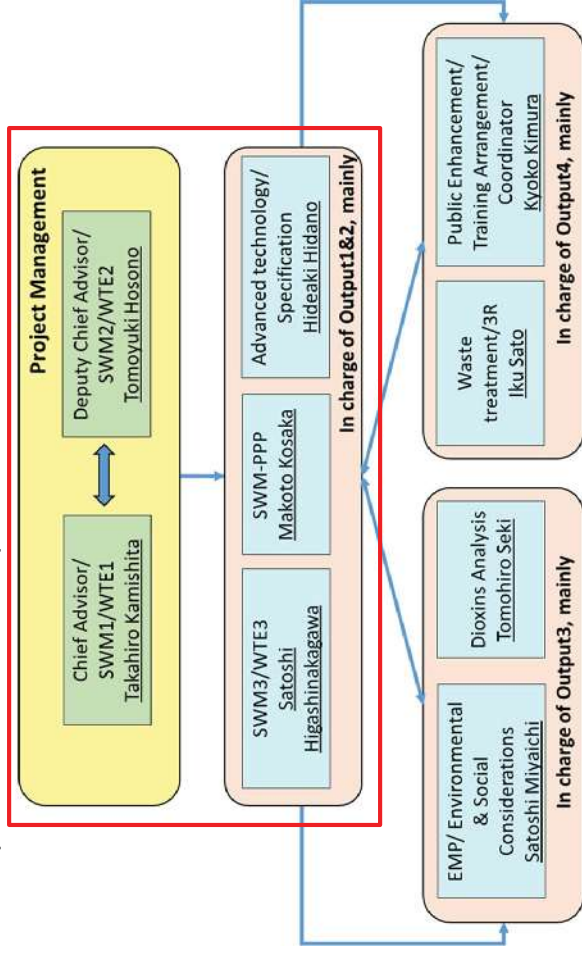
4

2. Objectives of the meeting

- Objectives of Today's Meeting:
 - To kick-off Output1-SG meeting (total 6 times in CY2020),
 - To reconfirm the activities under Output 1,
 - To share the progress of activities up to now, and
 - To discuss **future steps and to select person in charge (1Leader, 1 Sub-leader)** of each activity,
 - To share other Inter-output activities of the Project,

3. Outline of the Specific Activities under OP1

□ Composition of the JICA Expert Team



3. Outline of the Specific Activities under OP1

□ Schedule

	2019	2020	2021
OP01: Enhancement of NG's capacity for supporting / coordinating of LGU's WTE project	1-1 BAT/BEP		
	1-2 Study WTE Policy/ Mechanisms in Neighbor Countries	1-3 Seminar (July)	1-3 Seminar (July)
	1-4 Draft Tech Standards Manual for Bottom/Fly ash	1-6 Procedural Manual for WTE	1-7 Model Procedure
SG-MTG	2/18 3/5 5/15	8/20	10/12 11/5 (To be continued)
Main Activity	No progress (up to now)	Data/info gathering, + Discussion, Deliberation,	Finalization

□ Deliverables

- 1) Project report, 2) Monitoring sheet, 3) BAT/BEP GL, 4) Tech and O&M Standard,
- 5) Manual for Bottom/Fly Ash, 6) Procedural Manual for WTE Introduction,

4. Presentation and discussions / Activities under OP1

Activity 1-1: Prepare **Best Available Technique (BAT)** / **Best Environmental Practice (BEP)** guideline

- a. **Necessity of BAT/BEP Guideline**
Requirement of NSWMC Resolution 669-2016 (shown below)

160 Section 12. **Operational Control.** To ensure safe and effective operations of WTE
161 facilities, the Commission, through the National Ecology Center, shall develop Best Available
162 Technologies/Best Environmental Practices (BAT/BEP) guidelines for WTE technologies.

163 **Purpose of BAT/BEP GL (Guess)**

- 164 ✓ Working draft of NSWMC resolution (WTE-GL) had more detail
165 requirements for each WTE technology but they're finally removed.
166 (Reference: *Comparison of final/working draft of NSWMC Resolution*),
167 ✓ Instead, BAT/BEP supplements more detail configurations by introduction
168 of other advanced projects/practices to let LGUs have ideal project image.
169

170 **b. Implementation Team**

- 171 ✓ National Ecology Center (NEC) shall be working for the draft of the
172 BAT/BEP GL but **not functional in fact?**
173 ✓ Sub-group members of OP1 will work instead of NEC,
174
175
176

4. Presentation and discussions / Activities under OP1

Activity 1-1: Prepare **BAT/BEP guideline**

c. **Collection criteria of BAT/BEP**
(How to select?)

- ✓ Which facility do you know/recognize as “Reputable/Good WTE”?
✓ What is the point of “Reputable/Good WTE”?
In the viewpoint of NG? Economy? Environment?
In the viewpoint of LGU? Residents?
(e.g.) Small gov. expenditure? Acceptability of residents?
Smooth implementation as planned schedule?
✓ How many WTE BAT/BEPs do we collect?
✓ Which area (SE Asia? All Asia? EU? US?) shall be covered?
✓ Which WTE tech will be covered (Incineration? Biogas? Other?)?
✓ Status of the Project (Only in operation? Still developing?)?
✓ Only good practice? How about learning from failed project?

4. Presentation and discussions / Activities under OP1

Activity 1-1: Prepare **BAT/BEP guideline**

SG MTGs in 2020	1 st	2 nd	3 rd	Seminar	4 th	5 th	6 th	2021
Date	18Feb	05Mar	15May	July	20Aug	12Oct	05Nov	(cont.)
Team Setup	X							
Collection criteria of WTE BAT/BEP	X	X						
Collection of WTE BAT/BEP								
Review collected WTE BAT/BEPs		X	X		X	X		
Report at Diss. Seminar				X				
Draft BAT/BEP Guidelines						X		
Finalization of BAT/BEP GL							X	Mar2021

4. Presentation and discussions / Activities under OP1

Activity 1-1: Prepare **BAT/BEP guideline**

d. **Information to be gathered for each BAT/BEP case (Example)**

Items	Selectable Options (extracted)	
	One Local Government?	Multiple LGs' Association? (Cluster)
Implementing Body	Country/ Location / Selected Reason	Footprint (ha) / Land Use
Target Waste	Source segregation only? MRF? Recyclables? Hazardous? C&D waste?	Who decide this target waste? Projection at target years with 3Rs
Capacity/Qty (t/d)	Daily/Annual Qty of “Target Waste”	Plant capacity ≠ Guaranteed Qty
Waste Quality (Feedstock)	Design value and Guaranteed value of “Target waste”;	
	- Waste Characteristics	Composition by Category from WACS
	- Proximate analysis	3 components (water/ash/combustible)
	- Ultimate analysis	H, Cl, S, N, O, C (for exhaust gas)
	- Calorific Value (MJ/kg)	HCV and LCV (Kcal/kg)
Financial Scheme (Project Modality, Ownership)	Budget expenditure (financed by LG) DBO, DBM, Public Own & Operate, Public Own & Private Operate (separate),	Under PFI (Financed by Private) BOO, BOT, BTO, etc.
Dev. Approach	Solicited / Unsolicited?	

4. Presentation and discussions / Activities under OP1

Activity 1-1: Prepare **BAT/BEP guideline**

d. Information to be gathered for each **BAT/BEP case (Cont.)**

Items	Selectable Options (extracted)
Coverage (Scope)	Only WTE (Reception to ash discharge)? Covers collection? Ash Disposal?
Processing Type	Incineration, Gasifier, Biogas, MBT, etc. Grate Type? Dry/Wet fermentation?
Pollution Control	Exhaust gas, Waste water, Solid waste (ash), Noise, Vibration, Odor, etc. Apply National Standard? Or Stricter: Voluntary Standard?
Ash Management	Bottom ash > Disposal / Utilization (cost) Fly ash > Disposal (cost)
Heat Utilization	Power generation / District heating Sell to grid, consumers, under FIT/RPS,
Tech Provider	EPC/ Incineration / Pollution Control Patent? ETV Certify? Operator?
Citizen Involvement	Liaison meetings, explanatory meetings, How to obtain prior consent?
Project Cost	Capex / Opex / Ash Treatment Cost, etc. Rough scenario based estimation
Project Income	Power/ Gate Fee (Tipping Fee) / Other Government Subsidy in initial/annual, etc.
Timeline / History	Facility can be constructed/commenced operation as originally planned?
Reputation	Any problems during construction/operation?

Recently many new WTE projects are developing in developing countries however proper evaluation for each project will be needed more 10 years.

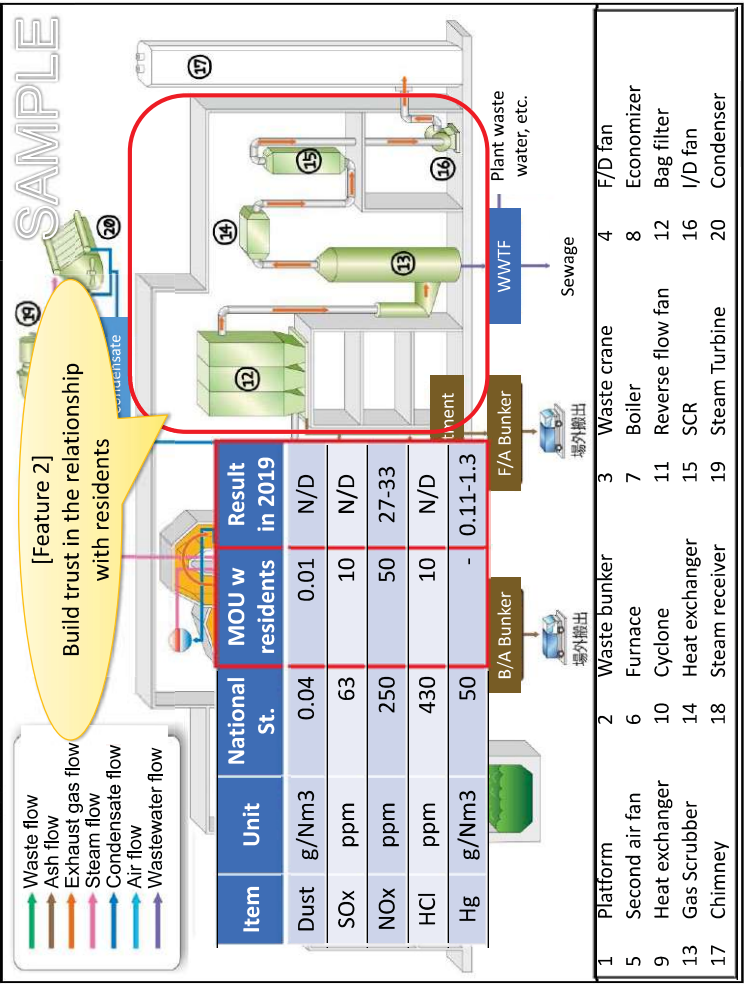
4. Presentation and discussions / Activities under OP1

Name	Ota Incineration Plant	Location	Tokyo, Japan	Op. Start/Fin	Demolish
Impl. Body	Clean Authority of TOKYO	Footprint	9.2ha	2010	2014
Capacity	600t/d (300 x 2)	[Feature 1] Smooth Implementation (As planned)		2010.6 (H22.6)	2014.9 (H26.9)
Target Waste	Source segregated "Combustible Waste" items			2010.6 (H22.6)	2014.9 (H26.9)
History	Original 2006	Dev. Plan 2006	Const. St/Fin 2010	2014	2039
	Actual 2010rev	2008.4 (H20.4)	2010.6 (H22.6)	2014.9 (H26.9)	(25 yrs)
Capex	18,797 B-JPY	Source ('12-14)	NG Subsidy (30%), Bond (50%), LG (20%)		
Opex	1,486 B-JPY/yr (2019)	Source ('18-19)	LGs' share (57%), TF* (26%), Energy (17%)		
Fin. Scheme	Public Build (DB) and Own	Dev. approach	Solicited		
Coverage (SC)	Incineration	Power			
Pollution Control	Exhaust Gas Stricter Standard (Scrubber + SCR + Bag Filter)	Wastewater Discharge to Sewage	Bottom ash Eco-cement	Fly ash Provincial SLF	Other Comply with local ordinances

[Feature 2]
Build trust in the relationship with residents

[Feature 3]
Strong ownership of LG (Solicited x Budget)

4. Presentation and discussions / Activities under OP1



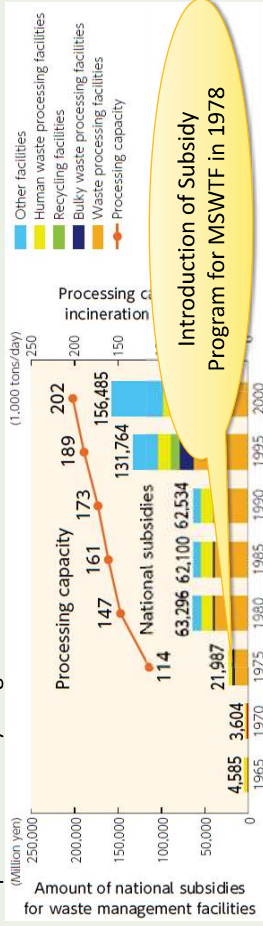
[Feature 2]
Build trust in the relationship with residents

4. Presentation and discussions / Activities under OP1

Activity 1-2: **Study policy and mechanism** to promote WTE in neighboring countries incl. cost sharing scheme

Samples in Japan (Shared in Pre-JCC on 26June2019);

1. Japanese Subsidy Program for MSW Treatment Facilities in LGs



Objective: Support LGs for the Establishment of Circular Economy

Eligible Facilities: MRFs, WTEs (Power/Heat), Biogas, Human waste treatment, Septic tanks, Final disposal site (SLFs)

Grant rate: For CAPEX: 33% (Max. 50% for advanced/high efficiency facilities), For OPEX: Internal Revenue Allotment (IRA) incentives for MSWTF.

4. Presentation and discussions / Activities under OP1

Activity 1-2: **Study policy and mechanism** to promote WTE in neighboring countries incl. cost sharing scheme

Samples in Indonesia (Shared in Pre-JCC on 26 June 2019);

- ✓ Promotion of WTE projects in 12 Cities by PD35 (2018),
- ✓ National Subsidy for Capex of PPP projects as VGF (Viability Gap Funding),
- ✓ National Subsidy for Opex of PPP projects as AP (Availability Payment),
- ✓ Feed-in-tariff is set at USCent 13.35/kWh,
- ✓ NG guarantees by IJGF (Indonesian Infrastructure Guarantee Fund),

2. Indonesian Subsidy Program for WTEs in LGs

Objective Support LGs for the Establishment of Circular Economy

Eligible Facilities WTEs only?

Grant rate For CAPEX: VGF part of PPP Project
For OPEX: Availability Payment (How to fix the rate???)

> **Other countries (Singapore, Vietnam, etc.)?**

> **SWMD-EMB has Other Countries Information by Trainings/forums in past?**

4. Presentation and discussions / Activities under OP1

1-5: Prepare **manual for management of bottom & fly ash** discharged from WTE facility

- ✓ While "Activity1-3 Tech standards" specifies functional/operational requirements of WTE facility, reference document for treatment/disposal of incineration residue (fly/bottom ash) shall be necessary to guide LGUs,
- ✓ In Japan, it is specified in structural/operational standards of final disposal sites,
- ✓ In Philippines, EMB issued structural/operational requirements for SLFs in DAO10-2006, however, it is prepared for the disposal of MSW and not able to apply for the bottom/fly ash, latter contains heavy metals, in particular effluent standards of leachate treatment facility,
- ✓ In this concern, JET has discussed with HWMD (Hazardous Waste Management Division) of EMB about the categorization of bottom/fly ash several times, but yet to reach the conclusion,
> Next page shows the point of discussion / progress of the meetings,

✓ **(Proposal) Until next SG-MTG on 05Mar, further discussion with HWMS and report its result in this regards,**

4. Presentation and discussions / Activities under OP1

1-4: Prepare **draft technical standards for WTE facility** focused on waste incineration with power generation

- ✓ As explained, working draft of NSWMC resolution (WTE-GL) had **more detail requirements for each WTE technology but they're finally removed.**
This is same with DAO2019-21,
> *Not specific in the National Guideline, But LGUs shall prepare them in RFP,*
- ✓ In Japan, Functional Requirements as well as Operational Requirements are **regulated as the IRR** of "Waste Treatment and Public Cleaning Law" as follows;

Requirements for Incineration Facility	Structural/Functional Standard (Article 4 of IRR)	Operation & Maintenance Standard (Article 4-5 of IRR)
Combustion chamber;	<ul style="list-style-type: none"> ✓ Capable to incinerate waste at more than 800dC of combustion gas, and keep it more than 2 seconds, 	<ul style="list-style-type: none"> ✓ Keep combustion gas temperature in combustion chamber above 800dC, ✓ Incinerate the waste completely as per Ignition loss can be less than 10%.
Cooling syst before dust	<ul style="list-style-type: none"> ✓ How to regulate these minimum standards in addition to DAO2019-21? > such as Memorandum Circular, etc.?, 	
Exhaust gas treatment sy	<ul style="list-style-type: none"> ✓ Purpose of these additions is to ensure env. compliance (such as DXNs in exhaust gas) from the facility specification, 	
Measureme recording sy	<ul style="list-style-type: none"> ✓ At present, continuous DXNs monitoring is not commonly applied, so satisfying these functional and operational requirements can be a kind of security, 	
Ash discharge	<ul style="list-style-type: none"> ✓ Capable to discharge fly/bottom ash separately, 	<ul style="list-style-type: none"> ✓ Discharge fly/bottom ash separately.

4. Presentation and discussions / Activities under OP1

1-5: Prepare **manual for management of bottom & fly ash** discharged from WTE facility

Point of discussion / progress of the meetings with HWMS-EMB,

- ✓ How to categorize the residuals from WTE such as bottom/fly ash in the Philippines,
- ✓ RA6969, DAO1992-29, DAO2004-36, DAO2013-22,
- ✓ DAO2004-36 (Procedural Manual for Hazardous Waste), [Table1-1] Class D "Waste with inorganic chemicals"
=>TCLP result determines it can be hazardous or non-hazardous waste,
[Table1-1] Class K "Immobilized Waste" => Hazardous?,
[Table1-2] "Exempted Waste" > can be disposed in SLFs,
- ✓ Hazardous waste shall be disposed at TSD Facility, while Non-hazardous waste can be disposed at SLFs,

- ✓ In Japan, fly-ash which contains heavy metals, once it is chelated/immobilized and pass TCLP standards, it can be disposed at SLFs (with appropriate LTP),
- ✓ Standard for SLFs (incl. effluent) and/or TSD facility shall be examined,

6. Way Forward / Draft from Secretariat

SG Members for Output 1

	Members				A1-5 M/As
	A1-1 B/B	A1-2 Policy	A1-4 T/St	A1-5 M/As	
DOST-PCIEERD	Engr. Nonilo A. Peña	*	*	*	*
DOST-ITDI	Engr. Reynaldo L. Esguerra	Sub-L	Sub-L	*	*
DOE-REMB	Mr. Romeo Galamgam	*	*	*	*
DILG-BLGS	Atty. Ma. Rhodora Flores Mr. Carlo Mari Crisregionaid C. Tan	*	*	*	*
QC-EPWMD	Mr. Vincent Ferdinand Paul G. Vinarao	*	*	*	Sub-L (tbc)
NEDA-IPG	Mr. Aldwin U. Urbina	*	*	*	*
PPPC	Ms. Justine Padiernos	*(tbc)	*(tbc)	*(tbc)	*(tbc)
DENR-FASPS	Director Angelito V. Fontanilla Mr. Contrado A. Bravante, Jr. Ms. Marianica Phillina L. Obmerga	*	*	*	*
DENR-PPDD	Ms. Consolacion P. Crisostomo	*	*	*	*
EMB-SWMD/ PMO	Engr. Nolan B. Francisco Ms. Elvira S. Pausing	Leader	Leader	Leader	Leader (HWMS &AQMS)
JICA Experts Team	Engr. Kamishita (Chief) Engr. Hosono (Deputy Chief) Engr. Higashi (SWM/WTE) Engr. Kosaka (SWM-PPP)	Support in many tasks	Support in many tasks	Support in many tasks	Support in many tasks

“*” Member

4.c. Proposed outline of the TCP Newsletter

Newsletter on this project will be published twice a year for the following purposes:

- To disseminate and share the progress of the project
- To share the products of the project (such as manuals)

The Newsletter will be published on the website and distributed at the related events.

	Page	Writer	deadline
Cover	1	JET	
1	1	-	-
1.1	0.5	EMB	21th-Feb.2020
1.2	0.5	JET	21th-Feb.2020
2	5	-	-
2.1	0.4	PMO	21th-Feb.2020
2.2	0.4	JICA	21th-Feb.2020
2.3	0.2	JET	21th-Feb.2020
(1)	1	Sub-Group1	25th-Feb.2020
(2)	1	Sub-Group2	25th-Feb.2020
(3)	1	Sub-Group3	25th-Feb.2020
(4)	1	Sub-Group4	25th-Feb.2020
3	1	JET	21th-Feb.2020
3.1			
(1)			
(2)			
(3)			
(4)			
TOTAL	8		

- Allocated 1 page
- Deadline: 28th Feb

4.c. Proposed outline of the TCP Newsletter

Title of newsletter: (Examples)

- Road to Shokyaku (“combustion” in Japanese)
- Considering Waste to Energy as the 4th SWM Option,
- Road to the cleanest county of Philippines,
- xxxx,

Article for the 1st newsletter

1 page for Output1

(Examples)

- Political gap in the introduction of WTEs in Philippines;
 - ←Necessity of new regulations;
 - ←How to control LGUs’ WTE procurement;
 - ✓ Role of National Government in terms of WTE (DENR&NSWMC/DILG/DOE/NEDA/PPPC?),
- Expectations to TCP (What will you learn? What will you achieve?)

4.d. Participants in 1st Training in Japan

Proposed period:

- May 24 –June 6 (including traveling from the Philippines to Japan)

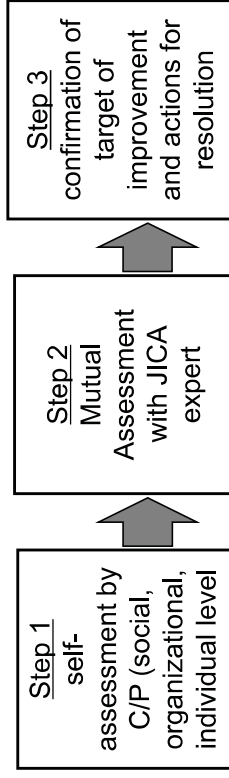
Number of trainees:

- LGUs: 1 person/LGU in total 3
- Laboratory (ERLSD): 3
- EMB central (SWMD) : 3
- EMB region: 1 person/region in total 3
- DOE, PPPC, DOST: 3

- Proposed date: February 27, 2020
- Draft Program: (distributed)

5. Finalization of the comments/agreements/Timelines

- Evaluation based on the Capacity Assessment Sheet
- Questions related with activities for outputs
- Evaluation may improve according to the execution of activities
- 3 times assessment in the project period (beginning, mid-term and end of the project)



6. Way Forward

Schedule of JCC, ITWG and sub-group meetings

GROUPS	Ja	Fe	Mar	Ap	May	Jun	Jul	Au	Se	Oc	No	De
ITWG	24			23		16	16		16			
SUBGROUP												
OP1	18	5	15	15	20	12	5					
OP2		13	16	16	9	10						
OP3		10	14	14	8							
OP4		13	16	16								
JCC					18	15						

Pls see the summary of meeting in attached MS word file

Draft agenda of next SG-MTG on 05March 2020

1. Call to Order
2. Objectives of today's Meeting
3. Activity 1-1 (Prep. BAT/BEP GL for WTE),
 - Finalization of Collection Criteria,
 - Progress of collection of BAT/BEP,
4. Activity 1-2 (Study WTE policy/mechanism in other countries),
 - Information Sharing from SWMD-EMB,
5. Activity 1-4 (Prep. Structural + O&M Standards of WTE facility),
 - Review/Comments for Japanese Standards,
6. Activity 1-5 (Prep. Manual for bottom/fly ash),
 - Result of discussion with HWMD from SWMD,
7. Way Forward

PROJECT ACTIVITY : 1ST SUB-GROUP MEETING FOR PROJECT OUTPUT 1 (ENHANCEMENT OF NATIONAL GOVERNMENTS' CAPACITY FOR SUPPORTING AND COORDINATING OF LGUs' WTE PROJECT)

DATE/TIME : 18 February 2020/2:00 PM

VENUE : AQMTC Bldg., Conference Room B

Agenda Topics	Issues/Discussions/Actions	Comments/Agreements/ Timelines	Required Actions/Responsible Agency/Person
<p>1.) Call to Order</p>	<ul style="list-style-type: none"> ● Establishment of the meeting that was duly called and the declaration of quorum. ● Adoption of the Agenda 	<ul style="list-style-type: none"> ➢ Agenda was moved for adoption by NEDA and seconded by DILG with no comments and suggestions from the participants. 	
<p>2.) Presentation & Introduction of Subgroup members for Project Output 1</p>	<ul style="list-style-type: none"> ● Recommendation of Ms. Pausing (SWMD-PMO) for the inclusion of NEDA and PPPC as members of the Sub-group due to involvements on project approvals, support to the preparation of manual for planning, evaluation, formulation and supervision of WTE projects and PPP financial scheme, respectively. 	<ul style="list-style-type: none"> ➢ Subgroup members welcomed the inclusion of NEDA and PPPC as members of the Subgroup for Output 1 	<ul style="list-style-type: none"> ➢ SWMD-PMO to include NEDA and PPPC in the supplemental SO as sub-group members for project output 1.
<p>3.) Presentation of the Outline of the Specific Activities under Project Output 1 including deliverables based from the Inception Report</p>	<ul style="list-style-type: none"> ➢ Mr. Makoto Kosaka, SWM-PPP/JET presented the Outline of Specific Activities and deliverables under Project Output 1. 	<ul style="list-style-type: none"> ➢ No clarifications and/or alterations raised by the sub-group members. 	
<p>4.) Presentation and discussions on the topics under agenda item 4.</p>			

<p>Activity 1-1 Preparation of BAT/BEP Guidelines</p>	<p>(1) Operational Control, and other specific requirements had been removed in the Guidelines from the NSWMC Resolution No. 669-2016.</p> <p>(2) NEC is not functional, it is suggested that BAT/BEP Guidelines will be drafted by the Members of Subgroup for Output 1 instead.</p> <ul style="list-style-type: none"> • How many BAT/BEP Project should the members of the Subgroup collect? • Which area (SE Asia? Entire Asia? EU? US?) shall be covered? • What WTE Technology (Incineration, Biogas, etc.) shall be covered? <p>➤ QC-EPWMD recommended MBT to be included in the coverage of the WTE Technology.</p> <p>➤ The DOST-PCIEERD suggested to just focus on the incineration.</p> <p>➤ The DOE-REMB suggested Technologies utilizing MSW.</p> <ul style="list-style-type: none"> • Status of the Project • Only good practices or the failed WTE practices can be included as well (optional) 	<p>➤ Related information was discussed in the next slide presentation of JET</p> <p>➤ DOST's suggestion is to focus on incineration and secondary on MBT and other technologies.</p> <p>➤ One (1) Project per sub-group member Submission deadline to SWMD-PMO/JET: Next meeting (5 March 2020)</p>	<p>➤ JET/SWMD-PMO to follow-up with the sub-group members on the said commitments on or before the deadline.</p>
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	<p>Confirmation of sub-group members re: Leader, Sub-Leader & members in the implementation of activity 1-1.</p>	<ul style="list-style-type: none"> • Leader: SWMD-PMO (Engr. Nolan B. Francisco & Ms. Elvira S. Pausing) • Sub-Leader: DOST-ITDI (Engr. Reynaldo L. Esguerra) • Members: <ul style="list-style-type: none"> ○ DOST-PCIEERD (Engr. Nonilo A. Peña) ○ DOE-Renewable Energy Management Bureau (Mr. Romeo Galamgam & Ms. Charisse Jane D. Pascual) ○ DILG (Bureau of Local Government and Supervision): Atty.Ma. Rhodora Flores & Mr. Carlo Mari Crisregienald C. Tan) ○ LGU Quezon City (Mr. Vincent Ferdinand Paul G. Vinarao) ○ NEDA-IPG (Mr. Aldwin U. Urbina & Atty. Gilbert V. Kintanar) ○ PPPC (tbc) ○ DENR-FASPS (Director Angelito Fontanilla & Mr. Conrado A. Bavante, Jr./Ms. Marianica Phillina L. Obmerga) ○ EMB-PPDD (Ms. Consolacion P. Crisostomo & Ms. Mary Esther D. Ofiaza) • JET (Support in many tasks): <ul style="list-style-type: none"> ○ Engr. Kamishita (Chief) ○ Engr. Hosono (Deputy Chief) 	
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	<p>➤ Per requirement of JET, there is a need to gather information on WTE & BAT/BEP guidelines from other countries based from the trainings/forums attended by EMB personnel previously.</p>	<ul style="list-style-type: none"> ○ Engr. Higashi (SWM/WTE) ○ Engr. Kosaka (SWM-PPP) <p>➤ SWMD-PMO to gather the required information from other countries that will be submitted to JET for evaluation purposes.</p> <p>➤ Submission deadline: 28th February, 2020</p>	<p>➤ Required data will be submitted by SWMD-PMO to JET on or before the deadline.</p>
<p>Activity 1-2 Study policy and mechanism to promote WTE in neighboring countries including cost sharing scheme</p>	<p>➤ Confirmation of sub-group members re: Leader, Sub-Leader & members in the implementation of activity 1-2.</p>	<ul style="list-style-type: none"> ● Leader: SWMD-PMO (Engr. Nolan B. Francisco & Ms. Elvira S. Pausing) ● Sub-Leader: DOE-Renewable Energy Management Bureau (Mr. Romeo Galamgam & Ms. Charisse Jane D. Pascual) ● Members: <ul style="list-style-type: none"> ○ DOST-ITDI (Engr. Reynaldo L. Esguerra) ○ DOST-PCIEERD (Engr. Nonilo A. Peña) ○ DILG (Bureau of Local Government and Supervision): Atty.Ma. Rhodora Flores & Mr. Carlo Mari Crisregienald C. Tan) ○ LGU Quezon City (Mr. Vincent Ferdinand Paul G. Vinarao) ○ NEDA-IPG (Mr. Aldwin U. Urbina & Atty. Gilbert V. Kintanar) ○ PPPC (tbc) ○ DENR-FASPS (Director Angelito Fontanilla & Mr. Conrado A. 	

<p>Activity 1-4 Preparation of technical standards draft for WTE facility focusing on waste incineration with power generation</p>	<p>➤ No further clarifications and discussions regarding this topic.</p> <p>➤ Confirmation of sub-group members re: Leader, Sub-Leader & members in the implementation of activity 1-4.</p>	<p>Bravante, Jr./Ms. Marianica Phillina L. Obmerga</p> <ul style="list-style-type: none"> ○ EMB-PPDD (Ms. Consolacion P. Crisostomo & Ms. Mary Esther D. Ofiaza) <ul style="list-style-type: none"> ● JET (Support in many tasks): <ul style="list-style-type: none"> ○ Engr. Kamishita (Chief) ○ Engr. Hosono (Deputy Chief) ○ Engr. Higashi (SWM/WTE) ○ Engr. Kosaka (SWM-PPP) 	
<p>➤ Activity 1-4 Preparation of technical standards draft for WTE facility focusing on waste incineration with power generation</p>	<p>➤ No further clarifications and discussions regarding this topic.</p>	<p>➤ Suggestions from NEDA and DOST representatives for SWMD-PMO to take the lead in the implementation of all the activities in Activity 1-4. Ms. Pausing (SWMD-PMO) raised the issue on the lack of manpower of SWMD to undertake all the said activities. However, JET committed that they will provide full support to SWMD in the implementation of all the activities under Output 1.</p>	<p>➤ SWMD-PMO to work with JET on the preparation and finalization of all the requirements under Activity 1-4.</p>
<p>➤ Activity 1-4 Preparation of technical standards draft for WTE facility focusing on waste incineration with power generation</p>	<p>➤ Confirmation of sub-group members re: Leader, Sub-Leader & members in the implementation of activity 1-4.</p>	<p>➤ SWMD-PMO also requested that JET should provide at least an outline for the technical standards including BAT/BEP guideline to the SWMD-PMO.</p> <ul style="list-style-type: none"> ● Leader: SWMD-PMO (Engr. Nolan B. Francisco & Ms. Elvira S. Pausing) ● Sub-Leader: DOST-ITDI (Engr. Reynaldo L. Esguerra) 	<p>➤ JET to provide the Outline/format for the preparation of the required technical standards including BAT/BEP guidelines within the week.</p>

<p>Activity 1-5 Preparation of Manual for management of bottom & fly ash discharged from WTE facility</p>	<p>➤ Mr. Kosaka presented the “Introduction of technical and O&M standards of WTE facility in Japan” including management of bottom ash and fly-ash. He also shared the</p>	<ul style="list-style-type: none"> • Members: <ul style="list-style-type: none"> ○ DOST-PCIEERD (Engr. Nonilo A. Peña) ○ DOE-Renewable Energy Management Bureau (Mr. Romeo Galamgam & Ms. Charisse Jane D. Pascual) ○ DILG (Bureau of Local Government and Supervision): Atty.Ma. Rhodora Flores & Mr. Carlo Mari Crisregienald C. Tan) ○ LGU Quezon City (Mr. Vincent Ferdinand Paul G. Vinarao) ○ NEDA-IPG (Mr. Aldwin U. Urbina & Atty. Gilbert V. Kintanar) ○ PPPC (tbc) ○ DENR-FASPS (Director Angelito Fontanilla & Mr. Conrado A. Bravante, Jr./Ms. Marianica Phillina L. Obmerga) ○ EMB-PPDD (Ms. Consolacion P. Crisostomo & Ms. Mary Esther D. Ofiaza) • JET (Support in many tasks): <ul style="list-style-type: none"> ○ Engr. Kamishita (Chief) ○ Engr. Hosono (Deputy Chief) ○ Engr. Higashi (SWM/WTE) ○ Engr. Kosaka (SWM-PPP) <p>➤ Mr. Kosaka suggested that further discussions with EQMD-HWMS will be conducted to gather more substantial information/data for the preparation of a more comprehensive report.</p>	<p>➤ JET/SWMD-PMO to set a meeting with HWMS next week.</p> <p>➤ Provide/share results of discussions in the next sub-group meeting (05 March 2020)</p>
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	<p>results of JET's initial discussions with HWMS.</p> <p>➤ Confirmation of sub-group members re: Leader, Sub-Leader, & members in the implementation of Activity 1-5.</p>	<ul style="list-style-type: none"> ● Leader: SWMD-PMO (Engr. Nolan B. Francisco & Ms. Elvira S. Pausing) & HWMS (tbc) & AQMS (Engr. Jundy T. del Socorro) ● Sub-Leader: LGU Quezon City (tbc) ● Members: <ul style="list-style-type: none"> ○ DOST-ITDI (Engr. Reynaldo L. Esguerra) ○ DOST-PCIEERD (Engr. Nonilo A. Peña) ○ DOE-Renewable Energy Management Bureau (Mr. Romeo Galamgam & Ms. Charisse Jane D. Pascual) ○ DILG (Bureau of Local Government and Supervision): Atty.Ma. Rhodora Flores & Mr. Carlo Mari Crisregienald C. Tan) ○ NEDA-IPG (Mr. Aldwin U. Urbina & Atty. Gilbert V. Kintanar) ○ PPPC (tbc) ○ DENR-FASPS (Director Angelito Fontanilla & Mr. Conrado A. Bravante, Jr./Ms. Marianica Phillina L. Obmerga) ○ EMB-PPDD (Ms. Consolacion P. Crisostomo & Ms. Mary Esther D. Ofiaza) ● JET (Support in many tasks): <ul style="list-style-type: none"> ○ Engr. Kamishita (Chief) 	
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4.c Proposed outline of the TCP Newsletter	The following was executed by Mr. Kosaka: <ul style="list-style-type: none"> ➤ Presented the sample format of the TCP Newsletter including some ideas that will be considered for the preparation of the write-up for output 1. ➤ Requested the Sub-group members to provide proposals for the title of the Newsletter ➤ Sought commitment of the sub-group members to provide write-ups for Output 1 to be included as part of the articles in the Newsletter 	<ul style="list-style-type: none"> ○ Engr. Hosono (Deputy Chief) ○ Engr. Higashi (SWM/WTE) ○ Engr. Kosaka (SWM-PPP) <ul style="list-style-type: none"> ➤ Each member shall provide proposals for the title of Newsletter by 28th February 2020. ➤ DENR/NSWMC, DILG, DOE, NEDA, & PPPC shall provide a page write-up on the Role of National Government in terms of the WTE Project ➤ Expectations to TCP (What will you learn? What will you achieve?) = Optional ➤ Suggestion from DILG representative to move the deadline for the submission of the Newsletter articles from the 25th of February to 28th of February 2020 	➤ JET/SWM-PMO to follow-up with the sub-group members on the said commitments on or before the said deadline.
4.d Participants to the 1 st Training in Japan	The proposed travel period and the number of trainees were presented by JET	No comments/clarifications were raised by the sub-group members.	JET will remind JICA to send invite letters to all concerned agencies and other training participants.
4.e Kick-off seminar	<ul style="list-style-type: none"> ➤ JET mentioned the date of the kick-off seminar and asked if SWMD-PMO already coordinated with PPPC's presentation during the said seminar. ➤ SWMD-PMO mentioned that invite letters for the participants including resource speakers were already endorsed to the EMB Director for approval. 	Ms. Pausing (SWMD-PMO) mentioned that advanced copies of the invite letters will be sent to all participants this week while waiting for the signed invite letters.	➤ SWMD-PMO to send invite letters to the resource speakers and other participants within the week.

4.f Capacity Assessment of Sub-group members	Mr. Kamishita (JET) presented and explained the mechanics in filling up the forms for the Capacity assessment.	The members will send the Capacity Assessment via email to JET () and/or SWMD-PMO within this week.	JET/SWMD-PMO to follow-up with the sub-group members the copies of filled-up capacity assessment form for submission this week.
5. Finalization of the comments/agreements/timelines	<ul style="list-style-type: none"> ➤ Ms. Rose Faylogna (JET) presented the draft matrix on the comments/agreements/timelines. ➤ Various comments/inputs were raised by the sub-group members in the draft matrix. Hence, SWMD-PMO mentioned that the said matrix will also be sent to all sub-group members including copies of JET presentation for their further review and comments. 	No comments/clarifications raised by the sub-group members	JET/SWMD-PMO to send the draft matrix of comments/agreements/timelines to all sub-group members for further review/comments and inputs within the week.
6. Way Forward	Mr. Kamishita (JET) discussed the proposed agenda for the next Sub-group meeting for project output 1 which will be held on 05 March 2020. He also reiterated the readiness of the requirements particularly on Activities 1-1, 1-2, 1-4, & 1-4.	No comments/clarifications raised by the sub-group members	

Appendix 11-2: Sub-group Meeting for Output 1

11-2-2 : 2nd SG1

ADVANCED COPY**NOTICE OF MEETING**

TO : **ALL SUB-GROUP MEMBERS (PROJECT OUTPUT 1)**

Selected Concerned Government Agencies

Mr. Reynaldo L. Esguerra – DOST-DTI
 Mr. Dante Vergara – DOST-ITDI
 Ms. Charisse Jane D. Pascual – DOE-REMB
 Mr. Romeo M. Galangam – DOE-REMB
 Atty. Maria Rhodora R. Reyes – DILG-BLGS
 Ms. Marla Clarisol L. Agas – DILG-BLGS
 Mr. Aldwin U. Urbina - NEDA-IPG
 Mr. Gilbert V. Kintanar Jr. – NEDA IPG
 Ms. Justine E. Padiernos - PPPC
 Ms. Maria Beatriz N. Quintos - PPPC

Local Government Units (LGUs)

Mr. David John Vergara – EPWMD/LGU Quezon City
 Mr. Vincent Ferdinand Paul G. Vinarao – EPWMD/LGU Quezon City

Project Output Coordinators

Ms. Nica Phillina Obmerga – DENR-FASPS
 Ms. Consolacion P. Crisostomo – EMB-PPPDD
 Engr. Nolan B. Francisco – EMB-SWMD/PMO
 Ms. Elvira S. Pausing – EMB-SWMD/PMO
 Mr. Takahiro Kamishita – JICA/JET

All SWMD-PMO Technical and Support Staff

FROM : **THE EMB DIRECTOR**

DATE/TIME/VENUE: **05 March 2020 (Thursday)/ 10:00 AM/EMB-AQMTC Bldg.**

SUBJECT : **2nd SUB-GROUP MEETING: ENHANCEMENT OF NATIONAL PROJECT GOVERNMENT'S CAPACITY FOR SUPPORTING AND COORDINATING OF LGU'S WTE PROJECT UNDER THE TECHNICAL COOPERATION PROJECT (TCP) RE CAPACITY DEVELOPMENT ON IMPROVING SOLID WASTE MANAGEMENT THROUGH ADVANCED/INNOVATIVE TECHNOLOGIES**

AGENDA

1. Call to Order/Objectives of the Meeting
2. Activity 1-1 Preparation of BAT/BEP GL for WTE
 - Finalization of Collection Criteria
 - Progress of collection of BAT/BEP
3. Activity 1-2 Study WTE policy/mechanism in other countries
 - Information Sharing from SWMD-EMB,
4. Activity 1-4 Preparation of Structural & O&M Standards of WTE facility
 - Review/Comments for Japanese Standards
5. Activity 1-5 Preparation of Manual for bottom/fly ash
 - Result of discussion with HWMD from SWMD
6. Way Forward

Your participation/attendance is enjoined.

ENGR. WILLIAM O. CUÑADO



2nd Sub Group Meeting for

Output 1

“The Enhancement of National Government’s Capacity for supporting and coordinating of LGU’s WTE project”

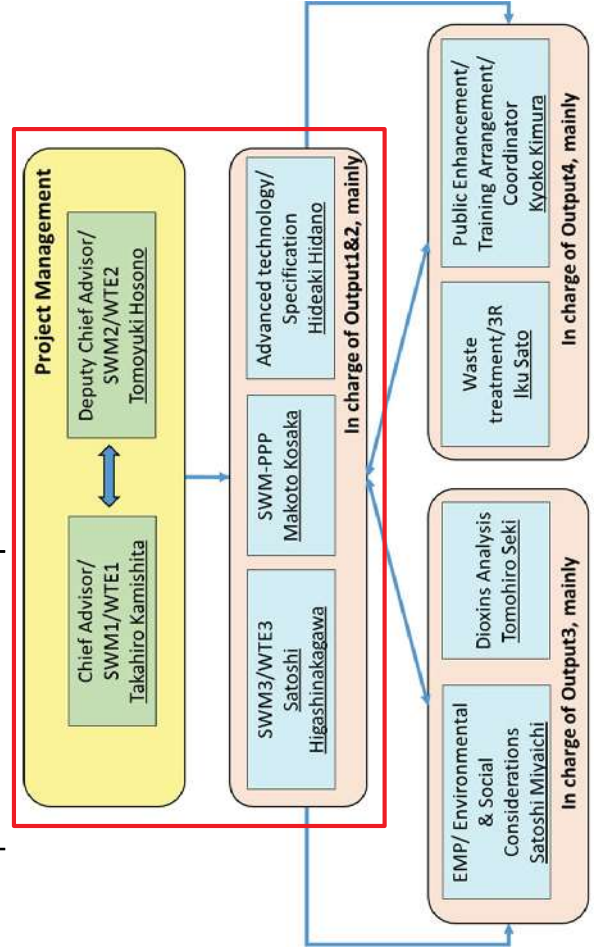
5th March 2020 (Thursday) 10:00

The Technical Cooperation Project (TCP) for Capacity Development on Improving Solid Waste Management (SWM) through Advanced/Innovative Technologies

1

1. Subgroup Structure

□ Composition of the JICA Expert Team



3

1. Subgroup Structure

□ SG Members for Output 1		“*” Member				
	Members	A1-1 B/B	A1-2 Policy	A1-4 T/St	A1-5 M/As	
DOST-PCIEERD	Engr. Nonilo A. Peña	*	*	*	*	*
DOST-ITDI	Engr. Reynaldo L. Esguerra			Sub-L		*
DOE-REMB	Mr. Romeo Galamgam	*	Sub-L	*	*	*
DILG-BLGS	Atty. Ma. Rhodora Flores Mr. Carlo Mari Crisregienald C. Tan	*	*	*	*	*
QC-EPWMD	Mr. Vincent Ferdinand Paul G. Vinarao	*	*	*	*	Sub-L
NEDA-IPG	Mr. Aldwin U. Urbina	*	*	*	*	*
PPPC	Ms. Justine Padiernos	*	*	*	*	*
DENR-FASPS	Director Angelito V. Fontanilla Mr. Conrado A. Bravante, Jr. Ms. Marianica Phillina L. Obmerga	*	*	*	*	*
DENR-PPDD	Ms. Consolacion P. Crisostomo	*	*	*	*	*
EMB-SWMD/ PMO	Engr. Nolan B. Francisco Ms. Elvira S. Pausing	Leader	Leader	Leader	Leader	Leader (HWMS &AQMS)
JICA Experts Team	See following organization chart	Support in many tasks	Support in many tasks	Support in many tasks	Support in many tasks	Support in many tasks

2

2. Outline of the Specific Activities under OP1

- 1-1: Prepare [Best Available Technique \(BAT\) / Best Environmental Practice \(BEP\) guideline](#)
- 1-2: Study policy & mechanism to promote WTE projects
- 1-3: Hold seminar to disseminate WTE technology
- 1-4: Prepare [draft technical standards for WTE facility](#) focused on waste incineration with power generation
- 1-5: Prepare [manual for management of bottom & fly ash](#) discharged from WTE facility
- 1-6: Prepare [manual for planning, evaluation, formulation & supervision for WTE projects](#), and prepare evaluation criteria for EMB on 10-year SWM plans
- 1-7: Illustrate model procedure to introduce WTE facility

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2. Outline of the Specific Activities under OP1

□ Schedule

	2019	2020	2021
OP01: Enhancement of NG's capacity for supporting / coordinating of LGU's WTE project	1-1 BAT/BEP 1-2 Study WTE Policy/Mechanisms 1-4 Draft Tech Standards Manual for Bottom/Fly ash	1-3 Dissemination Seminar (July) 1-6 Procedural Manual for WTE 1-7 Model Procedure	1-3 Dissemination Seminar (July)
SG-MTG	2/18 3/5 5/15	8/20 10/12 11/5	(To be continued)
Main Activity	No progress (up to now)	Data/info gathering, + Discussion, Deliberation,	Finalization

□ Deliverables

- 1) Project report, 2) Monitoring sheet, 3) BAT/BEP GL, 4) Tech and O&M Standard, 5) Manual for Bottom/Fly Ash, 6) Procedural Manual for WTE introduction,

4. Presentation and discussions / Activities under OP1

Activity 1-1: Prepare **BAT/BEP guideline**

SG MTGs in 2020	1 st	2 nd	3 rd	4 th	5 th	6 th	2021
Date	18Feb	05Mar	15May	20Aug	12Oct	05Nov	(cont.)
Team Setup	X						
Collection criteria of WTE BAT/BEP	X	X					
Collection of WTE BAT/BEP		Draft Finalize					
Review collected WTE BAT/BEPs		X	X	X	X		
Report at dis. Seminar			X				
Draft BAT/BEP Guidelines				X			
Finalization of BAT/BEP GL						X	Mar2021

3. Agenda of 2nd Subgroup Meeting

Draft agenda of SG-MTG on 05March

1. Call to Order
2. Objectives of today's Meeting
3. Activity 1-1 (Prep. BAT/BEP GL for WTE),
 - Finalization of Collection Criteria,
 - Progress of collection of BAT/BEP,
4. Activity 1-2 (Study WTE policy/mechanism in other countries),
 - Information Sharing from SWMD-EMB
5. Activity 1-4 (Prep. Structural + O&M Standards of WTE facility),
 - Review/Comments for Japanese Standards from each subgroup members
6. Activity 1-5 (Prep. Manual for bottom/fly ash),
 - Result of discussion with HWMD from SWMD
7. Way Forward

4. Presentation and discussions / Activities under OP1

Activity 1-1: Prepare **BAT/BEP guideline**

c. Selection criteria of BAT/BEP

- ✓ Which facility do you know/recognize "Good WTE Project"?

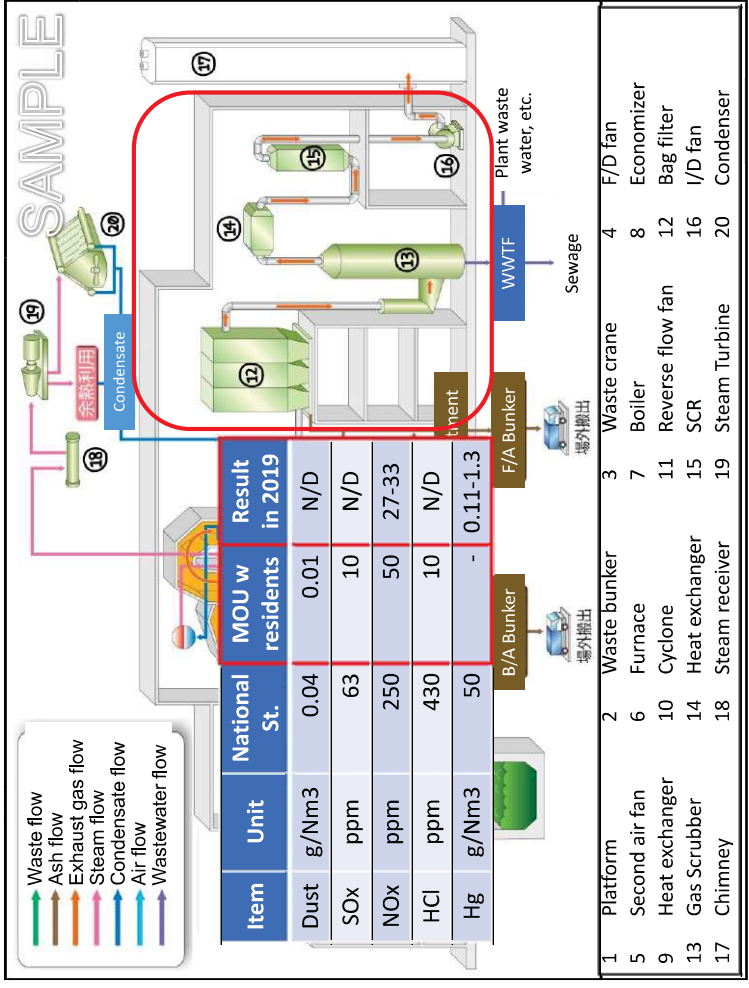
There are possibly two facilities in WTE in Stockholm and Amsterdam. The facility in Stockholm is integrated with incineration facility and biogas facility and they comprehensively treat solid waste. In Amsterdam, the site visit has been implemented before.

- ✓ What is the important point of "Good WTE Project"?

In the viewpoint of NG? Economy?

In the viewpoint of LGU? Residents?

- (e.g.) Low gov. expenditure? Acceptability of residents? Implemented as planned schedule?



4. Presentation and discussions / Activities under OP1

Activity 1-2: Study policy and mechanism to promote WTE in neighboring countries incl. cost sharing scheme

Explanation of Samples in UNIDO by SWMD

4. Presentation and discussions / Activities under OP1

Activity 1-2: Study policy and mechanism to promote WTE in neighboring countries incl. cost sharing scheme

SG MTGs in 2020	1 st	2 nd	3 rd	Seminar	4 th	5 th	6 th	2021
Date	18Feb	05Mar	15May	July	20Aug	12Oct	05Nov	(cont.)
Team Setup	X							
Collection of study policy and mechanism		↑						
Collection of information		X	X		X			
Report at dis. Seminar				X				
Review of collected information and						X		
Finalization of study policy and mechanism							X	Mar2021

EJEC 14

4. Presentation and discussions / Activities under OP1

1-4: Prepare draft technical standards for WTE facility focused on waste incineration with power generation

SG MTGs in 2020	1 st	2 nd	3 rd	Seminar	4 th	5 th	6 th	2021
Date	18Feb	05Mar	15May	July	20Aug	12Oct	05Nov	(cont.)
Team Setup	X							
Consideration of structure of standards		X						
Preparation of standards		↑						
Preparation of draft standards			X					
Report at dis. Seminar				X				
Finalization of standards					X			

4. Presentation and discussions / Activities under OP1

1-4: Prepare draft technical standards for WTE facility focused on waste incineration with power generation

- ✓ In previous subgroup meeting, subgroup member was requested to the comments of structural/functional standard and operation & maintenance standard of WTE in Japan

Main Requirements for Incineration Facility	Structural/Functional Standard (Article 4 of IRR)	Operation & Maintenance Standard (Article 4-5 of IRR)
Combustion chamber;	<ul style="list-style-type: none"> ✓ Capable to incinerate waste at more than 800dC of combustion gas, and keep it more than 2 seconds, 	<ul style="list-style-type: none"> ✓ Keep combustion gas temperature in combustion chamber above 800dC. ✓ Incinerate the waste completely as per ignition loss can be less than 10%.
Cooling system before dust collector	<ul style="list-style-type: none"> ✓ Capable to cool down combustion gas less than 200dC before inlet of dust collector, 	<ul style="list-style-type: none"> ✓ Cool down combustion gas less than 200dC before inlet of dust collector,
Exhaust gas treatment system	<ul style="list-style-type: none"> ✓ Capable to treat exhaust gas to be safe for living environment, 	<ul style="list-style-type: none"> ✓ Incinerate the waste as per pollutants (DXNs, CO, etc.) concentration in exhaust gas can be met with the standard,
Measurement and recording system	<ul style="list-style-type: none"> ✓ Capable to monitor/record above mentioned conditions continuously, 	<ul style="list-style-type: none"> ✓ Monitor and record the temperature/ pollutants of above mentioned points continuously, ✓ Sampling and analyze DXNs at least once in a year, and dust/SOx/HC/NOx shall be at least twice in a year,
Ash discharge	<ul style="list-style-type: none"> ✓ Capable to discharge fly/bottom ash separately. 	<ul style="list-style-type: none"> ✓ Discharge fly/bottom ash separately,

4. Presentation and discussions / Activities under OP1

1-5: Prepare manual for management of bottom & fly ash discharged from WTE facility

- ✓ While “Activity1-3 Tech standards” specifies functional/operational requirements of WTE facility, reference document for treatment/disposal of incineration residue (fly/bottom ash) shall be necessary to guide LGUs,
- ✓ In Japan, it is specified in structural/operational standards of final disposal sites,
- ✓ In Philippines, EMB issued structural/operational requirements of SLFs in DAO 2006-10, however, it is prepared for the disposal of MSW and not able to apply for the disposal of bottom/fly ash, latter contains heavy metals, in particular effluent standards of leachate treatment facility,
- ✓ In this concern, JET has discussed with Hazardous Waste Management Division of EMB about the categorization of bottom/fly ash several times, but yet to reach the conclusion,
> Next page shows the point of discussion / progress of the meetings,

4. Presentation and discussions / Activities under OP1

1-5: Prepare manual for management of bottom & fly ash discharged from WTE facility

SG MTGs in 2020	1 st	2 nd	3 rd	Seminar	4 th	5 th	6 th	2021
Date	18Feb	05Mar	15May	July	20Aug	12Oct	05Nov	(cont.)
Team Setup	X							
Consideration of structure of manual		X						
Preparation of manual								
Preparation of draft manual			X					
Report at dis. Seminar				X				
Finalization of manual					X			

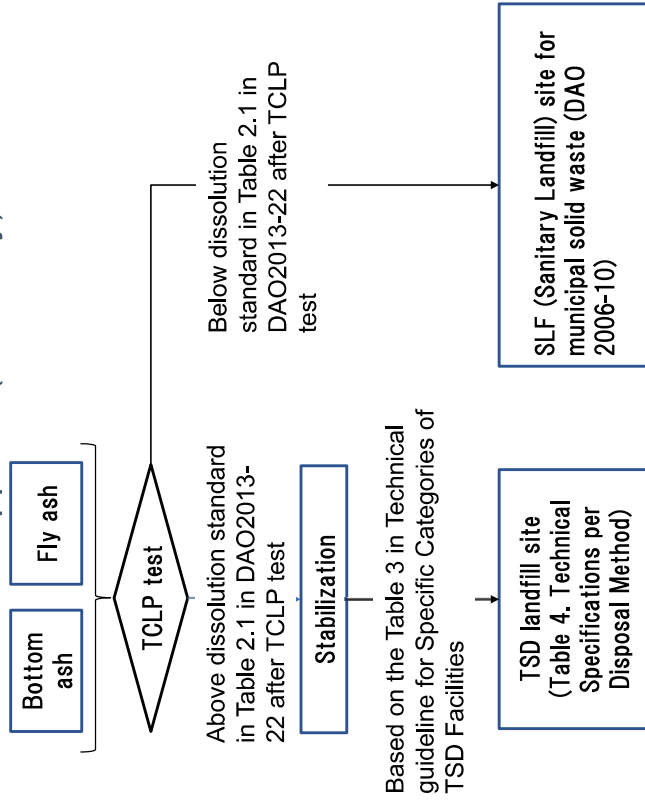
4. Presentation and discussions / Activities under OP1

1-5: Prepare manual for management of bottom & fly ash discharged from WTE facility

Point of discussion / progress of the meetings with HWMD-EMB,

- ✓ How to categorize the residuals from WTE such as bottom/fly ash in Philippines,
- ✓ RA6969, DAO1992-29, DAO2004-36, DAO2013-22,
- ✓ DAO2004-36 (Procedural Manual for Hazardous Waste), [Table1-1] Class D “Waste with inorganic chemicals”
=>TCLP result determines it can be hazardous or non-hazardous waste, [Table1-1] Class K “Immobilized Waste” => Hazardous?, [Table1-2] “Exempted Waste” > can be disposed in SLFs,
- ✓ Hazardous waste shall be disposed at TSD Facility, while Non-hazardous waste can be disposed at SLFs,
- ✓ In Japan, fly-ash which contains heavy metals, once it is chelated/immobilized and pass TCLP standards, it can be disposed at SLFs (with appropriate LTP),
- ✓ Standard for SLFs (incl. effluent) and/or TSD facility shall be examined,

Handling procedure of incineration residue in the Philippines (Currently)



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4.c. Proposed outline of the TCP Newsletter

- Title of newsletter: (Examples)
 - Road to Shokyaku (“combustion” in Japanese)
- Article for the 1st newsletter (Examples)
 - Output2
 - Introduction of WTE project in 3LGUs
 - ✓ Status of project, year of operation
 - ✓ Technology and treatment capacity
 - ✓ Messages to stakeholders
 - WTE projects in other LGUs
 - Output4
 - Good Practice in 3 LGUs
 - Common
 - Expectations to TCP (What will learn? What will you achieve?)

4.c. Proposed outline of the TCP Newsletter

Newsletter on this project will be published twice a year for the following purposes:

- To disseminate and share the progress of the project
- To share the products of the project (such as manuals)

The Newsletter will be published on the website and distributed at the related events.

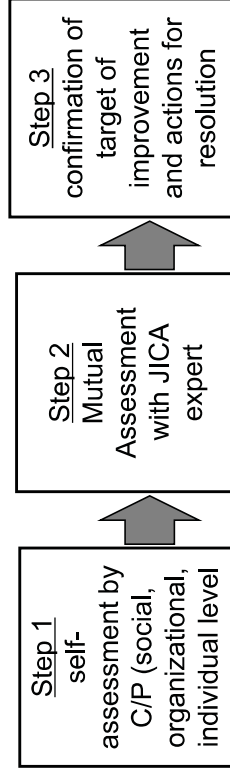
	Page	Writer	deadline
Cover	1	JET	-
1	1	-	-
Greeting	1	JET	-
1.1	0.5	EMB	21th-Feb.2020
Greeting from EMB	0.5	JET	21th-Feb.2020
1.2	0.5	JET	21th-Feb.2020
Greeting from JET	5	-	-
2	5	-	-
Outline of SWM-AIT Project	0.4	PWO	21th-Feb.2020
2.1	0.4	JICA	21th-Feb.2020
About TCP	0.4	JICA	21th-Feb.2020
2.2	0.2	JET	21th-Feb.2020
2.3	0.2	JET	21th-Feb.2020
PDM	1	Sub-Group1	25th-Feb.2020
(1) Output 1	1	Sub-Group2	25th-Feb.2020
(2) Output 2	1	Sub-Group3	25th-Feb.2020
(3) Output 3	1	Sub-Group4	25th-Feb.2020
(4) Output 4	1	Sub-Group4	25th-Feb.2020
3	1	JET	21th-Feb.2020
The Member of SWM-AIT Project	1	JET	21th-Feb.2020
3.1	-	-	-
Organization Chart	-	-	-
(1) JCC	-	-	-
(2) Project Team	-	-	-
(3) ITWG	-	-	-
(4) JICA Expert Team	-	-	-
TOTAL	8		

- Allocated 1 page
- Deadline: 25th Feb

4.d. Participants in 1st Training in Japan

- Proposed period:
 - May 24 –June 6 (incl. traveling Philippines - Japan)
- Number of trainees:
 - LGUs: 1person/LGU in total 3
 - Laboratory (ERLSD): 3
 - EMB central (SWMD) : 3
 - EMB region: 1person/region in total 3
 - DOE, PPPC, DOST: 3

- Evaluation based on the Capacity Assessment Sheet
- Questions related with activities for outputs
- Evaluation may improve according to execution of activities
- 3times of assessment in project period (beginning, mid-term and end of the project)



6. Way Forward

Schedule of JCC, ITWG and sub-group meetings

GROUPS	Ja	Fe	Mar	Ap	May	Jun	Jul	Au	Se	Oc	No	De
ITWG	24			23			16		16			
SUBGROUP												
OP1		18	5		15		20		12		5	
OP2		13		16		9		10				
OP3		10			14				8			
OP4		13				16						
JCC						18					15	

6. Way Forward

Draft agenda of next SG-MTG on 15 May

1. Call to Order
2. Objectives of today's Meeting
3. Activity 1-1 (Prep. BAT/BEP GL for WTE),
-Progress of collection of BAT/BEP
4. Activity 1-2 (Study WTE policy/mechanism in other countries),
- Information Sharing from Subgroup members,
5. Activity 1-4 (Prep. Structural + O&M Standards of WTE facility),
- Summarization of comments from each member
- Preparation of First Draft Structural and O&M Guidelines
6. Activity 1-5 (Prep. Manual for bottom/fly ash),
- Preparation of First Draft Manual for bottom/fly ash
7. Way Forward

PROJECT ACTIVITY : 2nd SUB-GROUP MEETING FOR PROJECT OUTPUT 1 (ENHANCEMENT OF NATIONAL GOVERNMENTS' CAPACITY FOR SUPPORTING AND COORDINATING OF LGUs' WTE PROJECT)

DATE/TIME : 5th March 2020, 10:44 AM-2:15PM

VENUE : PPPDD Bldg., Conference Room

Agenda Topics	Issues/Discussions/Actions	Comments/Agreements/ Timelines	Required Actions/Responsible Agency/Person
<p>1.) Call to Order/Objectives of the Meeting</p>	<ul style="list-style-type: none"> • Establishment of the meeting that was duly called. • Adoption of the Agenda 	<ul style="list-style-type: none"> ➤ Agenda was moved for adoption during the 1st Subgroup Meeting and the 2nd Meeting is just the continuation. 	
<p>2.) Presentation & Introduction of Subgroup members for Project Output 1</p>	<ul style="list-style-type: none"> • Introduction of the attendees for Output 1 by Ms. Pausing of EMB-SWMD, including the new members of the PMO (EMB-SWMD) Project Team 	<ul style="list-style-type: none"> ➤ No clarifications and/or alterations raised by the sub-group members. 	
<p>3.) Adoption of the Summary of Meeting Highlights</p>	<ul style="list-style-type: none"> • Introduction of the members of the JICA Expert team and the discussion of the Agenda for the continuation of Subgroup meeting for Output 1 by Mr. Higashi of JET. 		
<p>4.) Presentation and discussions on the topics under: Activity 1-1 Preparation of BAT/BEP Guidelines for WTE</p> <ul style="list-style-type: none"> • Progress of collection of BAT/BEP 	<p>From the presentation of Mr. Higashi from JET, the following discussions and agreements were defined:</p> <ul style="list-style-type: none"> • How many BAT/BEP Project should the members of the Subgroup collect? 	<ul style="list-style-type: none"> ➤ each sub-group member will prepare one project per at least and select 	<ul style="list-style-type: none"> ➤ JET/SWMD-PMO to follow-up with the sub-group members on

<ul style="list-style-type: none"> ● Finalization of Collection Criteria 	<ul style="list-style-type: none"> ● Which area (SE Asia? Entire Asia? EU? US?) shall be covered? <ul style="list-style-type: none"> ➢ Ms. Joan recommended to include US and EURO countries. ➢ DOST also suggested the same areas. ➢ QC-EPWMD proposed to include the Organization for Economic Co-operation and Development (OECD) Countries or IMF advanced economies countries (39 countries). ➢ Mr. Kamishita suggested to focus first on SE Asian countries like Thailand, Singapore, etc then if information is not sufficient, then the research can shift to IMF countries. He emphasized that the technology should originate from developed countries but the location of the WTE does not matter. ➢ DOST clarified that SE Asian countries are needed because of the applicability in the Philippine setting. According 	<p>suitable ones, though the number is not specified</p> <p>➢ SE Asian countries and IMF countries will be the key areas and no limitations will be imposed with regards to the source of information.</p>	<p>the said commitments on or before the deadline (March 13, 2020).</p>
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	<p>to her, it will also give us a clearer view on where we are and where we want to go in terms of WTE. She recommended to collect both.</p> <ul style="list-style-type: none"> • What WTE Technology (Incineration, Biogas, etc.) shall be covered? <ul style="list-style-type: none"> ➤ QC-EPWMD stated that they will focus on MBT since most of QC's waste is MSW-Biodegradables, and wanted to ensure that the bio component shall be covered. He mentioned that QC is still looking for a good standard facility/model for BAT/BEP since most of the technologies focuses on waste incineration. 	<ul style="list-style-type: none"> ➤ All kinds of WTE technology will be included with prioritization of incineration technology. ➤ The JET supported the statement. 		
<ul style="list-style-type: none"> ➤ DOST inquired with regards to the scale of the project. ➤ Only good practices or the failed WTE practices can be included as well (optional) ➤ Ms. Beng presented Ukishima Incineration Plant in Kanagawa, Japan (Fieldworks with Engr. Nolan) 		<ul style="list-style-type: none"> ➤ Though it will not be specified during information collection, it will be specified in the process of summarization of guideline. ➤ Good practices from successful projects only. 	<ul style="list-style-type: none"> ➤ Ms. Beng ask JET to confirm the presentation through the data written in 	<ul style="list-style-type: none"> ➤ EMB-SWMD will provide the leaflet and JET will review and

	<ul style="list-style-type: none"> ➤ Mr. Kamishita inquired about the status of the incineration plant. ➤ Ms. Joan presented the Nerima Incineration Plant from Yahara, Nerimaku, Japan. 	<p>Japanese and provide the leaflet based on her presentation to review it.</p>	<p>add some information based on web site.</p>
<p>Activity 1-2 Study policy and mechanism to promote WTE in neighboring countries including cost sharing scheme</p>	<ul style="list-style-type: none"> ➤ Ms. Beng will be providing the UNIDO project final draft for the financial mechanism ➤ Ms. Nica of FASPS had asked for the permission/approval of Ms. Hydie of UNIDO for the sharing of the financial mechanism draft. ➤ Mr. Beng inquired about the information of cost sharing scheme of the government agencies to each subgroup members. ➤ Mr. Higashi specified that one representative for Output 1 will present the consolidated information. ➤ Mr. Kamishita recommended that the policy and mechanism shall be gathered before the next ITWG meeting so there will be a progress to be presented. 	<ul style="list-style-type: none"> ➤ A copy of the project document will be provided to JET after the permission. ➤ DOST: No cost sharing scheme from DOST ➤ QC-EPWMD: Cost sharing scheme from PPP ➤ The Leader or Sub-leader will be presenting the information. 	<ul style="list-style-type: none"> ➤ Cost sharing mechanism of UNIDO project has been provided. ➤ Cost sharing scheme should be collected continuously by each subgroup member.

<p>Activity 1-4 Preparation of technical standards draft for WTE facility focusing on waste incineration with power generation</p>	<p>To confirm the structural standard and operation and maintenance standard in Japan, each participant read.</p> <ul style="list-style-type: none"> ➤ QC-EPWMD suggested to delete the etc. and specify if for Article 4-iii. ➤ Ms. Joan inquired about the specified temperature of 800 degrees Celsius. 	<ul style="list-style-type: none"> ➤ Mr. Kamishita explained that temperatures for WTE facility should be set to 800 degrees Celsius and above to avoid the generation of dioxins and furans. ➤ He continued that Engr. Jundy mentioned that the methodology is not registered in EPA yet for the monitoring of the dioxins and furans in the Philippines. ➤ Separate meeting shall be set for this. 	<ul style="list-style-type: none"> ➤ SWMD-PMO to work with JET on the preparation of all the requirements under Activity 1-4 ➤ As well as holding separate meeting, the members will prepare the comments of the standards in order to prepare the version for the Philippines by March 13, 2020
<p>Activity 1-5 Preparation of Manual for management of bottom & fly ash discharged from WTE facility</p>	<ul style="list-style-type: none"> ➤ Ms. Beng recommended that the technical standards should be discussed with AQMS and ERLSD. ➤ Ms. Joan presented the meeting outline with HMWS for the handling procedure of incineration residue in the Philippines (specifically for bottom ash and fly ash). 	<ul style="list-style-type: none"> ➤ HWMS does not have actual case of ash treatment, which EMB regional offices might have information. 	<ul style="list-style-type: none"> ➤ Involvement of HWMS which revise DAO 2013-22 is necessary for the subgroup. ➤ In addition, case study should be collected through EMB regional office.
<p>4.c Updates for the TCP Newsletter and Capacity Assessment of Sub-group members</p>	<ul style="list-style-type: none"> ➤ The Monitoring Sheet was presented by Ms. Rose. 	<ul style="list-style-type: none"> ➤ Each member shall provide proposals for the title of Newsletter including the submission of Newsletter Articles and accomplished Capacity Assessment. 	<ul style="list-style-type: none"> ➤ JET/SWM-PMO to follow-up with the sub-group members on the said commitments on or before March 12, 2020.

4.d Participants to the 1 st Training in Japan	<ul style="list-style-type: none"> ➤ Mr. Kamishita advised to wait for the updates. 	<ul style="list-style-type: none"> ➤ No comments/clarifications were raised by the sub-group members. 	<ul style="list-style-type: none"> ➤ JET will remind JICA again to send invite letters to all concerned agencies and other training participants.
6. Way Forward	<ul style="list-style-type: none"> ➤ Mr. Kamishita (JET) declared the meeting schedules for the ITWG and the next Subgroup meeting for Output 1. 	<ul style="list-style-type: none"> ➤ In ITWG meeting, leader or subleader will make presentation of the progress of the subgroup of output 1 	<ul style="list-style-type: none"> ➤ Next meeting for ITWG shall be on the 23rd of April, and for Subgroup members' 3rd meeting for Output 1 will be on May 15, 2020.