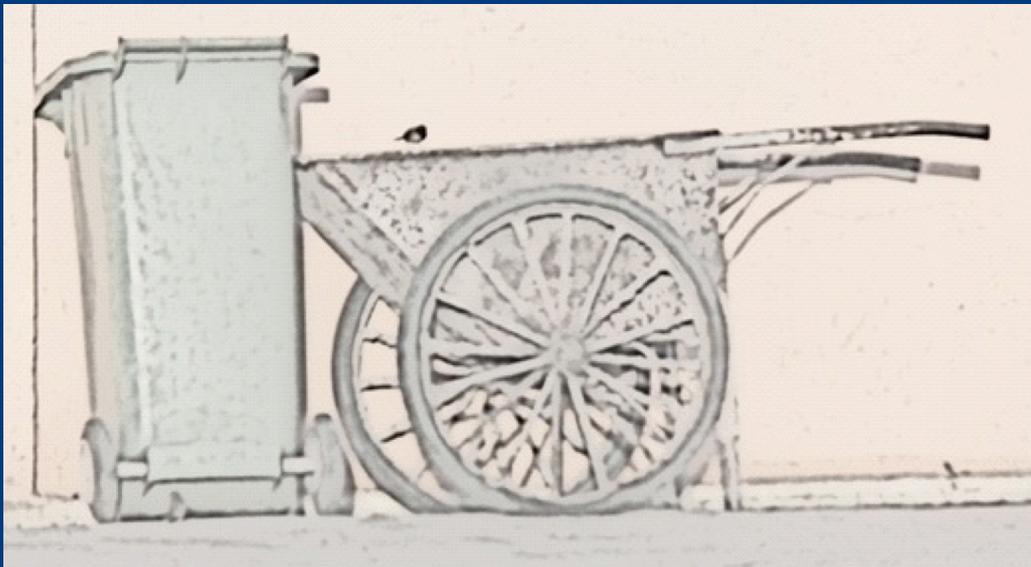


**TA-8566 REG: Mainstreaming Integrated Solid Waste Management in Asia -
Solid Waste Management Team (46248-001)**

Policy and Regulatory Reform Paper **Thailand**



November 2016

The views expressed in this presentation are the views of the author/s and do not necessarily reflect the views or policies of the Asian Development Bank, or its Board of Governors, or the governments they represent. ADB does not guarantee the accuracy of the data included in this presentation and accepts no responsibility for any consequence of their use. The countries listed in this presentation do not imply any view on ADB's part as to sovereignty or independent status or necessarily conform to ADB's terminology.

Disclaimers

This Policy and Regulatory Reform Paper shall not constitute the basis of any contract which may be concluded for the exchange of notes. The recipient must rely on its own enquiries and on the terms and conditions contained in any agreement, when and if finally executed, subject to such limitations or restrictions as may be specified therein.

AECOM will devote normal professional efforts compatible with the time and budget available in performing the Services. AECOM's findings represent its reasonable judgments within the time and budget context of its commission and utilizing the information available to it at the time of performing the Services.

AECOM are making projections/recommendations based upon limited information that has been made available to them; such projections/recommendations are subject to many factors that are beyond the control of AECOM; and AECOM thus make no representations or warranties with respect to such projections/recommendations and disclaim any responsibility for the accuracy of any estimates, projections and recommendations.

This report is prepared for the Asian Development Bank (ADB) and is given for its sole benefit in relation to and pursuant to ADB's TA 8566 and may not be disclosed to, quoted to or relied upon by any person other than ADB without AECOM's prior written consent. No person (other than ADB) into whose possession a copy of this report comes may rely on this report without AECOM's express written consent and ADB may not rely on it for any purpose other than as described above.

Contents

Disclaimers	i
1. Introduction	1
2. Thailand Regulations Related to Solid Waste Management	2
2.1. Introduction	2
2.2. Waste Avoidance	3
2.3. Reduce / Reuse / Recycle	3
2.4. Collection / transportation	4
2.5. Recovery / Treatment / Disposal	5
3. Feedback from Private Companies on Policy and Regulatory Issues Impacting Solid Waste PPP projects in Thailand	8
3.1 Market Sounding Exercise	8
3.2 General Reluctance to use national PPP law	8
3.3 Other Issues Identified	8
4. Feedback for Department of Local Administration (DLA) / Ministry of Interior (MoI) on Policy and Regulatory Environment for LAO Solid Waste Management	9
4.1. Solid Waste Management Policies	9
4.2. Policies on Collection Fee	9
4.3. MSW PPP Projects	9
4.4. Lack of Access of WtE projects in Northeast Thailand to Electricity Lines	9
Annex 1 - Minutes of Meeting	10

1. Introduction

The purpose of this Policy and Regulatory Reform Paper is to identify weaknesses and potential areas for reform in national government solid waste policies and regulations covering the municipalities of Buriram and Mahasarakham.

This report should be read together with the Integrated Solid Waste Management Plans of Buriram and Mahasarakham.

2. Thailand Regulations Related to Solid Waste Management

2.1. Introduction

Since 2014, the National Council for Peace and Order (NCPO) and Thai Government realized the severity of problems pertaining to Municipal Solid Waste (MSW) in Thailand. The problems were neglected since the nationwide construction of landfills in the country 20 years ago. Now, the situation has become more severe and has also caught the public attention due to a recent incident on a massive fire at an open dumping site in Samut Prakarn Province.

The NCPO has established MSW as an issue on the national agenda since 2014 and ordered the Pollution Control Department (PCD) to develop a MSW Roadmap for the country. Since then there have been several committees and sub-committees studying the issue and figuring out how to resolve it. However, it is a difficult task as MSW issues are handled by various government agencies and involves at least 20 regulations between 6 Ministries namely Ministry of Industry, Ministry of Interior, Ministry of Natural Resources and Environment, Ministry of Health and Ministry of Finance.

This note provides general comments related to regulations on MSW and SWM by considering only the existing regulations. It shall be noted that there are several draft regulations, but the details have not been finalized and are not included in this note. The draft regulations include the National Solid Waste Management Act, Electronic and Electrical Appliances Waste Management Act and Maintenance of Public Sanitary and Order Act.

The comments are structured on sound SWM practice starting from the origin of waste to treatment and disposal.

List of Regulations which are being considered for this report

- Establishment of Local Administrative Organization Act
- Maintenance of Public Sanitary and Order Act B.E. 2535 (1992)
- Public Health Act B.E. 2535 (1992)
- Prescribing Plan and Process for Decentralization to Local Administrative Organization Act B.E. 2542 (1999)
- Private Investments in State Undertaking Act B.E. 2556 (2013) (PPP Act)
- Energy Development and Promotion Act B.E. 2535 (1992)
- Enhancement and Conservation of National Environmental Quality Act B.E. 2535 (1992) (NEQA)
- Factory Act B.E. 2535 (1992)
- Industrial Estate Authority of Thailand Act B.E. 2522 (1979)
- Investment Promotion Act B.E. 2520 (1977)
- Industrial Product Standard Act B.E. 2522 (1979)
- Town Planning Act B.E. 2518 (1975)
- The Customs Tariff Decree B.E. 2539 (1987)
- The Rule of the Office of Prime Minister on Public Consultation B.E. 2548 (2005)

2.2. Waste Avoidance

Problem: No regulation or clear national direction on production, import and use of waste or non-biodegradable waste such as plastic bags and styrene foam.

Suggestion: The government should consider establishing regulations to discourage non-biodegradables and promote use of environmental friendly products or biodegradable plastics.

- Charge businesses and manufacturers for producing non-environmental friendly products.
- Consider regulations related to Life Cycle Assessment (LCA) of products such as GHGs emission and reduction.
- Consider regulations to minimize use of plastic bags and promote recycling products such as charging a small amount of money for plastic bags in the shopping mall or controlling production, size and thickness of plastic bags to ensure people know that they have to pay for their own waste.
- Consider mandating biodegradable plastic bags for larger shops and malls or ban plastic bags and require reusable or paper bags to be used.
- Finally, considerations should be given to mainstreaming information and education campaigns so that the community and waste generators can have a better understanding on the importance of waste avoidance.

Related/reviewed regulations:

None

2.3. Reduce / Reuse / Recycle

Problem: No regulations and clear national directions on reduction and reuse of MSW.

Suggestion: The government should consider establishing regulations to enforce source separation of MSW, but only where there is a demonstrated benefit to the cost and community involvement, along with the introduction of multiple containers and a mechanized MRF to process the fully segregated waste. This involves changing public behaviour which cannot be expected to happen overnight. One suggestion is to announce a plan to provide full enforcement in the next 5 years in selected cities such as Bangkok, Chiang Mai and Pattaya.

At the same time, the government could consider enforcing separation of MSW at the local administrative levels as well as separate MSW collection and treatment systems. The first stage of waste separation is to separate between organic and inorganic waste. The organic waste can be applied for composting production (but only if there is a demonstrated sustainable demand for the product at a suitable price to make composting economically viable) or biogas generation. At present, there are no sustainable mechanized biological treatment plants for mixed waste in the region.

The inorganic waste can be made into Refused Derived Fuel (RDF) for sale to cement industries.

Generally, high levels of recycling efficiency are already occurring due to private sector interventions. Therefore, there is no need to introduce any policies or regulations beyond those interventions currently in place.

Related/reviewed regulations:

- Not available

2.4. Collection / transportation

Problem: There are no standards or requirements relating to MSW collection and transportation which have the potential to make it inefficient and ineffective. This issue is the responsibility of the Local Administrative Offices (LAO). LAOs can grant a concession to the private sector to perform this task, but there is neither a standard nor regulation to support the private sector in performing this task.

Suggestion: The government should consider regulations to enforce collection and transportation of source separated MSW. There are general requirements for MSW collection and transportation in national and local laws. In some provinces, there are local ordinances to do source separation of the waste. However, long term implementation and commitment are largely limited. Source separation of waste in the general community globally in developing and middle income nations has generally not been successful in the long term. It can also only be justified if there are significant benefits resulting from this separation in terms of facilitating the mechanization of recyclables recovery. Mechanized recycling facilities would only be appropriate for the larger communities which is where the initial focus should be.

Furthermore, there should also be standards or local ordinances on machinery and equipment used for waste collection and transportation, such as minimizing spillage of leachate and odour, and encouraging the use of efficient collection vehicles which have compaction capabilities. There should also be standards on how the waste is collected, such as route management, automatic garbage bin collection system and so one again initially focusing on the larger communities.

There should be no on-site scavenging during the collection and transportation process, especially with the push towards compaction vehicles. Each truck should be installed with GPS to track its location and route to enhance efficiency and prevent illegal dumping in larger municipalities.

Related/reviewed regulations:

- Establishment of Local Administrative Organization Act. This regulation would assign responsibility of MSW collection within their territory to the Local Administrative Organization (LAO). The LAO may operate outside their territory with the consensus of the City Council.
- Determining Plans and Process of Decentralization to Local Government Organization Act B.E. 2542 (1999) (Article 21 and 22). This regulation allows for different LAOs to cooperate or request for help from the government agency to undertake MSW management or delegate the work to the private sector.
- Building control Act B.E. 2522 (1979) (Ministerial Notification No. 33 B.E. 2535 (1992)). This regulation requires that tall building shall have conveying process in MSW collection.
- Public Health Act B.E. 2535 (1992) (Articles 18-20). This regulation prohibits other entity from undertaking MSW collection business unless they receive approval from the LAO and the LAO shall have the authority to issue the local ordinance.
- Maintaining the Country Cleanliness and Tidiness Act B.E. 2535 (1992). This law requires that the vehicles that transport waste shall have covers to prevent waste from dropping/dispersing on the street.

2.5. Recovery / Treatment / Disposal

Problem: Public Health Act B.E. 2535 gives the responsibility of treatment, recovery and disposal of MSW to LAOs, but there are no engineering standards to enforce good practice on how to design, construct, operate and maintain sanitary landfills. Hence, the PCD issued a guideline for selecting, construct, operate and maintain sanitary landfills. Both guidelines are widely accepted as an industry standard.

These guidelines contain a recommendation to limit the cell height to four lifts or approximately 10 metres. This limitation greatly reduces the airspace efficiency of landfill developments and is unnecessary in terms of safety or landfill stability provided usual compaction and slope limits are applied.

The guidelines also state the need for landfill gas venting and the sizing for leachate treatment ponds. All these recommendations are considered inappropriate for all, but the largest landfills.

The generally poor standard currently adopted for landfill operation creates problems related to air pollution, contamination of groundwater, freshwater and seawater, which leads to deterioration of the environmental quality of nearby areas. This is a result of the most purported landfills in Thailand reverting to open dumping areas with limited or no maintenance and discharging untreated leachate to the local water courses.

The Thai government realizes that the O&M of landfill and waste treatment/disposal sites are too complicated for many LAOs manage (or the LAOs actually lack technical knowledge and experience), so the Government encourages LAOs give concessionaire to the private sector while LAOs become regulators. This is a good strategy, but there are many regulations which restrict the private sectors from investing into such projects which include:

- There has been some public concern and confusion over whether MSW is actually a government asset. If it is, separation/recovery of MSW for sale is partially illegal. These concerns were raised by some government agencies when landfilling was the only method of MSW disposal, but now there are many other options for waste recovery and treatment, such as RDF production, biogas from organic waste or WtE.
- Private Investments in State Undertaking Act B.E. 2556 (2013) provides a broad definition of PPP, which seems to cover Design-Build-Operate, Operations and Maintenance and other kinds of contracts. Under a new Ministry of Finance regulation (April 19, 2016) the minimum amount of PPP project requiring approval from the cabinet has been raised to 5 billion THB. Nevertheless, the process is not producing approved projects, i.e. not one LAO MSW project has reached final approval under the current process. In most countries, the lack of project preparation assistance on LAO PPP projects by qualified parties remains a problem.
- Financial support to MSW projects are only carried out through the providing of Feed-in Tariff (FiT) from Energy Regulatory Commission (ERC) to Waste to Energy projects. However, there are currently many obstacles to selling electricity to the grid. For example, almost the entire north-eastern region of Thailand does not have available feeder capacity for accepting electricity generated locally. The situation is also similar in the very north and the south of Thailand. Plans to rectify the situation have been announced but not confirmed by EGAT. Strong links between MSW recovery/treatment projects to selling electricity can be an issue when the electricity sales area is limited. This discourages the private sector from investing in MSW Waste to Energy projects rather than promoting it.

- There are standards for leachate treatment and air emissions from landfills and other waste processing plants. These are provided by the Pollution Control Department and enforced through the Department of Industrial Works. However, there is a lack of implementation and enforcement mechanisms in this area. Many of the landfills are operating with minimal leachate management and sometimes none at all. This causes the leachate to overflow into surface or groundwater bodies and can lead to significant environmental issues. The preferred alternative is not providing leachate treatment plants, which are high in terms of both capital and operating costs, and therefore, are often neglected and poorly operated. Moving to the more contemporary approach for small- to mid-size landfills of collecting then irrigating or reinjecting the leachate into a properly operated landfill should be promoted.

Suggestions:

- The government should consider regulations to enforce engineering standards (design, construction, operation and maintenance) for different technologies of waste recovery and treatment (waste separation, RDF/WtE, digestion and/or composting facility, landfill) to an acceptable level to minimize environmental impact.
- The government should clearly define MSW, and it should be recovered and treated. MSW shall not be regarded as a resource that can provide a net income. In essence, it is waste or at best a resource which can be partially recovered, but not eliminated, and the overall management costs can be reduced.
- Although the PPP act has been recently revised to increase the minimum project value of 1 billion THB to 5 billion THB for cabinet approval, more needs to be done to streamline the approval process. Considering the lack of experience in PPP project preparation at the LAO level, central government needs to elevate the PPP office advisory function to assist LAO's to progress more quickly in following procedures and developing documentation.
- Both municipalities should consider user charges for residential customers should be raised to level needed to make solid waste management self-sustaining financially. Although there will be public resistance in the first few years, it is the first and necessary step to ensure that LAOs will have sufficient financial resources to fund MSW recovery/treatment project without relying on financial support from the central government or having to wait for selling electricity. In the long term, this kind of project, such as landfill or RDF incineration plant, shall be operated mainly on the gate fee, while the selling of electricity should only be considered as by-product or ancillary revenue.
- The Department of Industrial Works and PCD shall enforce an on-line monitoring system for discharging of the treated water and air at landfill and waste processing sites. The results shall be available on the internet to show to the public.
- Assuming 4 lift landfills with a 20-year design period (Clause 8.1.5) limits the height to approximately 10 m. This results in extensive flat areas on top of the waste mound, thereby maximizing leachate generation and associated management difficulties. Further, this restriction greatly reduces the landfill volumetric capacity, therefore, significantly increases landfill development costs in terms of final airspace developed.
- A wastewater treatment pond should not be required. The present guidelines specify the size is based on a 25-year - 24-hour storm which indicates complete confusion between runoff and leachate. The contemporary approach of collecting leachate for subsequent irrigation or reinjection should be supported at all, but the largest landfills.

Thailand LAO Solid Waste Policy and Regulatory Reform (Buriram and Mahasarakham)

- The compulsory installation of gas vents is inappropriate particularly for small landfills where the gas will not be commercially harvested or used. There is no need to have a gas collection and flaring system to overcome any explosion risk, provided that front-end control and operations are such that large tanks or containers are not allowed into the landfill cell, thereby forming potentially dangerous large voids.

Related/reviewed regulations:

- Establishment of Local Administrative Organization Act.
- Prescribing Plan and Process for Decentralization to Local Administrative Organization Act B.E. 2542 (1999). The law states that delegating the authority from LAO to the private sector shall require a Ministerial Notification.
- Public Health Act B.E. 2535 (1992). The regulation specifies that disposal of waste shall require approval from the LAO officer in charge.
- Notification of Pollution Control Department Re: Criteria for Selecting Landfill Location B.E. 2552 (2009). This regulation provides guidelines on selection of landfill location as well as controlling emission of exhaust from waste incinerator.
- The Rule of the Office of Prime Minister on Public Consultation B.E. 2548 (2005)

Reference:

Working Group on Reviewing SWM Related Regulations in Thailand. *Presentation of Proposed Mitigation Measures on How to Solve MSW Issues Related to Regulations*. 2016.

3. Feedback from Private Companies on Policy and Regulatory Issues Impacting Solid Waste PPP projects in Thailand

3.1. Market Sounding Exercise

During September and October 2016, meetings were held with several companies involved in both investment and operation of solid waste management concessions for landfills, refuse derived fuel projects and Waste-to-Energy projects. The discussions (also referenced in Buriram and Mahasarakham Prefeasibility Studies) underscored very active interest by mostly Thailand based firms, along with a smaller number of international firms in financially viable Public-Private-Partnerships for solid waste management with Local Administrative Offices at the municipal level.

3.2. General Reluctance to use national PPP law

Private companies participated in the discussion acknowledged that while regulations and guidelines exist for Solid Waste projects to be approved, the process has not proven to be effective or short enough to implement. They were not aware of PPP projects at LAO level in any sector that had been approved. The companies generally believed that for authorities to approve small to medium size Solid Waste Management plans, the approval should be delegated to the provincial level. Until changes were made in the approval process, the companies believed that it is necessary to adopt other types of agreements, which technically falls outside the remit of national PPP regulation. The approval could then be granted at the municipal level.

If the approval process could be appropriately streamlined, companies expressed interest to use PPP structures falling under national regulations would have the main advantage of much longer available concession terms, potentially up to 20 years, as opposed to a maximum of 10 years available under other structures.

3.3. Other Issues Identified

Other Key policy and regulatory issues mentioned during interviews were:

- Currently, there are no power feeders available in the North-eastern region of Thailand. Municipalities may lose the opportunity in waste to energy projects in the next 3-5 years until the electrical feeder lines become available. The issue has not even been dealt with at policy level by national government or EGAT.
- The lack of transparency at the local government level in Thailand is making projects difficult to implement in some municipalities.
- LAO's not using appropriate prequalification processes for tendering seemed to be favoring inexperienced politically connected bidders over technically competent ones.
- Tipping fees for waste disposal are not high enough in most municipalities for Waste to Energy projects to be viable. Another obstacle is the relatively low amounts of waste collected in many provinces – requiring collaboration between multiple local governments/municipalities to accumulate enough waste for economic WtE operation.

4. Feedback for Department of Local Administration (DLA) / Ministry of Interior (Mol) on Policy and Regulatory Environment for LAO Solid Waste Management

4.1. Solid Waste Management Policies

At a meeting with DLA / MOI on 22 November 2016, many of the issues of this report were discussed. As cited in the Meeting Minutes in Annex 1, DLA / Mol are particularly focused on the lack of laws and regulations to enforce existing solid waste management policies. DLA / Mol are optimistic that the situation is beginning to change. There is a trend to move towards more stringent enforcement on MSW segregation, collection and transportation of MSW in the near future. DLA/MOI expect that enforcement will be provided with the issuing of Ministerial Notifications following on from the National Solid Waste Management Act.

4.2. Policies on Collection Fee

New Ministerial notifications are expected. It would enforce a minimum solid waste management fee (collection and disposal fee) of around 170 THB/household/month from existing 40 THB/household/month. This cost is separated into transportation cost of 100 THB/household/month and disposal cost of 70 THB/household/month.

4.3. MSW PPP Projects

In April 2016, the project amount requiring cabinet level approval was raised from THB 1 billion to THB 5 billion. This will help facilitate smaller projects (especially for waste collection or landfills).

While Mol acknowledges that no LAO MSW PPP projects have come close to reaching final approval, it points to several projects that have achieved the first 8 of 14 steps for approval. Mol points to insufficient capacity of LAO's and private project proponents to follow procedures and prepare requisite documents efficiently and correctly.

The conflicting level of standards between local and central government would be considered normal in other comparable countries and represents a challenging issue going forward if Mol intends to incentive LAO's and private project proponents to use its approval process.¹

Mol realizes the importance of solving MSW issues. To facilitate the approval process and speed up the whole process, Mol have proposed to exclude MSW projects from PPP Act. This draft Maintaining the Country Cleanliness and Tidiness Act B.E. is now being considered by the Parliament.

4.4. Lack of Access of WtE projects in Northeast Thailand to Electricity Lines

Mol understands that plans are in place to build sufficient electricity lines by 2020. If this could be confirmed by EGAT, it would mean that new plants could be constructed for larger cities in the region (with larger waste volumes than Buriram or Mahasarakham).

¹ PPP project proponents may simply redefine the project structure so that it falls outside the definition of a PPP.

Annex 1 - Minutes of Meeting

Minutes of Meeting

MSW Regulations and National and Municipal Level

Department of Local Administration (DLA), Ministry of Interior (Mol), Thailand

22 November 2016

The meeting was held to discuss MSW Regulations and National and Municipal Level in Thailand. It was commenced at 10:00 AM, 22nd November 2016

Attendees:

Mr. Kukieat Nimniam	Director of Environmental Management Promotion and Participation Division
Mr. Kobchart Wichiansri	Policy and Operation Analyst
Ms. Warapon	Lawyer
Mr. Apipong Lamsam	SWM Specialist – Technical (Thailand)

1. Introduction of the Mainstreaming Integrated Solid Waste management (ISWM) in Asia project and the status of the project
2. Review regulations related to SWM in Thailand

MSW Avoid

3. Currently there are no regulations in Thailand at National and Municipal level for enforcement.
4. Section 3, Articles 25 and 38 of the National Solid Waste Management Act B.E. (Draft) which is being proposed by Minister of Natural Resources and Environment (MoNRE) and under the consideration by the Parliament (2nd round) addresses this issue. The Act put a framework related SWM issues, such as label on products to show environmental impact, recycling, suggestion on waste segregation, return of products, environmental friendly products, and collection, transportation and disposal methods. MoNRE with the recommendation of the National SWM Committee have the authority to issue Ministerial Notification to enforce the MSW avoidance.

MSW 3Rs

5. Currently there are no regulations in Thailand at National and Municipal level for 3R enforcement. Mol has tried once to put forward a law to enforce waste segregation at source, but the law later changed to simply promotion of waste segregation at the sources.
6. On 3rd May 2016, the Cabinet approved the Roadmap for SWM B.E. 2559-2564 (2016-2021) and requested Mol and Ministry of Natural Resources and Environment (MoNRE) to develop a short term plan for 1 year. On 20th September 2016, the Cabinet approved the Operation Plan for “Thailand without MSW” based on “Civil State” Concept for 1 year B.E. 2559-2560 (2016-2017).

This plan aims to solve the problems related to MSW, hazardous waste, infectious waste and industrial waste by integrated efforts from all stakeholders (civil services, education institutes, private sector, religious sectors and the social sector/public) using 3Rs (Reduce, Reuse and Recycle). One of the success indicators is to reduce MSW to the final destination (landfills) by 5 percent from 2016 levels. Mol is the coordinator and implementer for this plan. However, this plan is not enforced by law by means of penalty. It only serves as a guideline for promotion of 3Rs from household to community to provincial and finally to national levels. If the plan is a success, the government can achieve substantial amount of saving in terms of disposal fees for MSW.

7. There is no clear policy on when and how to enforce waste 3Rs in Thailand. For the foreseeable future, 3Rs shall remain as a promotional campaign for the public and private sector.
8. Section 3, Article 25 of the National Solid Waste Management Act B.E. (Draft) specifies promotion of 3Rs as well as waste to energy or other ways to generate income to the communities and entities.

Collection/transportation

9. Section 3, Article 26-27 of the National Solid Waste Management Act B.E. (Draft) provides a guideline on collection, segregation and transportation of MSW. However, it is not enforced. In article 28, it states that the Ministry (of Interior) with the approval of the National SWM Committee can have the authority to issue Ministerial Notification to enforce on manufacturing, import or exporting, collection, transportation, treatment and disposal for products or MSW in general. The Ministerial Notification may provide penalty or fine based on the National Solid Waste Management Act.
10. There is a trend towards more stringent enforcement on MSW segregation, collection and transportation of MSW in the near future. The enforcement will be provided in the following Ministerial Notifications after the issuing of National Solid Waste Management Act.
11. Articles 46 of the National Solid Waste Management Act B.E. (Draft) gives authority to Pollution Control Department to setup charge rate for solid waste (MSW, infectious waste, hazardous waste, industrial waste) to the manufacturers of that products.

Recover / Treatment / Disposal

12. Mol does not have the responsibility to certify any technology. If the technology can prove to be effective and pass all standards provided by Pollution Control Department and Department of Industrial Works, then it is an acceptable technology.
13. The contention over whether or not MSW is a government asset does not seem to be having a material impact on day to day SW management. Mol has requested clarification on this issue from the Office of the Ombudsman several times, but there was no conclusion. Mol gives authority to the Local Administrative Office (LAO) to conduct SWM. Hence LAOs have full authority to manage MSW. If LAO decides to give all responsibility of SWM to the private sector, they can do so.
14. It was confirmed that Ministry of Finance issued the Ministerial Regulation Re: Increase of the Project Investment Ceiling to Follow Private Investments in State Undertaking Act B.E. 2556 (2013) B.E. 2559 on 1 April 2016. This regulation increases the investment ceiling which requires cabinet approval from 1,000

million THB to 5,000 million Baht. Consequently, Notification of Private Investment in State Undertaking Policy Committee Re: Criteria and Procedure for Private Investment in State Undertaking at the Investment of Less than what Stipulated in Article 23 in the Private Investments in State Undertaking Act B.E. 2556 (2013) was issued on 19 April 2016 to provide approval procedures for each type of project investment i.e. less than 1,000 million THB; more than 1,000 million THB to 5,000 million THB and more than 5,000 million THB.

15. MOI communicated that it believes its own 14 step approval process is reasonably efficient. Recently, some MSW PPP projects were able complete the first 8 steps within 2 months. These 8 steps are:
 - Local Administrative Offices (LAO) form a cluster and propose a MoU to create a MSW management project (in case a LAO is able to manage the MSW project, it can start the process at step 4)
 - Each Local Administrative Council considers and approves the coalition for MSW management project.
 - Report the results of Local Administrative Council consideration to the head of each LAO for consideration.
 - The leading LAO (in case of cluster) or the LAO (in case only one LAO) shall calculate the investment cost and arrange for a project analysis study report.
 - The responsible Province shall review the MSW project proposed by the LAO prior to submission to Ministry of Interior.
 - Ministry of Interior via Department of Local Administration (DLA) reviews and considers the suitability of the project prior to submission to the Minister of Interior for consideration.
 - Minister of Interior reviews the project.
 - Return of document to the LAO who is responsible for the project.
16. The next step is for the responsible LAO to select a private operator using a PPP model through the bidding process. At the same time, the draft contract shall be submitted to the Office of the Attorney General (OAG) for consideration. MOI does not see its process as slow and on the contrary sees the project owner or LAO as taking excessive time in the gathering of information by the project owner or LAO. MOI recognized that no MSW project had completed all 14 steps of approval from MOI but again the MOI see deficiencies in project preparation as the main problem.

Other comments and suggestions:

17. Previously the LAOs in Mahasarakham and Buriram have submitted waste to energy project proposals to MOI, but they could not be implemented due to the unavailability of electrical feeder lines in those 2 provinces. According to plans, the electrical feeder lines for that geographical region should become available in 2020. However, this requires official confirmation from Electricity Generating Authority of Thailand (EGAT).
18. DLA is interested to learn more about the ADB RETA 8566 projects in Mahasarakham and Buriram Provinces and kindly request if the organizer could send the project study report to DLA in Thai.
19. MOI have plans to roll out a series of Ministerial Notification after the approval of 2 important Act namely National Solid Waste Management Act B.E. (Draft) and Maintaining the Country Cleanliness and Tidiness Act B.E. (Draft). The

Ministerial Notifications that will accompany these 2 Acts will address the following issues:

- Promote MSW source segregation and separate collection systems
 - Provide guidelines in arranging clusters of LAOs which shall superseded the existing clustering arrangement done by MoNRE
 - Enforce minimum solid waste management fee (collection and disposal fee) of around 170 THB/household/month from existing 40 THB/household/month. This cost is separated into transportation cost of 100 THB/household/month and disposal cost of 70 THB/household/month.
20. The Feed-in-Tariff (FiT) for MSW project application opening is expected to be announced for application submission by the end of November 2016. MoI through DLA has the authority to prepare a list of MSW projects that are ready for FiT approval.
 21. Regarding the next round of FiT application opening, MoI does not have the authority to consider this issue. Electricity Regulatory Commission (ERC) is the body that is responsible for implementation.
 22. All projects relate to MSW (not include industrial waste, hazardous waste and other types of waste) will be excluded from PPP Act under the Maintaining the Country Cleanliness and Tidiness Act B.E. (Draft) which is still being considered by the Parliament. This law will authorize Ministry of Interior to be in charge of projects related to MSW approval. There will not be a limit on PPP Act for MSW project at 5,000 million Baht. This applies to MSW projects pertaining to WtE, landfill, RDF, etc.
 23. The approval process for MSW project will remain the same even after the enactment of the Maintaining the Country Cleanliness and Tidiness Act B.E. (Draft). MoI sees that the 14 steps approval is still appropriate and effective.
 24. MoI may authorize the governor of each province to approve MSW project in some circumstances, but the details are not yet finalized. The details and procedures will be included in the Ministerial Notification that accompany Maintaining the Country Cleanliness and Tidiness Act B.E. (Draft).

The meeting was adjourned at 11:00 AM.