PART I. Programme of activities (PoA)

SECTION A. Description of PoA

A.1. Purpose and general description of PoA

The "Caixa Econômica Federal Solid Waste Management and Carbon Finance Project" PoA, hereafter termed as "Caixa's PoA", encompasses collection of LF and its destruction through flaring and/or use for: i) generating electricity; ii) supplying the LFG to consumers through a natural gas distribution network, dedicated pipeline and/or by using trucks.

Biogas generation provides an important contribution to environmental sustainability by reducing carbon dioxide emissions that otherwise would have occurred in the absence of the project. In the case of the proposed PoA, it reduces emissions of greenhouse gas (GHG) by LFG flaring and/or displacing energy generation (electricity and thermal) from fossil fuel sources (and CO_2 emissions). LFG can also be used to supply consumers through natural gas distribution network, dedicated pipeline or trucks.

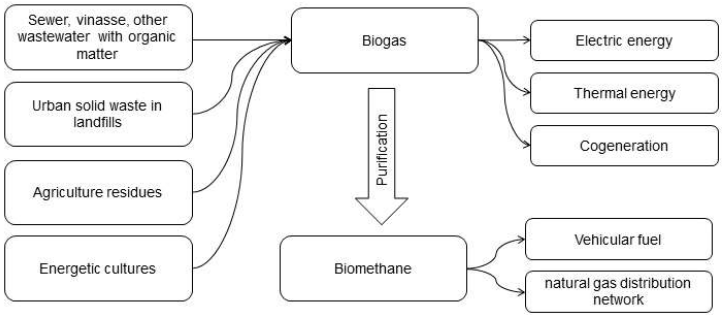

Figure 1: Generation sources and biogas application (source: adapted from http://www.iee.usp.br/agrener2015/sites/default/files/tematica8/747.pdf. Accessed on 25 Mar 2019).

The CDM component project activities (CPAs) encompassed by this PoA are implemented and directly managed by the landfill owners and operators that meet the criteria set by Caixa Econômica Federal as outlined in this PoA. The implementation and operation of the PoA is a voluntary action by the coordinating/managing entity (CME) Caixa Econômica Federal to encourage and provide access to finance low carbon technologies for the waste sector in Brazil.

Caixa Econômica Federal is the financial and technical intermediary in the PoA, providing assistance for the installation of LFG collection and destruction/utilization systems, taking the role of the CME in charge of validation and verification activities under the CDM under the framework for the implementation of the PoA.

Created in 1861, Caixa is the main agent of public policy for the Brazilian federal government and the third largest public bank in Latin America in year 2016[1]. Its network, the largest in Brazil, covered all 5,561 Brazilian municipalities with more than 17,000 service points in year 2012.

The Caixa's PoA is in line with the goals outlined in the National Sanitation Policy and the National Energy Plan. The Caixa's PoA may contribute towards sustainable development due to:

- GHG emission reductions through LFG flaring and/or renewable energy generation;
- Destruction of other air pollutants, such as hydrogen sulphide, that is present in trace quantities in LFG;

[1] Details about Caixa Econômica Federal are available at: <http://www.caixa.gov.br/site/english/About-Caixa/Paginas/default.aspx>.

- Global warming mitigation in line with local and national policies for GHG emission reductions and promotion of renewable energy as encouraged by the National Climate Change Plan[2] and the National Policy on Solid Waste[3];
- Improvement of LFG management and reduction of explosion and fire risks at the landfill site;
- Replicability of technology and know-how in the Host Country, since there are very few projects using LFG in spite of Brazilian's large potential;
- Capacity building and job creation, mainly during implementation and operation phases.

A.2. Physical/geographical boundary of PoA

The physical / geographical boundary for the Caixa's PoA is the whole country of Brazil. All the CPAs included in the PoA shall be implemented in Brazil by taking into consideration all applicable national and/or sectoral policies and regulations.

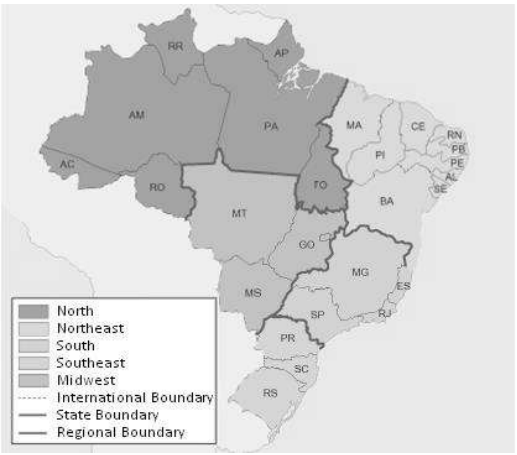

Figure **2:** Physical/Geographical boundary of the PoA (source: modified from http://biblioteca.uol.com.br/atlas/index.htm. Accessed on 26 Mar 2019).

A.3. Technologies/measures

Each CPA encompassed by the Caixa's PoA will consist of one of the 8 (eight) potentially identified CPA design scenarios as summarized in the table below:

Table 1: Scenarios applied to CPA under this PoA.

CPA design scenario	Destruction of methane emissions and/or displacement of a more-GHG-intensive service Capture of landfill gas (LFG) and its flaring and/or use to produce energy and/or use to supply consumers			
	Destruction of methane emission	Displacement of a more-GHG-intensive service	Release of LFG from the SWDS under the baseline scenario	Combination of types of use for collected LFG under the project scenario (for the displacing of a more-GHG-intensive-

[2] Details regarding the Brazilian Climate Change Plan are available at: <https://www.mma.gov.br/clima/politica-nacional-sobre-mudanca-do-clima/plano-nacional-sobre-mudanca-do-clima>.

[3] Details regarding the Brazilian Policy on Solid Waste are available at: <https://www.mma.gov.br/pol%C3%ADtica-de-res%C3%ADduos-s%C3%B3lidos>.