Strategic partners ImplementaSur CLIMATE ACTION energylab climate | sustainability | technology

Funded by Global Methane Hub

Evaluation of economic and regulatory instruments to implement methane reduction actions in the waste management sector in Chile

Project Context

Chile is committed to climate action, having ratified the Paris Agreement in 2017, signed the Global Methane Pledge in 2021, and included goals for the waste sector in its NDCs.

From 2017 to 2021, Chile participated in the Recycle Organics program. The program, funded by the Canadian government, received technical assistance from ImplementaSur, a Chilean climate action consultancy, to develop initiatives and projects to meet Chile's climate goals for the waste sector. This program led to the development of the National Organic Waste Strategy, published in 2020. From this, the Ministry of Health developed its Waste Sectorial Mitigation Plan and the Recycle Organic Law, also supported by ImplementaSur.

Furthermore, since 2018, Chile has implemented a green tax and an Emissions Compensation System. Chile also has an agreement with the Klik Foundation for international cooperation within the Article 6 mechanism.

In 2024, EnergyLab, which provides advisory services and market intelligence solutions to accelerate carbon markets, in collaboration with ImplementaSur, supported Chile's Ministry of Health and Ministry of Environment in the ***evaluation of alternatives for the mitigation of methane emissions from the country's landfills***. This study, financed by the Global Methane Hub, builds off Chile's progress in waste sector emissions reduction goals, balancing the use of carbon market instruments to incentivize reductions in the short term and regulatory changes to improve biogas management in landfills for good. This initiative has helped the Government to disclose the emissions reduction outcomes that will remain in Chile's inventory and those that will be available for trading internationally as ITMOS.

Project Objective

Supporting Chilean regulators in the following areas:

- ✓ **Consolidating**: Defining a consolidated goal for emissions reduction associated with the waste sector.
- ✓ **Planning**: Forecasting and planning specific short- and long-term initiatives to achieve the consolidated goal.
- ✓ **Enabling action**: Defining the mix of strategies, regulatory and market-based, to achieve the goals in the waste sector.

Project Outcomes and Outputs

Outcome 1: The Government has increased its waste sector emission forecasting knowledge and set coherent waste emission reduction goals.

- National waste goals revision across different strategies and sectors to provide a consolidated goal for waste planning.
- Identification of initiatives undergoing thanks to voluntary and regulatory drivers (e.g., waste diversion, biogas capture, among others).
- Forecast of waste sector baseline and methane emissions reductions associated with identified initiatives.

Outcome 2: The Government has endorsed a mitigation roadmap and an information system for monitoring its goals.

- Assessment of methane leak measurement technologies.
- Recommendations for improving information and MRV systems.

Outcome 3: The Government has a plan for enabling the implementation of methane mitigation actions through regulation or new business models.

- Benchmark of landfill regulation among other countries with high ambitions.
- Strategy for enabling business models for waste management initiatives (e.g., carbon market strategies, tariff reform, enabling by-product markets).
- Strategy for improving regulation of methane emissions and waste.

Project Results

The project resulted in a strategy to enable landfills to mitigate methane emissions required to comply with the Ministry of Health's sectoral mitigation plan. This strategy includes a reference of the investments required for improving information systems, a regulatory roadmap to improve the standards for landfill gas management, and guidance on engaging with carbon markets to accelerate actions in the sector. These outputs also helped the Government to **disclose which mitigation initiatives will be part of its inventory and which initiatives will be available for participating in Article 6 mechanisms**, clearing the path for the private sector to implement additional initiatives.

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Key outputs

"This work allowed the Government to understand the best cost-effective measures to achieve its climate goals related to waste. Also, it helped understand the gap for future required waste infrastructure and the gap between the baseline and waste goals."

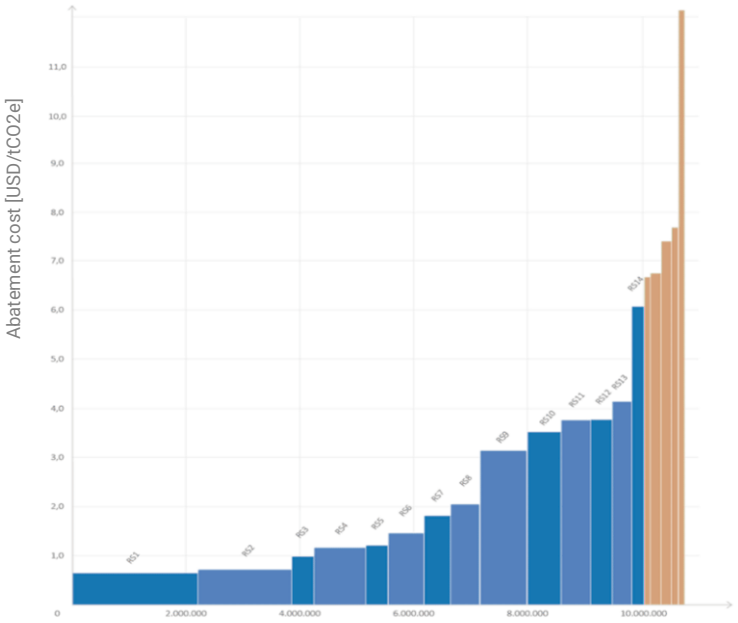

Figure 1. MACC curve build based on cost associated to capture biogas in existing landfills in Chile, and ordered by cost-efficiency

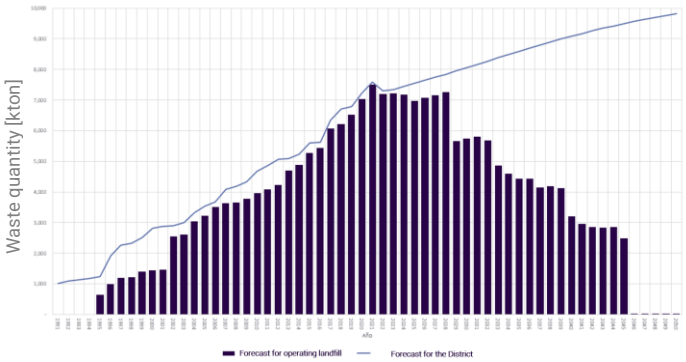

Figure 2. Comparison of the amount of municipal solid waste disposed in landfills and their treating capacity forecasting

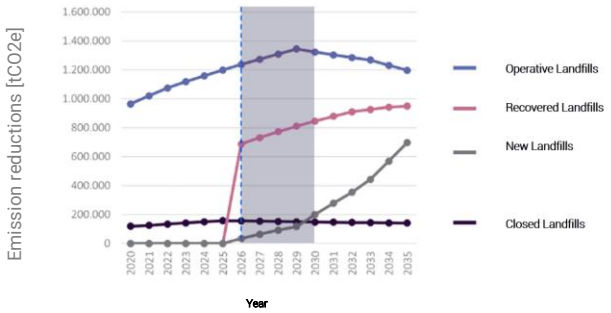

Figure 3. Emission reduction potential by landfill type between 2026-2030

"A roadmap was developed for enabling a carbon market that could accelerate mitigation actions in the short term, and complementary regulatory measures to secure a paradigm shift in the long term without risking not achieving national climate goals. This has helped the Government make decisions towards Article 6 assessments and prioritize efforts in landfills with greater impact opportunities."

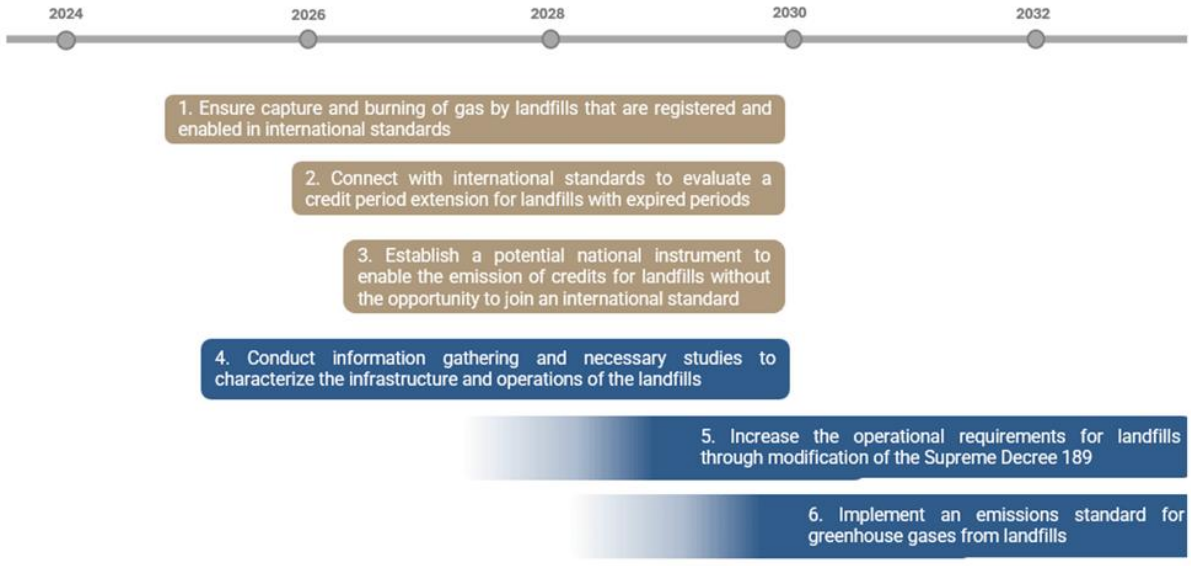

Figure 4. Roadmap and recommendations of mitigation actions related to carbon markets (in yellow) and regulatory changes (in purple), in order to achieve national mitigation goals