

Blended Finance Mechanisms for Projects on Organic Waste Management

Background Note



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Acknowledgements

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Context

The waste sector, together with energy and agriculture, is the biggest contributor to methane emissions across the globe, accounting for 18%. For Latin America and the Caribbean (LAC), organic waste makes up approximately half of the waste generated in the entire region, indicating the potential and need for methane mitigation activities and projects to develop further beyond the inception phase.¹

However, despite the plethora of methane abatement technologies and strategic approaches presented, there remains an underlying barrier that hinders the mitigation potential: finance. Finance, or “climate finance” in this context is an essential component that serves as an enabler for lifting projects off the ground and ensuring successful execution and scaling of a project while allowing countries—especially developing countries—to adopt a wide range of technological options. For instance, anaerobic digestion is a predominant technology option in industrialized countries in recent years, but those options still play a minor role in most developing countries where financial sources required for the implementation of technological innovation as well as available information and knowledge are limited.² The LAC region is the second-largest methane emitter, with the smallest investment in methane mitigation—only 3% of methane abatement finance worldwide for AFOLU, fossil fuel, and waste sectors in the 33 LAC countries.³ From 2019-2020, the LAC region only mobilized 0.35% of global methane abatement finance for the waste sector, which is the lowest amount in comparison to Sub-Saharan Africa (2.71%), South Asia (1.90%), or Middle Eastern and North Africa (0.86%).⁴ It is worth mentioning that almost all of the sources of mobilized finance in LAC were from governments and unknown sources without the presence of investment from commercial financial institutions or the development financial institutions (DFI).⁵

At the national level, there are several resources available to fund the development of climate-related projects, yet there is a limited amount of projects that have been deployed towards the waste sector, let alone organic waste. In particular, the waste sector has received very little attention in terms of financing due to the lack of readiness

¹ UN Environment. 2018. Perspective of Waste Management in Latin America and the Caribbean. (<https://www.unep.org/es/resources/informe/perspectiva-de-la-gestion-de-residuos-en-america-latina-y-el-caribe>)

² Vögeli et al., 2014.

(https://www.researchgate.net/publication/264727438_Anaerobic_Digestion_of_Biowaste_in_Developing_Countries_-_Practical_Information_and_Case_Studies)

(https://www.researchgate.net/publication/264727438_Anaerobic_Digestion_of_Biowaste_in_Developing_Countries_-_Practical_Information_and_Case_Studies). p.13

³ Ibid.

⁴ Ibid.

⁵ Ibid.

in terms of project development and corresponding scarcity of bankable and scalable projects.

At the local level, using public funds for methane abatement technologies such as biogas capture and anaerobic digestion plants can be even more challenging. The process of accessing these funds can be extensive as well, consisting of complex project formulation and evaluation processes. In some cases, the challenge does not lie in the limited or non-existent availability of investment resources to finance projects at the local level but rather in the absence of municipal capacity to develop projects that can access existing resources. Several countries in LAC have national-level funds in place for the execution of local projects. For many countries in the region, the municipalities are primarily responsible for waste management activities and corresponding governance. For municipalities to access finance, technical work such as pre-feasibility studies, technology evaluation, and projects development to prove project bankability, needs to be preceded. However, municipalities are not able to prepare these types of studies due to the lack of expertise and resources available which are necessary to reduce the perception of risk in unlocking access to financing.

Strengthening the capacity of practitioners at the municipal or city level will be a key priority in developing investment pipelines of the sector in a holistic and sustainable manner. Trained staff should be able to develop a short-, medium-, and a long-term sectoral plan at the municipal level in line with the national and global climate targets. Staff should also seize funding opportunities and support local actors – SMEs, local financial institutions (including microcredit institutions, cooperatives, and operators) – by providing appropriate policy and financing solutions.

Municipalities also need to raise funds, including private capital, necessary to research and develop new technologies related to organic waste management or acquire technical rights from the international community. To do so, risk sharing instruments will be critical due to the high-perceived risks of investing in new technology and markets. Blended finance, among other solutions, can be a useful financial mechanism in promoting less mature markets and technologies by stimulating private sector appetite and investments toward waste management projects.

Mobilize climate finance to support Recycle Organics projects using blended finance

Why blended finance?

The waste management solutions—particularly the organic fraction of waste—are highly local-specific in that the type of organic waste and the method of its treatment vary depending on the climatic and socio-economic characteristics of the region or city. A wide range of organic waste management technologies exist in terms of scale and complexity and related new and innovative technologies focusing on collecting, sorting, and treating organic waste are being continuously developed, mainly led by developed

countries. Managing organic waste and reducing GHG emissions could be enhanced by the use of appropriate technologies suitable for local circumstances and innovative technical solutions.

Given a high level of initial capital, expenditure of advanced technologies such as landfill gas use, composting, and anaerobic digestion plants, coupled with small project-generated revenue streams at an earlier stage, the role of public finance and intervention with either co-financing or the provision of favorable terms is expected to play a vital role in catalyzing the private sector of finance. Furthermore, given the importance of development and introduction to technology suitable for the local situation, a high level of readiness and capacity for municipal actors – who understand the local conditions and can act as a bridge between the central government and local stakeholders – is crucial.

Considering the sectoral characteristics, the strategic use of development finance for the mobilization of additional finance towards sustainable development – blended finance – can accelerate the market and technology development of the sector in developing countries.⁶

Blended finance can accelerate the market and technology development in the organic waste sector in developing countries.

Blended finance instruments

Blended finance means using public or philanthropic sources as a catalytic capital to raise private sector investment in sustainable projects.⁷ Blended finance can be instrumental not only to support a wide range of actors – from small size farmers or operators to big corporations – but to also scale up the investment toward the sector. Several blended finance instruments can be considered at the municipal level:

First, **grants** by public entities including the federal government, states, public banks, or international organizations can be used as seed capital, which can enable the preparation or development of projects at the initial stage. Design-stage grants or convertible grants can improve bankability by providing pre-commercial funding.⁸ In addition, there are grants for technical assistance that specifically focus on training and building technical capacity of investees and other stakeholders.⁹ These grants may be critical particularly at the municipal level, as organic waste is managed at this and local levels. Strengthening capacity and readiness of local stakeholders will help manage and

⁶ OECD. (<https://www.oecd.org/dac/financing-sustainable-development/blended-finance-principles/>)

⁷ Convergence. (<https://www.convergence.finance/blended-finance#definition>)

⁸ HSBC, 2021. (<https://www.sustainablefinance.hsbc.com/mobilising-finance/blended-finance-playbook>)

⁹ Ibid.

implement waste projects in a more efficient manner with a better understanding of financing and technology options. Besides, technical assistance services include the provision of rural credit services to smallholder operators or farmers.

Second, **concessional finance** can attract private investors by providing favorable terms which are equity or debt at below market-rates. This reduces risks related to providing credits to corporate, small public, or private waste project operators. It also includes junior terms such as a coverage of first-loss capital or junior equity by public or philanthropic funds. Subordinated finance—unsecured borrowing—can also help commercial banks or more risk-averse investors. Multilateral/bilateral organizations, DFIs, or philanthropic funds can provide concessional finance. Third, **loans or repayment guarantees or insurance schemes** provided by public donors can reduce the perceived risk of investors in the initial stage.¹⁰ They help private investors achieve an investment-grade rating – a rating that signifies that a capital presents a relatively low risk of default.

De-risking guarantees also motivate the engagement of long-term capital private investors such as pension fund or insurance companies by providing an extra layer of protection for the beneficiary of a service. Insurance can also provide financial compensation in the instance of an event that results in a financial loss. Last, **market-incentive finance** towards sectors that require innovation (for instance, impact bonds) can promote new commercial markets. Specific types of impact bonds can provide investors with visibility on pricing and revenue in order to create new markets. By guaranteeing the pricing of products above currently prevailing market prices using tax incentives including tax credits or tax-exemptions, investors remove elements of market uncertainty by locking in a margin.

In sum, at the national level, blended finance instruments such as grants and concessional finance by public donors or philanthropic funds can play a key role in paving the way to expanding private capital by reducing investment risks and providing clarity on positive revenue streams. At the municipal level, technical assistance grants for staff of municipalities will strengthen the understanding of different technologies and financing options, which allow municipalities to provide appropriate policy instruments for local actors with small ticket sizes and risky borrower profiles such as SMEs or public and/or private waste project operators. By engaging in all relevant actors, a municipality can achieve their environmental and social targets in a more inclusive and effective manner, which will allow them to increase access to national funds. The table below presents relevant actors and their roles within the structure of blended finance for organic waste management projects.

¹⁰ Havemann et al. 2020. (<https://doi.org/10.1007/s10460-020-10131-8>)

Entity	Role
International institutions (Multilateral, bilateral donors, other IOs)	<ul style="list-style-type: none"> • Provide grants or de-risking instruments (e.g., guarantee, concessional finance) • Provide technical support (readiness, advisory for project design and execution) • Establish international rules and regulations (e.g., taxonomy, international carbon pricing)
Academia, NGOs	<ul style="list-style-type: none"> • Research and Development (R&D) • Provide technical support (readiness, advisory for project design and execution) • Advocacy (e.g., influencing on equity prices or corporates' rules) • Issue RECs
Philanthropic funds	<ul style="list-style-type: none"> • Provide grand or concessional finance
National Development Bank	<ul style="list-style-type: none"> • Provide co- financing (grant, concessional finance) • Provide risk-sharing instrument (e.g., guarantee, line of credits)
Commercial Banks, investment firms	<ul style="list-style-type: none"> • Provide debt- or equity- based financing • Buy sustainability-bonds from central/local governments
National government	<ul style="list-style-type: none"> • Design and implement policy incentives (e.g., subsidy, tax) • Issue sustainability-related bonds • Provide risk-sharing instruments (e.g., guarantee)
Local government (Municipality, city)	<ul style="list-style-type: none"> • Issue sustainability-related bond or lobby the national government to get the right to issue the bond • Provide direct finance (e.g., municipality grant program)
Corporations (Big Corp., SMEs)	<ul style="list-style-type: none"> • Reduce CAPEX and OPEX through technology development and innovation • Buy RECs or carbon credits
Local utility (heat, electricity)	<ul style="list-style-type: none"> • Enhance Distribution networks
Local community	<ul style="list-style-type: none"> • Sell utilities (electricity, heat) and commodities • Sell RECs or carbon credits

Case studies

Case 1. Waste management Maule Chile¹¹

- **Type of technology:** Composting and Anaerobic digestion plant
- **Solution:** The project has received Technical Assistance from the SCF for a pre-feasibility study whose objectives are to understand the regulatory requirements and public contract granting processes of waste anaerobic digestion plants in Chile and to understand the market and regulatory requirements on fertilizer, compost and biomethane in Chile.

¹¹ Subnational Climate Finance. (<https://www.subnational.finance/>)

- **Investment summary**

Client	Municipality Maule Chile
Country	Chile
Blended finance mechanism	Subnational Climate Finance (SCF): global blended finance initiative approved by the GCF
Instrument	Technical Assistance Grant
Year	2022

Case 2. Organic Waste in South Africa¹²

- **Type of technology:** Anaerobic digestion plant
- **Context:** South Africa currently sees approximately 3.67 million tons of waste annually not being collected and treated through formal waste collection systems, which results in illegal dumping. Organic waste earmarked for composting still ends up in dumps generating leachate and methane gas in the breakdown process. The leachate can carry harmful chemicals from other non-biodegradable waste items into water systems and the soil. Using anaerobic digestion to transform organic waste into green energy and organic fertilizer provides an effective solution to the illegal dumping problem.
- **Solution:** Bio2Watt Energy Holdings (BEH) is a developer of waste-to-value projects with a pipeline of opportunities to generate over 330 gigawatt hours (GWh) of renewable energy for the corporate and industrial markets in South Africa and Mozambique. Each project sources organic waste streams from local areas and produces biogas for green energy production and organic fertilizer via anaerobic digestion.

- **Investment summary**

Client	Bronkhorstspuit Biogas Project (BBP) plant
Country	Gauteng, South Africa
Blended finance mechanism	Blended finance fund manager: Climate Fund Managers (CFM) by Salanma and the Dutch Entrepreneurial Development Bank (FMO) <ul style="list-style-type: none"> • DFI (FMO): \$9.77 million • Blended finance (CFM): \$38.5 million
Instrument	Equity funding
Year	2022

¹² Climate Fund Managers. 2023. (<https://climatefundmanagers.com/2023/01/25/df2-closes-equity-transaction-on-one-of-south-africas-largest-biogas-waste-to-energy-facilities/>)

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