

Asian Development Bank

**TA-9292 REG: Strengthening
Project Preparation Capacity in
Asia and the Pacific – Supporting
Preparation of Infrastructure
Projects with Private Sector
Participation in Asia Pacific
(Subproject 4) - #4 VIE: SACE
Component**

Inception Report

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 260596

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ARUP

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1 Project overview

1.1 Background

Infrastructure is one of the three most significant areas in need of ongoing development and investment in Vietnam, as outlined in the national Socio-Economic Development Plan 2011-2015. Data from the G20 Global Infrastructure Outlook 2017 report shows that Vietnam requires US\$605bn¹ of additional investment to meet its infrastructure needs by 2040.

To assist in realisation of this significant pipeline of projects, the Government is seeking to leverage the technical know-how and balance sheet capacity of private sector, using the Public Private Partnership (PPP) model of project delivery. There is significant capacity and interest, from both local and foreign companies, for investment in Vietnam's infrastructure sector. To date, PPP in Vietnam has largely been confined to the energy sector, with opportunity to leverage learnings into other areas such as transport, water and waste.

The waste sector in particular is expected to require significant investment:

- Existing solid waste generation of approximately 13 million tonnes p.a.²
- Municipal Solid Waste (MSW) generation is increasing by 10-16% p.a.²
- The National Waste Management Strategy has a goal of treating up to 90%³ of solid waste in urban areas, and
- 85%³ of this waste is intended to be recycled or used to produce energy or organic fertilisers, and required facilities are not yet in place.

For PPP to be effective in the MSW sector, waste pricing mechanisms used to determine collection, transport, treatment and disposal price need to:

- Align with the overall PPP framework which is primarily output based, and
- Allow private sector to generate commercial levels of return.

1.2 Project objectives

Ove Arup & Partners Hong Kong Limited (Arup) was appointed by the Office of PPP (OPPP) of the Asian Development Bank (ADB) on 5 August 2019. Arup was appointed to provide Technical Assistance (TA) and to assist in strengthening the institutional capacity of the State Authority of Construction Economics (SACE), an agency under the Ministry of Construction (MOC).

Specifically, the TA comprises two primary tasks:

¹ Source: The ASEAN Post, 'Construction ahead for Vietnam', 28 Sep 2018

² Source: Mordor Intelligence, Vietnam Waste Management Market Study (2020-2025)

³ <https://e.vnexpress.net/projects/vietnam-slowly-sinking-under-mountains-of-waste-3633166/index.html>

- **Task 1:** Support to SACE for the development of circular(s) on models of investment, management and operation of MSW value chain services and relevant standard contract conditions, and
- **Task 2:** Support to SACE for the development of a circular on the pricing mechanism for daily life solid waste treatment.

In summary, in delivering these two tasks Arup’s work under the TA will involve:

- Developing an understanding MSW treatment practices across Vietnam, including any commonalities or differences across different regions, city sizes, economy types and topographies
- Researching and reviewing PPPs undertaken in other ADB member countries in the MSW sector
- Reviewing and understanding investment models and PPPs that have been implemented in Vietnam
- Facilitating a study tour for MOC officials to comparable markets to Vietnam to learn about how MSW pricing and payment mechanisms have been developed and implemented, and
- Developing a revised circular on MSW pricing that can better facilitate PPP in the waste sector in Vietnam, and that is applicable across a range of project types that may cover collection, transportation, treatment and disposal.

2 Purpose of this Report

Arup submitted a proposed approach, methodology and workplan for undertaking the scope of services in the Terms of Reference for the assignment on 26 June 2019 as part of its response to ADB's request for proposal.

The purpose of this Inception Report, which has been prepared after the award of the assignment and during the initial data gathering and study preparation stage, is to provide an update on the approach to the assignment, progress to date, and preliminary key observations arising from the review of background material shared with the Arup team by ADB and MOC / SACE.

This report is structured as follows:

- Section 3 provides commentary on progress and key observations of each element of the scope of service
- Section 4 summarises critical data requirements necessary for the completion of the assignment and status in collecting this data, and
- Section 5 includes the proposed work plan for the assignment, based on the Arup team's current understanding of ADB and MOC's objectives, and the extent of remaining data gathering effort required.

3 Progress and key observations

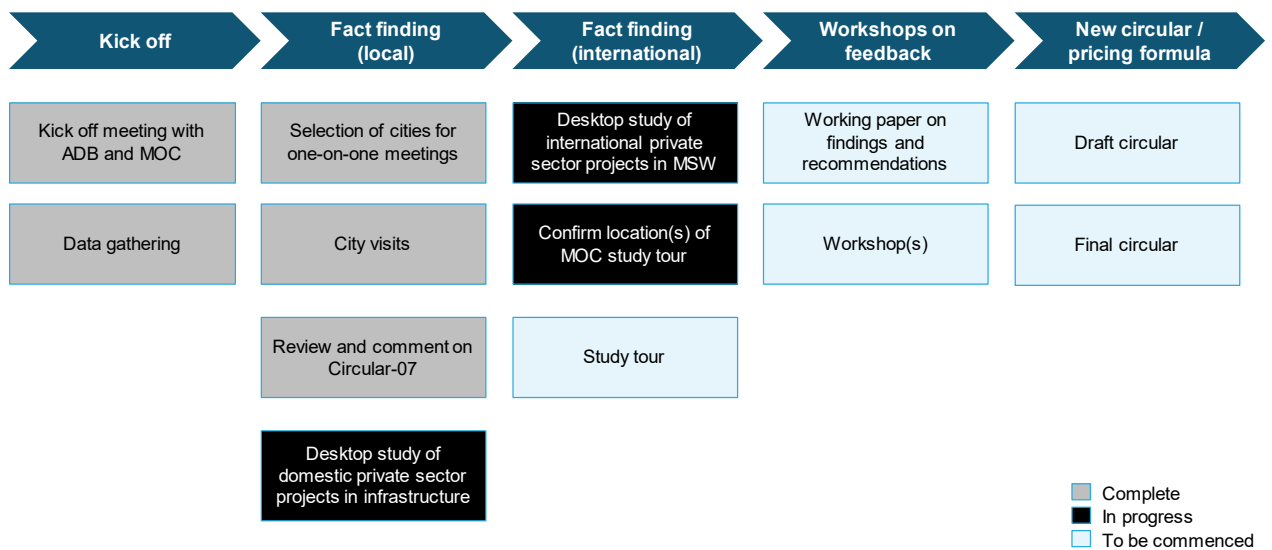
The scope of services for the assignment in the TOR dated 10 June 2019 focuses on understanding the context of MSW activities in Vietnam, how PPP projects have been implemented in Vietnam to date, and how PPPs have been implemented in the waste sector in other countries. This background is intended to inform SACE’s thinking on how the current MSW pricing mechanism in Vietnam may need to be amended to better accommodate delivery of MSW transport, treatment and disposal projects under the country’s PPP framework.

The assignment is expected to result in the preparation of a revised Circular in respect of MSW pricing, with the specific goal of facilitating private sector investment in the sector through the use of the PPP model.

3.1 Progress to date

Figure 1 summarises the various activities required to be undertaken under the TA (with more details of scope provided in Section 3.2 as preliminary observations are discussed) and provides a high-level overview of progress to date.

Figure 1 – Summary of progress to date



Activities focused on gathering of data for contextual understanding are largely complete, with more detailed research and analysis in progress. Immediate next steps include research of international PPP projects in the MSW sector, and research of PPPs used in Vietnam in other sectors, which will be further supplemented through a study tour expected in early March 2020.

The data gathered, together with a review of the existing circular and associated regulation, will form preliminary recommendations to MOC which will be presented at workshops planned for mid-March 2020. Upon obtaining feedback from MOC and city level DOC and DONRE teams, a revised pricing mechanism that will help to facilitate increased private sector participation in the MSW sector will be developed and documented in the form of a revised circular.

The TA is anticipated to conclude by June 2020.

3.2 Key observations

This section 3.2 provides a brief summary of the requirements of the Terms of Reference, and outlines preliminary observations based on progress so far.

Task 1:

Support to SACE for the development of circular(s) on models of investment, management and operation of MSW value chain services and relevant standard contract conditions.

- Study models of investment, management and operation through PPP contracts that have been applied successfully in other ADB member countries with comparable conditions to Vietnam, including evaluation / review of challenges encountered in existing PPP projects
- Evaluate and review investment models which have been or are being implemented in Vietnam, with a view to assisting MOC with the development of suitable models to accommodate a range of structures for investment, management and operation through PPP contracts. The structures should accommodate a range of project scopes that may cover solid waste collection, transportation, treatment and disposal services in the context of Vietnam
- Undertake a Fact Finding Mission to an agreed shortlist of cities in Vietnam to determine existing waste management practices for MSW across the country and the spectrum of activities the proposed circular will need to accommodate. Develop a questionnaire to facilitate meetings and discuss the questionnaire with the cities either through in-person meetings or by conference call
- Prepare a draft circular and relevant standard contract conditions for consideration by SACE based on the research above
- Present the research and outputs in a stakeholders' workshop in Vietnam with participants to be invited by SACE and PPA / MPI, and
- Assist SACE in the organisation of consultations on the draft PPP investment model.

Commentary on progress and key observations

- An official kick off meeting was held with ADB and MOC SACE in Ha Noi on 26 September 2019. At this meeting, Arup's proposed approach to the study was outlined (the approach as presented was a summary of the TECH-1 form as submitted to ADB as part of Arup's proposal), and the proposed timeline and protocols for engagement with MOC were discussed. Since the kick off meeting a more detailed project work plan was developed to ensure project conclusion by June 2020, and this has been included in Section 4 of this report.
- During the kick off meeting, the need to meet with a representative set of cities around Vietnam, to better understand the range of MSW transport and treatment activities, level of current and expected private sector involvement in the sector,

was also discussed. It was agreed that Arup and ADB would seek to meet with 10-12 cities comprising the north, central and south regions, various topographical environments, various economic drivers, and various population levels. In addition, MOC share a report prepared under direct commission by a separate consultant that provided an overview of the MSW eco-system in Vietnam.

- City level meetings were held with the following DOC and DONRE staff of the following: Binh Duong, Dong Nai, Halong City, Hai Phong, Hanoi, Hoi An & Tam Ky, Ho Chi Minh City, and Phan Tiet during December 2019. Some further responses are expected in written form via email in the coming weeks. The list of cities was discussed and agreed with SACE prior to undertaking the meetings, and a full city list is presented in Appendix A. The following key findings resulted from the meetings, which will be documented in more detail in a separate ‘Fact Finding Mission Report’. The list of questions discussed during the city meetings is included in Appendix B.
 - There was variance in the extent of private involvement in the waste management sector across Vietnam. For example:
 - > Halong City had the most private sector involvement, with a private sector ‘urban services division’ within local government, and
 - > Hai Phong City had the least amount of private sector involvement, with the local URENCO currently operating landfills and collection systems. However, Hai Phong expressed intention to increase private sector participation in future.
 - Most cities advised of an intension to increase the level of private sector participation in the MSW sector in future.
 - Several cities commented that the perceived ‘pricing limit’ under existing regulations was detracting potential investors.
 - Some private facilities were struggling to commission due to technical issues.
 - Most cities raised concerns about cost and affordability (both from citizens and city budgets) of high quality waste management facilities.
 - In general, cities seemed to prefer full private sector involvement compared to PPP due to perception of avoiding the need for government to fund upfront investment. However, it was not clear that the term ‘PPP’, or its various forms, was fully understood.
- The Arup team is currently in the midst of a research exercise that aims to identify MSW sector PPPs across the Asian region (and beyond, where appropriate), to understand how these have been structured, typical commercial parameters, and specifically how the level of charging for MSW transport, treatment or disposal activities was derived and incorporated in PPP structures. Research in the form of case studies will be shared with ADB and MOC / SACE, and key commercial arrangements / parameters will be summarised to demonstrate typical contract conditions.
- The Arup team has also commenced undertaking research on PPPs in other sectors in Vietnam to determine whether PPP terms and pricing arrangements present any arrangements that can be viably translated into the MSW sector.
- The research on local and international PPP examples is intended to be supplemented by a study tour to existing private sector operated waste facilities in Asia. After consultation with MOC, it was agreed that a trip covering two separate locations would be arranged for MOC staff, with a view to holding discussions with as many stakeholders as possible that participated in project creation, delivery and operation including local government(s), operators, and investors. It is preliminary

envisaged that a trip covering Seoul and Shanghai would be suitable to reflect a range of advanced and emerging urban development contexts, and to supplement prior MOC study visits to Singapore, Malaysia and Japan. The study tour is currently targeted for early March 2020 to allow sufficient time for MOC staff to obtain the necessary travel documentation.

- Stakeholder workshops have been planned to be held in both Ho Chi Minh City and Hanoi, to allow presentation of findings and preliminary recommendations resulting from research efforts and the study tour. It is intended that these workshops will include representatives from DOC and DONRE staff from South / Central and North / Central cities in Ho Chi Minh City and Hanoi respectively. The workshops are anticipated to be held in mid March 2020. Please see Section 4 for a more detailed work plan.

Task 2:

Support SACE for the development of a circular on a pricing mechanism for ‘daily life solid waste treatment’

- Assist SACE to unify the valuation methods in all stages of collection, transportation, treatment and disposal of MSW, while maintaining the pricing mechanism in line with applied models of investment, management and operation
- Assist SACE to refine the existing methodology for pricing mechanism for MSW projects, such that it will allow flexibility in all or several stages of collection, transportation, treatment and disposal of daily-life MSW, and
- Prepare a draft circular on the proposed pricing mechanism for consideration of SACE based on the pricing mechanism developed above, with consideration of the appropriateness of integrating MOC Circular-07 and 06.

Commentary on progress and key observations

- Circular-07 was discussed at high level at the kick off meeting on 26 September 2019. The need to understand its effects and supporting regulatory framework was also discussed.
- Since the kick off meeting, the Arup team has undertaken a review of the existing Circular-07, including regulations that interact with Circular-07, such as Decree 32/2015/ND-CP, Decree 38/2015/ND-CP, Decision 1354/QD-BXD, Decision 592/QD-BXD, and Circular 06/2016/TT-BXD. The review was aimed at understanding the current MSW pricing mechanism in Vietnam, how the various components (cost and operational parameters) of this mechanism are determined or derived without supporting regulations, and the level of alignment of the current circular with the principles of PPP and the way in which private sector investors would be likely to view upcoming waste sector projects in Vietnam. The review was undertaken with an intention to propose a revised circular specifically to better facilitate private sector involvement in MSW projects in Vietnam, across a range of MSW activities, including collection, transportation, treatment / recycling, and disposal.

- A brief paper was prepared and presented to MOC on 16 January 2020, summarising Arup’s findings from the review. The paper is attached to this report in Appendix C.

- Key findings of the review included the following:

Profit vs. IRR

- Circular-07 appears to focus primarily on the operating period and requires a ‘cost-plus’ approach to be adopted by bidders seeking to develop and operate MSW facilities. Specifically, Circular-07 allows private sector to generate a maximum profit of 5% on allowable expenses. This is inconsistent with the likely primary focus of investors in PPP, where asset creation is an important part of the overall arrangements. It is currently unclear how the existing pricing mechanism accommodates the ‘asset creation’ component of the project cycle, which is likely to be a common part of future PPPs in the waste sector. It is noted, however, that a depreciation allowance is permitted for fixed assets, which may in part address this issue.
- Investors are likely to focus on returns on their capital investment (i.e. equity IRR) and so it may be appropriate to consider repositioning the pricing mechanism to focus on ensuring a reasonable level of IRR for PPPs that will include both asset creation and operating periods.

Financing costs

- The extent of financing costs that can be recovered is currently unclear (i.e. interest only, or are fees earned by lenders to a MSW project also allowable?) There is a cap on the expense category that allows some allocation of financing cost and therefore financing costs may not be fully recovered under the existing price formula.

Time periods (frequency and duration)

- The time period used in measuring total costs or volume for the calculation of price is not specified in Circular-07 (i.e. should these inputs be measured daily, weekly, monthly, annually or over the entire project life). In addition, Circular-07 does not stipulate whether MSW price (gate fee or transportation price) are reviewed, and if so, how frequently. As investors are subject to cost escalation on operating inputs (e.g. labour costs, materials, etc.), some level of periodic price adjustment is likely to be appropriate in practice to attract investors to MSW projects.

Encouraging whole of life view

- The input-based approach of the current Circular-07 limits investors’ abilities to consider the project on a whole of life basis, to innovate, and to make strategic decisions to bring whole of life costs down. For example, in the absence of prescriptive regulation, investors may decide to increase upfront investment and realise ongoing operational efficiency, or vice versa, to get the lowest overall cost over a project’s 20-25 year lifespan.

Different business practices

- The need to ensure cost inputs used in the pricing calculation meet stipulated benchmarks in other related regulations (e.g. Decision 592 and Circular-06) does not take into account different strategic or operational practices / motivations of private sector companies, or nuances between different types of technologies.
- The PPP model generally focuses on outcomes of a project and allows a degree of flexibility to private sector to make necessary operational decisions that optimise overall outcome, when considering the project on a whole of life basis.

This differs from the current approach of Circular-07 which forces private sector to adjust operations such that costs are kept within published levels, potentially at the expense of long term asset or operational quality.

Linkage with KPIs and incentives / support

- Payments to private operators in MSW projects should necessarily ensure a high quality service level, and any pricing mechanism, whether in Circular-07 or in a new circular to be developed, should ensure that private sector is paid only when operational KPIs have been met. As specific KPIs will differ by project and technology type, and will need to be developed on a bespoke basis for each individual project, it is not recommended that KPIs be included in any formal circular. However, it is recommended that circulars are drafted in a way that allows them to interact with a KPI regime in future, which would be further documented in the PPP contract.
- Some MSW projects will likely require minimum volume guarantees or similar to ensure their bankability. As per the recommendation around KPI regimes, circulars should be drafted to ensure pricing mechanisms are compatible with any additional subsidy schemes or minimum volume guarantees that might be required.

Input vs. output basis

- Circular-07 and its supporting regulations tightly specify operating parameters, costs and profit levels. This results in an input-based approach to ensuring the government realises as value for money solution. Under the PPP model, the use of a competitive tender process is aimed at encouraging (a) innovation in design, (b) a focus on high quality physical outcome, and (c) competitive pricing. Under PPP, the competitive process is used as the primary basis of ensuring the government realises value for money.
- Any proposed new / revised circular will be based on a combination of findings from the review undertaken as described above, and other Task 1 work including desktop research of local PPPs in other sectors and international PPPs in the waste sector, and discussions with investors, governments and other relevant stakeholders during the study tour. This information will be used to determine possible alternative waste pricing mechanisms in the MSW sector, and significant thought will be put towards how these ideas would apply in the context of Vietnam and/or the level of amendment needed to ensure their local relevance. It is intended that the stakeholder workshops (also part of Task 1) would help to address some of these considerations.
- Task 2 will conclude with the preparation of a recommended alternative pricing mechanism that could better facilitate private sector investment and PPP in the MSW sector, and the preparation of a revised circular (or proposed amendments / integration to the existing Circular-07). This final deliverable is planned to be submitted prior to June 2020, in line with the workplan agreed with MOC during the kick off meeting.

4 Detailed work plan

Following discussion with MOC at the kick off meeting for this TA in Hanoi in September 2019, Arup has worked with the ADB to develop a detailed work plan, identifying key milestones and associated dates. This work plan has deliberately re-ordered some of the project activity to ensure interdependent activities are scheduled to build on one another to provide MOC with the best advice and in a structured manner.

The agreed workplan is below in Table 1, and reflects the project concluding by mid June 2020, in line with MOC’s requirements.

Table 1 – Project work plan

Milestone	Timing
1. Kick-off	Sep 2019
2. Fact finding – Vietnam MSW practices	
<ul style="list-style-type: none"> • Selection of cities for one-on-one fact finding discussions 	Oct 2019
<ul style="list-style-type: none"> • Visits / meetings / calls with selected cities 	25-27 Nov & 17-19 Dec 2019
<ul style="list-style-type: none"> • Review and critique of existing Circular-07 in the context of PPPs, and identification of concerns / issues to be addressed during preparation of draft new circular 	By mid Dec 2019
<ul style="list-style-type: none"> • Desktop study on private sector led projects in the MSW sector in Vietnam 	By end Dec 2019
3. Fact finding – international MSW practices and examples	
<ul style="list-style-type: none"> • Desktop study on private sector led projects in the MSW sector other ADB member countries with comparable characteristics to Vietnam 	By mid Feb 2020
<ul style="list-style-type: none"> • Confirmation of study tour location(s) 	By end Jan 2020
<ul style="list-style-type: none"> • Presentation / meeting with MOC to discuss findings and insights from fact-finding work and likely impact on MSW pricing recommendation 	End Jan 2020 (prior to Tet holiday)
<ul style="list-style-type: none"> • Study tour 	Mar 2020
4. Workshops for MOC and DONRE feedback	

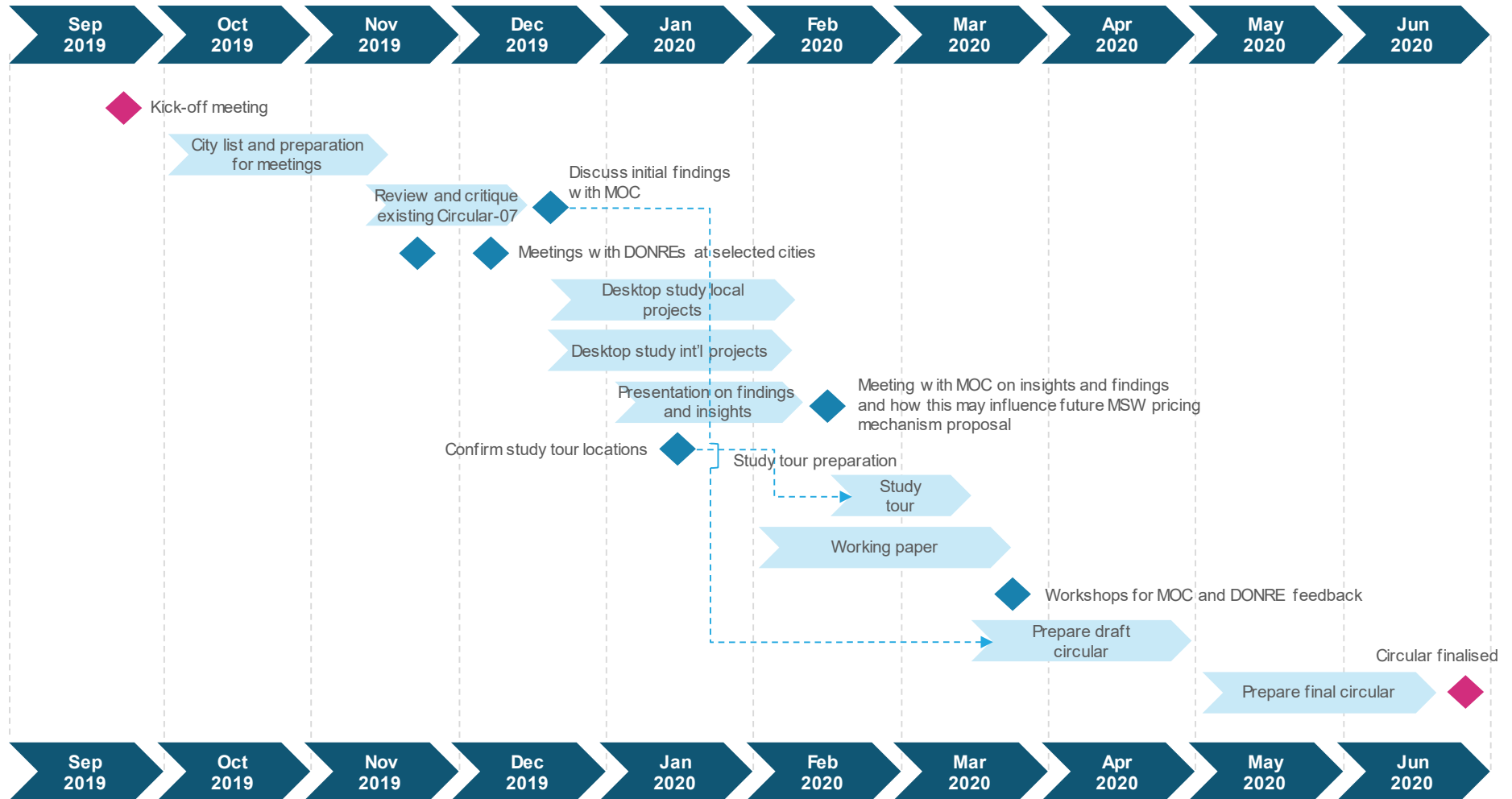
Milestone	Timing
<ul style="list-style-type: none"> Prepare short working paper for circulation to MOC and facilitate workshop discussion 	Mid Mar 2020
<ul style="list-style-type: none"> Undertake workshop(s) – locations tbc 	Mid Mar 2020
5. Circular / pricing formula	
<ul style="list-style-type: none"> Draft circular 	By mid Apr 2020
<ul style="list-style-type: none"> Final circular incorporating ADB and MOC feedback 	By mid Jun 2020

A detailed gantt chart has also been prepared to identify areas of parallel work and effort, as well as key interdependencies of tasks. The gantt chart is shown Figure 2 on the next page.

Key deliverables under the TA will include the following:

1. Inception Report
2. Questionnaire on MSW handling for city meetings and Fact Finding Mission Report
3. Draft circular on investment models for solid waste management PPPs
4. Draft circular on pricing mechanism for solid waste management PPPs
5. Draft of relevant standard contract conditions for solid waste management PPPs
6. Study tour for government officials
7. Research and outputs presented in a stakeholders' workshop
8. Final draft of circular on investment models for solid waste management PPPs
9. Final draft of circular on pricing mechanism for solid waste management PPPs, and
10. Final draft of relevant standard contract conditions for solid waste management PPPs.

Figure 2 – Gantt chart of proposed work plan



Appendix A

Proposed city list

A1.1 Proposed city list

The proposed cities for discussion of current waste management are as follows, subject to further confirmation and agreement with the SACE.

City	Region	Classification	Mode of discussion
Sapa town – Lao Cai City	North	Tier III City	Call / email
Hà Long City	North	Tier I City	Meeting
Hai Phong City	North	Special City	Meeting
Hanoi Capital	North	Special City	Meeting
Hoi An City – Quang Nam province	Central	Tier III City	Meeting
Phan Tiet – Binh Thuan province	Central	Tier II City	Meeting
Ho Chi Minh City	South	Special City	Meeting
Bien Hoa City – Dong Nai province	South	Tier I City	Meeting
Thu Dau Mot – Binh Duong	South	Tier I City	Meeting
Can Tho City	South	Special City	Call / email
Phu Quoc Island – Kien Giang Province	South	Not ranked	Call / email

Appendix B

Line of discussion and
questioning for City meetings

Line of discussion and questioning for City meetings

The line of discussion for the cities relates to current and future waste management practices and the contributions of the public and private sector.

Waste management practices

- What is the quantity of waste handled daily / annually in your city? What has been the quantity over the past 10-20 years?
- What waste management facilities exist in your city?
[For example, un-sanitary landfill / dump, sanitary landfill, composting, materials recovery facility (MRF), transfer stations, etc.]
- Who puts garbage into the bins / collection point (currently assumed to be the householder)?
- Who collects the bins? [e.g. Government through URENCO, outsourced to private party, any other party]
- Does the content of bins go to a transfer station? To a recycling / recovery centre? To landfill? To incineration?

Ownership and responsibility

- How are waste facilities procured, built and operated? [i.e. are they generally created by private sector, PPP, government?]
- Who leads the different stages: concept, planning and environmental permits, design, build, operate? [e.g. central government, city / provincial government, district government, or private sector]
- How is waste collection paid for? [e.g. charge per householder / business, from general taxation, associated with other charges (e.g. water bill)]
- Does the approach to charging vary significantly in different areas of the city or for different services?
- What components, if any, of the waste chain would you consider releasing to the private sector (either as service contracts or investment + service) in future? [For example – collection, transfer stations, waste facilities, recycling separation, recycling processing]
- Have any waste sector PPP projects been implemented in your city? If so, are they considered successful?

Recycling

- Is there any source separation of recyclables? [Government scheme, NGO, private schemes]
- What happens to recyclables under the current system? Do you have any future plans for recycling in your city?
-

- What is the major industry / manufacturing activity in your city? Can they use some waste or recycled materials as their raw materials / feedstock? [e.g. recycled plastic, paper, metals]

Other

- Do you have any other useful background or comments that could contribute to our understanding of the waste management practices of your city?

Appendix C

Summary paper on Arup's
review of Circular-07

Municipal Solid Waste Management Service Pricing Review and comment on Circular 07/2017/TT-BXD

December 2019

Important notice

This report has been prepared specifically for and under the instructions of the Asian Development Bank (ADB) under an appointment dated 5 August 2019.

This report may be provided to third parties solely to inform any such person that our report has been prepared and to make them aware of its substance but not for the purposes of reliance. No third party is entitled to rely on this report. We do not in any circumstances accept any responsibility or liability to retail investors whether via bond issue or otherwise and no such party is entitled to rely on this report.

In preparing this report we have relied on information in the public domain or provided by others and we do not accept responsibility for the accuracy of such information.

We emphasise that any forward-looking projections, forecasts, or estimates herein are based upon interpretations or assessments of available information at the time of writing. The realisation of the prospective financial information is dependent upon the continued validity of the assumptions on which it is based. Actual events frequently do not occur as expected, and the differences may be material. For this reason, we accept no responsibility for the realisation of any projection, forecast, opinion or estimate.

Findings are time-sensitive and relevant only to current conditions at the time of writing. We will not be under any obligation to update the report to address changes in facts or circumstances that occur after the date of our report that might materially affect the contents of the report or any of the conclusions set forth therein.

In preparing this report we have relied on information supplied by others. We have relied in particular on the accuracy and completeness of such information and accept no liability for any error or omission in this report to extent the same results from errors or omissions in the information supplied by others.

Purpose of this paper

To review and comment on the existing Circular 07/2017/TT-BXD (Circular-07)

Background

- Arup has been appointed by the Office of PPP at ADB to support SACE on development of a circular on pricing mechanism for daily life solid waste treatment.
- In summary, Arup's work will involve:
 - understanding MSW treatment practices across Vietnam, including any commonalities or differences across different regions, city sizes, economy types and topographies.
 - reviewing PPPs undertaken in other ADB member countries in the MSW sector
 - reviewing and understanding investment models and PPPs that have been implemented in Vietnam
 - undertaking a study tour to comparable markets to Vietnam, and
 - developing a revised circular on MSW pricing that can better facilitate PPP in the waste sector in Vietnam, and that is applicable across a range of project scopes that may cover collection, transportation, treatment and disposal.

This paper

- This paper seeks to:
 - Review Circular-07 and other relevant existing laws and circulars relating to MSW management and pricing
 - Analyse the existing pricing mechanism as outlined in Circular-07 against the general principles of the PPP model
 - Identify areas for further adjustment, enhancement or consideration that would better align the pricing mechanism in Circular-07 with the PPP model and facilitate increased investment through PPP in the MSW sector, and
 - Identify next steps.

Public Private Partnerships (PPPs) in Vietnam

Government intends to increasingly leverage private sector expertise and financing to deliver new infrastructure, including in the waste sector

336

PPP projects have been implemented to date

140

of these projects have been structured as BOT

May 2020

is the target date for a new PPP law to be submitted to the National Assembly

- Infrastructure is one of the three most significant areas in need of ongoing development and investment in Vietnam, as outlined in the Socio-Economic Development Plan 2011-2015.
- Based on a recent infrastructure investment seminar held in Ho Chi Minh City, it was estimated that Vietnam requires US\$605bn of additional investment to meet its infrastructure needs by 2040.
- To assist in realisation of this significant pipeline of projects, the Government is seeking to leverage the technical know-how and balance sheet capacity of private sector, using the PPP model of project delivery.
- There is significant capacity and interest, from both local and foreign companies, for investment in Vietnam's infrastructure sector.
- The waste sector is expected to require significant investment:
 - Existing solid waste generation of approx. 13 mtpa
 - MSW generation increasing by 10-16% p.a.
 - The National Waste Management Strategy has a goal of treating up to 90% of solid waste in urban areas
- For PPP to be effective in the MSW sector, waste pricing mechanisms need to:
 - 85% of this waste is intended to be recycled or used to produce energy or organic fertilisers, and required facilities are not yet in place.
 - Align with the overall PPP framework which is output based, and
 - Allow private sector to generate commercial levels of return.

Sources:

1. Inframation
2. <https://e.vnexpress.net/projects/vietnam-slowly-sinking-under-mountains-of-waste-3633166/index.html>
3. Mordor Intelligence

Brief comparison of traditional delivery and PPP

A need to move towards supporting policies and regulations that match an output-based approach to facilitate PPPs

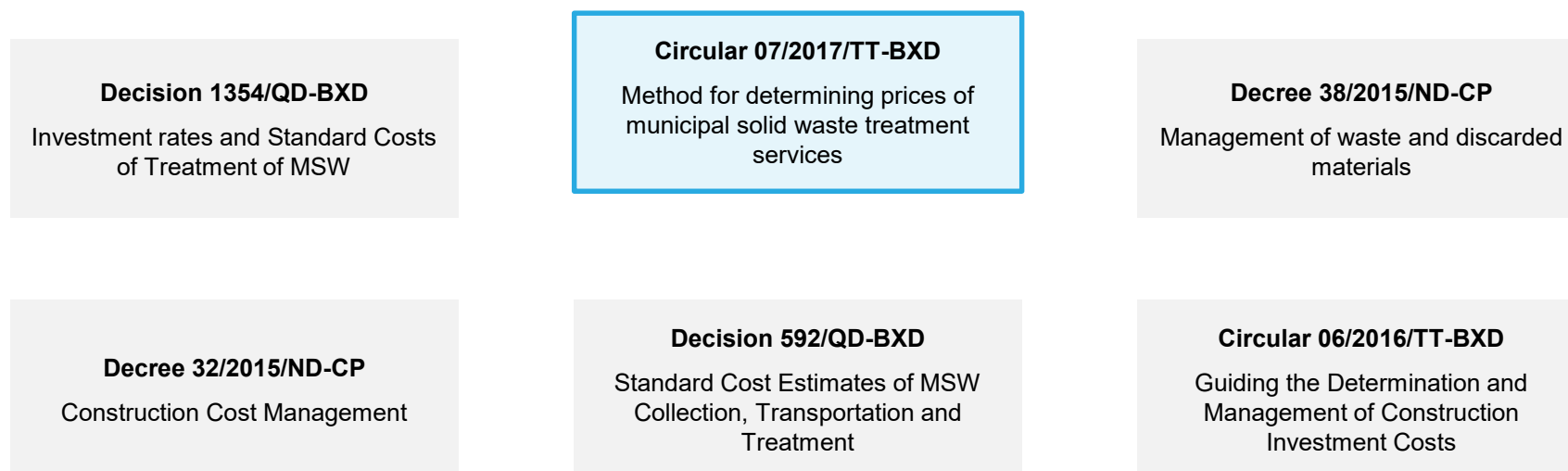
Model	Basis	Asset creation*	Operations	Risk allocation	Funding
Traditional government delivery	Input based: Project parameters are typically tightly defined in terms of design, equipment specifications and operational parameters.	Assets typically created by the relevant government agency of department, either with support of a 'public works department' or through an EPC or D&C contracting arrangement with a private sector construction company. Government typically bears cost overruns, except those which can be passed on within typical EPC terms.	Government retains responsibility for all operating and maintenance activity, delivered either through a government agency or else by outsourcing to private sector operators under an O&M agreement. Operations generally not part of upfront design work or thinking. Government generally retains risks associated with operations.	All risks retained by government during the asset creation and operating periods.	Funding for capital costs, operating costs, and periodic asset upgrade or refurbishment all provided by government under its usual budgetary appropriations process. Any commercial revenue generated by the project would revert to government.
PPP	Output based: Physical, economic and/or social outcomes are defined, and private sector is left to determine an optimised design and technology solution to deliver these outcomes.	Assets typically created by private sector bidders, and based on design developed during a competitive tender process. Private sector typically responsible for bearing cost overruns under the PPP risk allocation developed for the project.	Private sector remains responsible for the operating period. Private sector incentivised to plan its O&M strategy into the design to minimise whole of life cost. Private sector generally bears the majority of risks during operations, save for exceptions such as 'change in law' or 'force majeure'.	Significant proportion of risk is transferred to private sector and this is reflected in the cost of capital (i.e. interest rate and equity return requirements) of private sector party.	Upfront financing typically provided by private sector and comprises a combination of debt and equity. Ongoing revenue may come from asset users (i.e. commercial revenue), from government (e.g. availability payment or gate fees), or a combination of the two (i.e. would comprise viability gap payments).

* Note, some projects may not require significant asset creation activity if the asset already exists, or if the services required are not asset heavy (e.g. waste collection, where private collection companies may already have a fleet of collection vehicles)

MSW facilities are subject to a number of regulations

While Circular-07 is the primary regulation for waste pricing (or gate fee), it works in concert with other regulations

- Circular-07 outlines the specific waste price formula that applies to MSW, while other regulations (e.g. Decision 1354, Decree 32, Decision 592 and Circular-06) provide guidance on expected or allowable operating parameters, operating cost and capital cost levels.
- This is primarily an input-based approach that potentially limits operational flexibility of investors as
 - they will be focused on ensuring costs and operating parameters are within published levels.
 - However, this limits their ability to consider the project on a whole of life basis, to innovate, and to make strategic decisions to bring whole of life costs down
 - For example, in the absence of prescriptive regulation, investors may decide to increase upfront investment and realise ongoing operational efficiency, or vice versa, to get the lowest overall cost over a project's 20-25 year lifespan.



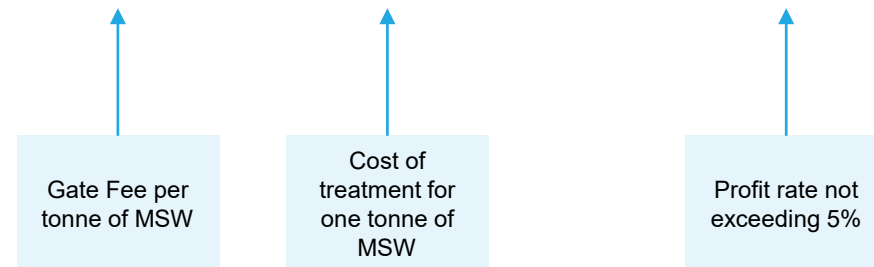
Circular-07 currently outlines the mechanism for MSW pricing

The current pricing formula appears to focus on the operating period only and requires a ‘cost-plus’ approach

- MSW pricing or Gate Fees are currently regulated by Circular-07.
- Circular-07 employs a cost-plus approach, and allows private investors in waste treatment facilities to generate a maximum 5% profit on costs of treatment.

MSW pricing formula within Circular-07

$$G_{XLCTR} = Z_{TB} + (Z_{TB} \times P)$$

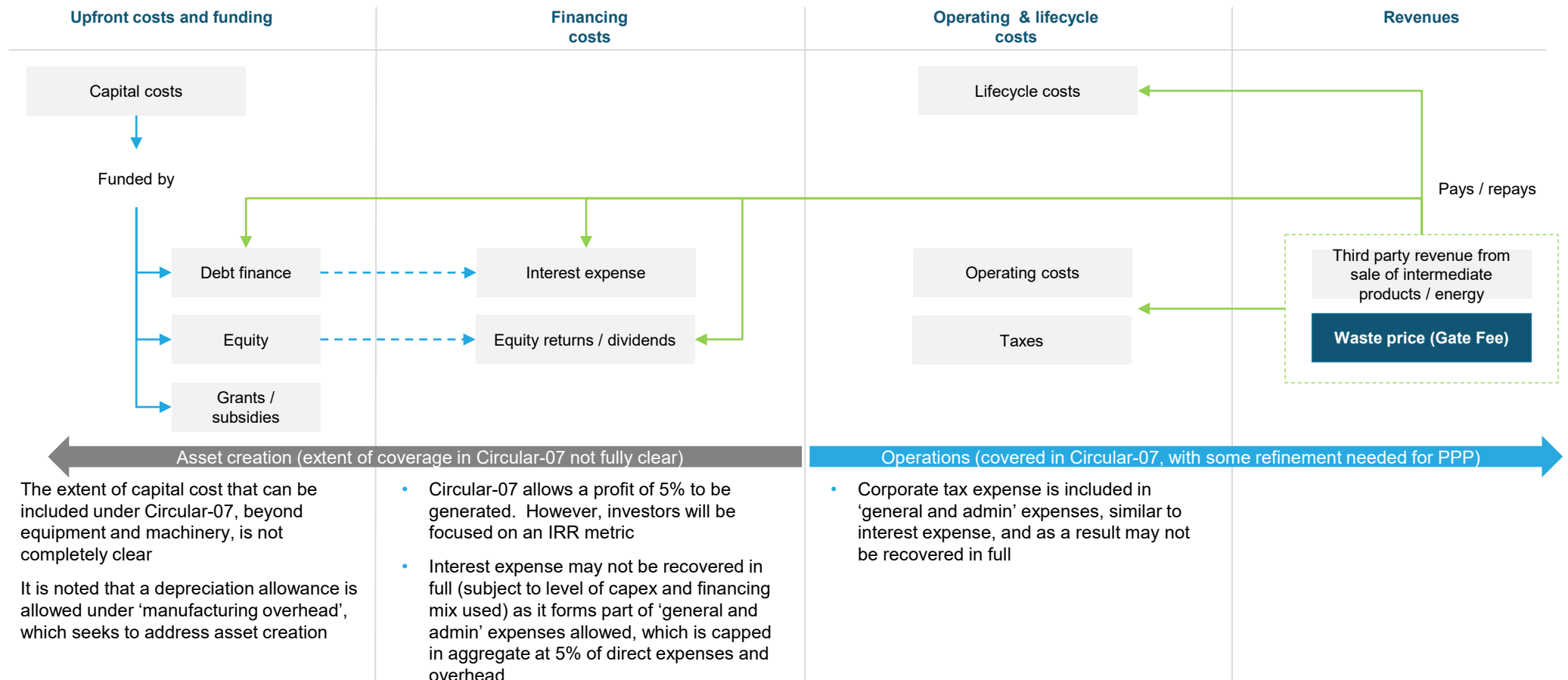


- The cost of treatment (Z_{TB}) as shown above, includes the following items under Circular-07:
 - Direct material costs
 - Direct labour costs
 - Direct machinery and equipment cost
 - Manufacturing overhead, and
 - General and administrative expenses, which is capped at 5% of the sum of the above cost items.

Circular-07 and PPPs

It is unclear how the existing circular accommodates the ‘asset creation’ component of the project cycle, which is likely to be a common part of future PPPs in the waste sector

- There are a number of elements of project financing and PPP principles that are not specifically addressed by Circular-07, and may cause confusion to private sector parties in determining their pricing / gate fee requirements.
- Below is a brief outline of the factors typically incorporated in analyses by private sector bidders of PPP projects



Circular-07 and PPPs

Summary of initial observations (1/2)

Summary of initial observations	
Profit vs. IRR	<ul style="list-style-type: none"> • Circular-07 allows private sector to generate a maximum profit of 5% on allowable expenses. This is inconsistent with the likely primary focus of investors in PPP, where asset creation is an important part of the overall arrangements. It is noted, however, that a depreciation allowance is permitted for fixed assets, which in part addresses this issue, though a proportion of depreciation needs to be included in 'general and admin' expenses which as an overall category is capped at 5% of the aggregate of direct cost and overhead. • Investors are likely to focus on returns on their capital investment (i.e. equity IRR) and so it may be appropriate to consider repositioning the pricing mechanism to focus on ensuring a reasonable level of IRR for PPPs that will include both asset creation and operating periods.
Financing costs	<ul style="list-style-type: none"> • The extent of financing costs to be incorporated is currently unclear (i.e. interest only, or are fees earned by lenders to a MSW project also allowable?) • Financing costs are currently included in the 'general and admin' category. The cap on this expense category as mentioned earlier suggests that all financing costs may not be recovered under the existing price formula.
Time periods (frequency and duration)	<ul style="list-style-type: none"> • The time period used in measuring total costs or volume is not specified in Circular-07 (i.e. should these inputs be measured daily, weekly, monthly, annually or over the entire project life). • Circular-07 does not stipulate whether MSW price (gate fees) are reviewed, and if so, how frequently. As investors are subject to cost escalation on operating inputs (e.g. labour costs, materials, etc.), some level of periodic price adjustment is likely to be appropriate in practice to attract investors to MSW projects.
Encouraging whole of life view	<ul style="list-style-type: none"> • The input-based approach of the current Circular-07 limits investors' abilities to consider the project on a whole of life basis, to innovate, and to make strategic decisions to bring whole of life costs down. • For example, in the absence of prescriptive regulation, investors may decide to increase upfront investment and realise ongoing operational efficiency, or vice versa, to get the lowest overall cost over a project's 20-25 year lifespan.

Circular-07 and PPPs

Summary of initial observations (2/2)

Summary of initial observations	
Different business practices	<ul style="list-style-type: none"> The need to ensure cost inputs used in the pricing calculation meet stipulated benchmarks in other related regulations (e.g. Decision 592 and Circular-06) does not take into account different strategic or operational practices / motivations of private sector companies, or nuances between different types of technologies. The PPP model generally focuses on outcomes of a project and allows a degree of flexibility to private sector to make necessary operational decisions that optimise overall outcome, when considering the project on a whole of life basis. This differs from the current approach of Circular-07 which forces private sector to adjust operations such that costs are kept within published levels, potentially at the expense of long term asset or operational quality.
Linkage with KPIs and incentives / support	<ul style="list-style-type: none"> Payments to private operators in MSW projects should necessarily ensure a high quality service level, and any pricing mechanism, whether in Circular-07 or in a new circular to be developed, should ensure that private sector is paid only when operational KPIs have been met. As specific KPIs will differ by project and technology type, and will need to be developed on a bespoke basis for each individual project, it is not recommended that KPIs be included in any formal circular. However it is recommended that circulars are drafted in a way that allows them to interact with a KPI regime in future, which will be further documented in the PPP contract. Some MSW projects will likely require minimum volume guarantees or similar to ensure their bankability. As per the recommendation around KPI regimes, circulars should be drafted to ensure pricing mechanisms are compatible with any additional subsidy schemes or minimum volume guarantees that might be required.
Input vs. output basis	<ul style="list-style-type: none"> Given the way in which Circular-07 and its supporting regulations tightly specify operating parameters, costs and profit levels, this results in an input-based approach to ensuring the government realises as value for money solution. Under the PPP model, the use of a competitive tender process is aimed at encouraging (a) innovation in design, (b) a focus on high quality physical outcome, and (c) competitive pricing. Under PPP, the competitive process is used as the primary basis of ensuring the government realises value for money.

Status of the Technical Assistance

Progress and next steps

- Recommendations on a revised pricing mechanism / circular will be informed by developing an understanding of local conditions and MSW activities, international experience and learnings, and forming and understanding of the existing pricing mechanism against PPP principles.
- A revised circular applying to MSW pricing needs to be prepared by June 2020.

