

## Project Design Document Form

Project Information	
<i>Project Title</i>	Kosher Biogas Programme
<i>Name of the non-obligated entity (legal entity name)</i>	Kosher Climate India Private Limited
<i>PDD version number</i>	1
<i>PDD completion date</i>	22/12/2025
<i>Sectoral Scope</i>	Agriculture
<i>Applied methodologies and tools</i>	BM AG04.001: Methane recovery from livestock and manure management at households and small farms
<i>Estimated annual emission reductions or net removals over the crediting period (tCO<sub>2</sub>e/year)</i>	5,059
<i>Date of PDD Submission</i>	26/12/2026

### Section 1 : Project Description

#### **A.1. Title of Project Activity**

*Kosher Biogas Programme*

#### **A.2. Compliance with minimum project eligibility**

##### **A.2.1. Regulatory Compliance**

No legal, environmental, ecological and social regulations in India prevent implementation of biodigesters in the rural households. Hence, the project follows the Host Country's legal, environmental, ecological and social regulations.

##### **A.2.2. Project Start Date**

*The expected project start date is 1<sup>st</sup> March 2026*

##### **A.2.3. Sector Scope (s)**

*Agriculture*

##### **A.2.4. Exclusivity**

*The project will not be included in any other voluntary or compliance standards programme.*

**A.2.5. Prevention of Double Counting**

*The project will not be included in any other voluntary or standard compliance programme. Kosher Climate India Private Limited (Here onwards Kosher) will sign an end-user agreement with all beneficiaries to transfer the carbon rights. Also, a unique ID number is given to each digester system that consists of a reference to the project. Hence, digesters under this project will not be counted under another carbon project or double-counted in any other mechanism.*

**A.3. Non-obligated entity**

**A.3.1. Ownership of Project**

*The project devices (biodigesters & biogas stoves) will be provided by Kosher at a subsidised cost. Beneficiaries will be considered as legal owners of the project devices. However, the social benefits and carbon rights will be with Kosher. Kosher will sign a detailed end-user agreement mentioning all the criteria with all the end-user beneficiaries before the commissioning of the project devices (biodigesters). In line with the FPIC requirement, an end-user agreement will be provided as proof that end-users are aware of and willing to give up their rights on products. The transfer of product ownership has been discussed during local stakeholder consultations.*

*Through declaration, the equipment manufacturer/supplier shall confirm that all the emission reduction rights are with Kosher.*

**A.3.2. Non-obligated entity**

Kosher Climate India Private Limited

**A.3.3. Managing Entity**

Kosher Climate India Private Limited

**A.3.4. Roles and Responsibilities of Participants**

The non-obligated entity and Managing Entity involved in this project is the same, Kosher Climate India Private Limited. Kosher shall be responsible for registration and monitoring of the proposed project activity.

#### **A.4. Detailed Description of Project Activity**

##### **A.4.1 Title**

*Kosher Biogas Programme*

##### **A.4.2. Objective and Purpose**

The proposed project activity involves the installation of biogas units (a clean and sustainable source of renewable energy for cooking) at the target households in Karnataka, India. Kosher Climate India Private Limited shall distribute 2.5 m<sup>3</sup> biogas systems to rural households at a subsidised price. The biogas systems use the animal manure as feedstock, which was earlier dumped in a pit in the baseline scenario. *Hence, the biogas systems shall act as an effective manure management system and avoid CH<sub>4</sub> emission from the animal manure dumped in pits.* The biogas system will also replace the traditional wood stove and thereby avoid CO<sub>2</sub> emissions associated with wood burning. The project activity aims to provide around 1,000 households with a biogas unit.

##### **A.4.3. Project Location**

###### **A.4.3.1. State**

Karnataka, India

###### **A.4.3.2. City/Town**

Will be updated later

###### **A.4.3.3. District**

*Will be updated later*

###### **A.4.3.4. Geographical Coordinates**

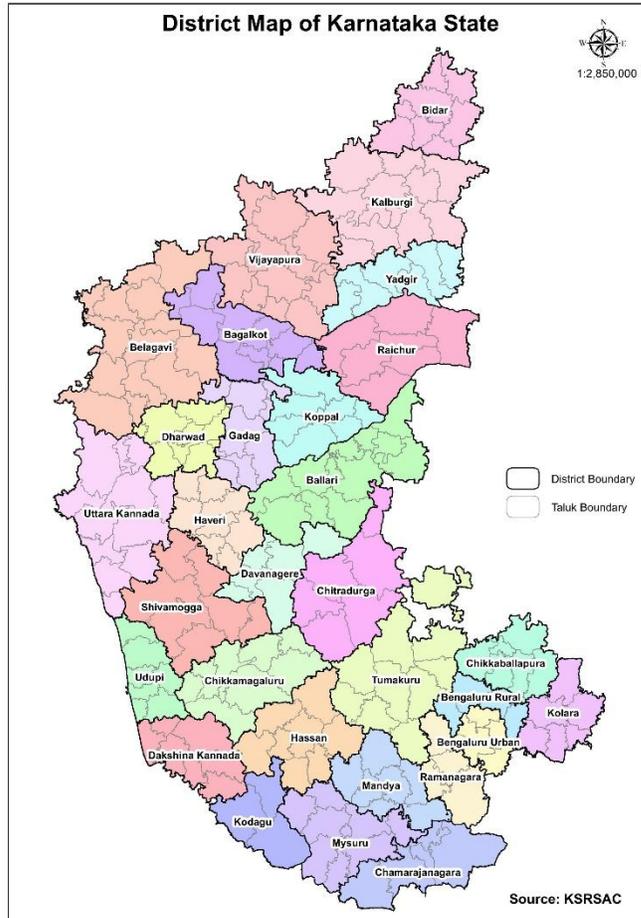
*The project will be implemented in rural households in Karnataka, India.*

*The geographical boundary of Karnataka is given below:*

*Latitude: 11°30' N to 18°30' N*

*Longitude: 74°15' E to 78°30' E*

#### **A.4.3.5. Local Map**



#### **A.4.4 Technologies/measures to be employed and/or implemented**

*The proposed project activity involves the installation of biogas units at the target households in Karnataka, India. The biogas systems use the animal manure as feedstock, which was earlier dumped in a pit in the baseline scenario. Hence, the biogas systems shall act as an effective manure management system and avoid CH<sub>4</sub> emission from the animal manure dumped in pits.*

#### **A.4.5. Technologies/measures existing prior to the implementation of the project (if applicable)**

*In the context of the project activity, a baseline survey was carried out in rural households among the target project zones. The survey shows that the potential beneficiaries in the project areas mainly use pit storage as a manure management practice. The surveys also reported that potential beneficiaries use firewood for cooking in an inefficient traditional cook stove. The use of firewood along with the use of LPG was also observed.*

**A.4.6. Description of how the project activity will achieve GHG emission reductions and/or removals.**

The proposed project activity involves the installation of biogas units at the target households in Karnataka, India. Kosher Climate India Private Limited shall distribute 2.5 m<sup>3</sup> biogas systems to rural households at a subsidised price. The biogas systems use the animal manure as feedstock, which was earlier dumped in a pit in the baseline scenario. Hence, the biogas systems shall act as an effective manure management system and avoid CH<sub>4</sub> emission from the animal manure dumped in pits. In the absence of the project activity, the animal manure will be left to decay anaerobically within the project boundary and methane is emitted to the atmosphere. The biogas system will also replace the traditional wood stove and thereby avoid CO<sub>2</sub> emissions associated with wood burning.

**A.4.7. GHG Reduction**

**A.4.7.1. Explanation on GHG reduction**

*The proposed project activity involves the installation of biogas units at the target households. The biogas systems use the animal manure as feedstock, which was earlier dumped in a pit in the baseline scenario. The biogas systems act as an effective manure management practice for the recovery and combustion of methane from animal manure. The project aims to change management practice to achieve controlled anaerobic digestion (domestic biogas digester) with a methane recovery and combustion system.*

**A.4.7.2. Justification on how reduction are above Business as usual Scenario.**

*Baseline surveys in project areas show potential beneficiaries primarily rely on pit storage for manure management. These surveys also indicate widespread use of*

inefficient traditional cookstoves fuelled by firewood, often alongside LPG. The baseline animal manure management practice has been practised by the beneficiaries through generations and will not be deviated from unless a significant external intervention is involved. Furthermore, carbon finance can act as a viability funding to overcome the barrier of high costs and novelty of the product among beneficiaries.

**A.4.7.2. Estimated Annual GHG Reduction**

5,059 tCO<sub>2</sub>e/year

**A.4.7.3. Estimated GHG reduction over crediting period**

50,590 tCO<sub>2</sub>e

**A.4.8. Project Implementation Timeline**

Installation of first digester: March 2026

**A.4.9. Details of Project Funding**

The project is funded by Kosher Climate India Private Limited

**A.4.10. Project Bundling (if applicable)**

Not applicable

**Section II : Project – Crediting Period**

**B.1. Project Development Cycle**

**B.1.1. Date on Decision on implementation of Project.**

1<sup>st</sup> March 2026

**B.1.2. Project Start Date**

31<sup>st</sup> March 2026

**B.1.3. Expected Lifetime of the project**

15 Years

**B.2. Crediting Period**

**B.2.1. Type of Crediting period opted**

Fixed crediting period

**B.2.2. Fixed Crediting Period**

**B.2.2.1. Start date of Crediting Period**

31<sup>st</sup> March 2026

**B.2.2.2. End Date of Crediting Period**

31<sup>st</sup> March 2036

**B.3.3. Renewable Crediting Period**

**B.3.3.1. Start date of Crediting Period**

Not applicable

**B.3.3.2. End Date of Crediting Period**

Not applicable

**B.3.3.3. Length of Crediting Period**

Not applicable

**Section III : Methodology**

**C.1. Selection of Methodology**

**C.1.1. Details on approved methodology applied.**

1. BM AG04.001: Methane recovery from livestock and manure management at households and small farms, Version 1.0

**C.1.2. Justification of application of methodology**

The proposed project activity involves the installation of biogas units at the target households. The project activity aims to change management practice to achieve controlled anaerobic digestion (domestic biogas digester) with a methane recovery and combustion system. This activity is in line with the list of activities covered under para 4 of BM AG04.001: Methane recovery from livestock and manure management at households and small farms.

**C.2. Application of Methodology**

**C.2.1. Details on application of methodology**

<b>Condition</b>	<b>Justification</b>
The methodology is applicable under the following conditions: (a) The domestic biogas digester, methane recovery and combustion	(a) The proposed project activity involves the installation of biogas units at the target households.

<p>systems are installed at individual households or small farms</p> <p>(b) This methodology may be applied in combination with other methodologies, as applicable;</p> <p>(c) This methodology is applicable only to the fraction of the manure which would decay anaerobically in the absence of the project activity. The fraction of the manure decaying anaerobically is established by a survey in accordance with paragraph 12 below;</p> <p>(d) The annual average temperature of the site where manure would have decomposed anaerobically in the baseline is higher than 5 °C.</p>	<p>(b) Currently, the proposed methodology does not use any other methodology in combination</p> <p>(c) Baseline surveys in project areas show potential beneficiaries primarily rely on pit storage for manure management. In the absence of the project activity, the animal manure will be left to decay anaerobically within the project boundary and methane is emitted to the atmosphere</p> <p>(d) The annual average temperature of the site where manure would have decomposed anaerobically in the baseline is 28°C which higher than 5 °C.</p> <p>Hence, the condition is satisfied.</p>
<p>The project activity shall satisfy the following conditions:</p> <p>(a) Final digestate must be handled aerobically, and the conditions and procedures of the aerobic handling of the final digestate (e.g. land application) shall be described in the project design document (PDD) and subsequently checked upon verification;</p> <p>(b) Measures shall be used (e.g. combustion in a biogas burner for cooking needs) to ensure that all the methane collected by the recovery system is combusted;</p>	<p>(a) The final digestate shall be used in slurry form for fertilizer applications. The instances of applications shall be monitored and included in monitoring plan.</p> <p>(b) The biogas units distributed under the proposed project shall involve biogas stoves for effective combustion of captured methane.</p> <p>(c) The activity shall ensure complete combustion of methane captured by (i) larger gas retention capacity (ii) deployment of systems in line with national standards and (iii) an effective community engagement plan</p>

<p>(c) In order to mitigate risks for physical leakage and venting, Non-obligated entity shall provide documentation in the PDD which:</p> <p>(i) Ensures that biodigesters are appropriately designed in terms of their sizing, considering manure inputs and the thermal energy requirements of households. Justifications shall be provided in the PDD and monitoring reports to demonstrate that gasholders are sufficiently large to capture and store all the biogas that would be generated until consumption;</p> <p>(ii) Ensures that the construction or installation of biodigesters (in the case of prefabricated plants) complies with relevant national and/or international standards and that a quality assurance/quality control (QA/QC) system is put in place for the construction or installation;</p> <p>(iii) Ensures that trainings are conducted for all users of biodigesters prior to their commissioning or installation and that the trainings shall be documented in a verifiable manner (e.g. protocol of trainings, documentation of on-site visits); (iv) Ensures that a plan for periodic inspection and maintenance is in place and rehabilitation services are</p>	<p>to increase effective use of biodigesters. (iv) The entity shall also ensure that through regular monitoring that the measures are adequate and details shall be provided to verifier at the time of verification.</p>	
---	---	--

available throughout the crediting period.	
--	--

### **C.2.2 Description of baseline scenario**

*In the context of the project activity, a baseline survey was carried out in rural households among the target project zones. The survey shows that the potential beneficiaries in the project areas mainly use pit storage as a manure management practice. The surveys also reported that potential beneficiaries use firewood for cooking in an inefficient traditional cook stove. The use of firewood along with the use of LPG was also observed.*

### **C.2.3. Justification of selection of baseline scenario**

The baseline survey shows that the potential beneficiaries in the project areas mainly use pit storage as a manure management practice. As per para 11 of BM AG04.001: Methane recovery from livestock and manure management at households and small farms, Version 1.0, In the absence of the project activity, manure is left to decay anaerobically within the project boundary and methane is emitted to the atmosphere. Hence, the baseline scenario has been selected as continued methane emissions from the dumping of animal manure in pit storage.

### **C.2.4. Description of how emission in project scenario is reduced as compared to baseline**

The proposed project activity involves the installation of biogas units at the target households. The biogas systems use the animal manure as feedstock, which was earlier dumped in a pit in the baseline scenario. Hence, the biogas systems shall act as an effective manure management system and avoid CH<sub>4</sub> emission from the animal manure dumped in pits. In the absence of the project activity, the animal manure will be left to decay anaerobically within the project boundary and methane is emitted to the atmosphere.

### **C.2.5. Description of Project Boundary**

As per para 10 of BM AG04.001: Methane recovery from livestock and manure management at households and small farms, Version 1.0, the project boundary

includes the physical, geographical site of the methane recovery and combustion systems. In the context of proposed project activity, the project boundary shall include livestock, biogas units, biogas utilisation for thermal applications and digestate treatment.

**C.3 Demonstration of Additionality**

*The proposed project activity is not mandated by any laws or policy in host country and is deemed to be auto additional*

**C.4 Addressing non-permanence and risks of reversals**

**C.4.1 Identification of risk or reversal**

Not applicable.

**C.4.2 Reversal risk assessment**

Not applicable.

**C.4.3 Reversals risk mitigation plan**

Not applicable.

**C.4.4 Remediation of reversals**

Not applicable.

**Section IV : Estimation of GHG Emission Reduction**

**D.1. GHG Emission from Baseline and Project Activity**

**D.1.1. Estimate of GHG emissions**

*As per para 13 of BM AG04.001: Methane recovery from livestock and manure management at households and small farms, Version 1.0, the baseline emissions are calculated using*

$$BE_y = \sum_{LT,MS,PS,k} \left( N_{LT,PS,y} \times \frac{AM_{LT,PS}}{10^3} \times VS_{rate_{LT,PS}} \times 365 \times B_{0_{LT,PS}} \times 0.67 \right. \\ \left. \times 10^{-3} \times \frac{MCF_{LT,MS,k}}{100} \times AWMS_{LT,MS,k} \right) \times GWP_{CH_4} \times UF_b$$

Where;

$BE_y$  = Baseline emission during the year y (tCO<sub>2</sub>e)

$N_{LT,PS,y}$  = Annual average number of animals of livestock type LT in year y for productivity system

$AM_{LT,y}$  = Animal mass for livestock type LT (kilogram (kg) per animal)

$VS_{rate_{LT,PS}}$  = Daily volatile solid excretion per head of livestock type LT, for productivity system PS (kg VS per 1,000 kg animal mass per day)

365 = Days per year

$BO_{LT}$  = Maximum methane producing capacity for manure produced by livestock type LT, (cubic meters (m<sup>3</sup>) methane (CH<sub>4</sub>) per kg of VS excreted).

0.67 = Conversion factor of m<sup>3</sup> CH<sub>4</sub> to kg CH<sub>4</sub>

$MCF_{LT,MS,k}$  = Methane conversion factors for each manure management system MS by climate region k (per cent)

$AWMS_{LT,MS,k}$  = Fraction of total annual VS for each livestock type LT that is treated in manure management system MS in climate region k

$GWP_{CH_4}$  = Global warming potential (GWP) of CH<sub>4</sub> applicable to the relevant period (t CO<sub>2</sub>e/t CH<sub>4</sub>)

$UF_b$  = Net-to-gross adjustment factor to account for uncertainties. (0.896)

*As per para 15 of BM AG04.001: Methane recovery from livestock and manure management at households and small farms, Version 1.0, the following project emissions considered.*

*(a) Physical leakage of biogas ( $PE_{PL,y}$ );*

$$PE_{PL,y} = 0.10 \times \sum_{LT,MS,PS,k} \left( N_{LT,PS,y} \times \frac{AM_{LT,PS}}{10^3} \times VS_{rate_{LT,PS}} \times 365 \right. \\ \left. \times BO_{LT,PS} \times 0.67 \times 10^{-3} \times \frac{MCF_{LT,MS,k}}{100} \times AWMS_{LT,MS,k} \right) \\ \times GWP_{CH_4}$$

*(b) CO<sub>2</sub> emissions from use of fossil fuels for the operation of all the installed facilities ( $PE_{FC,y}$ );*

*Not applicable as the proposed project activity does not use any fossil fuels for the operation of the installed facilities*

*(c) CO<sub>2</sub> emissions from use of electricity for the operation of all the installed facilities ( $PE_{EC,y}$ );*

*Not applicable as the proposed project activity does not use electricity for the operation of the installed facilities*

*Emission reductions are calculated as*

$$ER_y = \min[(BE_y \times n_{k,y} - PE_{PL,y} - PE_{FC,y} - PE_{EC,y}), (MD_y - PE_{FC,y} - PE_{EC,y})] - LE_y$$

Where,

$ER_y$  = Emission reductions achieved by the project activity for year y (tCO<sub>2</sub>e)

$n_{k,y}$  = Proportion of domestic biogas digester, methane recovery and combustion systems k commissioned that remain operating in year y (fraction)

$MD_y$  = Methane combusted by the project activity in year y (tCO<sub>2</sub>e)

$PE_y$  = Project emissions for year y (tCO<sub>2</sub>e)

$LE_y$  = Leakage for year y (tCO<sub>2</sub>e)

$MD_y$  = Biogas consumed by the thermal application in year y (tCO<sub>2</sub>e)

Methane combusted ( $MD_y$ ) shall be determined as follow

$$MD_y = \sum_k (N_{k,0} \times n_{k,y} \times UF_b \times BS_{k,y} \times w_{CH_4,y} \times D_{CH_4,y} \times GWP_{CH_4})$$

Where,

$N_{k,0}$  = Number of domestic biogas digester, methane recovery and combustion systems of category k commissioned (number)

$n_{k,y}$  = Proportion of domestic biogas digester, methane recovery and combustion systems of category k commissioned that remain operating in year y (fraction)

$UF_b$  = Net-to-gross adjustment factor.

$BS_{k,y}$  = The average quantity of biogas combusted in domestic biogas digester, methane recovery and combustion systems of category k in year y (volume units, dry basis)

$w_{CH_4,y}$  = Methane content of the biogas in year y (volume fraction, dry basis)

$D_{CH_4}$  = Density of methane at the temperature and pressure of the biogas in year y (t/m<sup>3</sup>)

**D.1.2. Estimated leakage emissions**

The proposed project activity involves use of animal manure for biogas systems, hence leakage emissions from use of biomass is not applicable.

**D.1.3. Estimated Project emissions**

Year	Project emissions
Year 1	641
Year 2	641
Year 3	641
Year 4	641
Year 5	641
Year 6	641
Year 7	641
Year 8	641
Year 9	641
Year 10	641
<b>Total</b>	6,410

**D.1.4. Estimate of GHG emissions in baseline.**

Year	Baseline emissions
Year 1	5,700
Year 2	5,700
Year 3	5,700
Year 4	5,700
Year 5	5,700
Year 6	5,700
Year 7	5,700
Year 8	5,700
Year 9	5,700
Year 10	5,700
<b>Total</b>	57,000

**D.1.5. Estimate GHG reduction**

Year	Emission reductions
Year 1	5,059
Year 2	5,059
Year 3	5,059
Year 4	5,059
Year 5	5,059

Year 6	5,059
Year 7	5,059
Year 8	5,059
Year 9	5,059
Year 10	5,059
<b>Total</b>	<b>50,590</b>

## Section V : Data Parameters Monitoring

### E.1. Data and parameters fixed ex ante

#### Parameter #1

<i>Data/parameter</i>	<i>VS<sub>rateLT,PS</sub></i>
<i>Description</i>	<i>Daily volatile solid excretion per head of livestock type LT, for productivity system PS</i>
<i>Data Unit</i>	<i>kg VS per 1,000 kg animal mass per day</i>
<i>Purpose of Data</i>	<i>Emission reductions</i>
<i>Value(s) applied</i>	
<i>Source of data</i>	<i>Default values as provided in Table 10.13A of chapter 'Emissions from Livestock and Manure Management' under the volume 'Agriculture, Forestry and other Land use' of the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories</i>
<i>Comments/Remarks if any</i>	

#### Parameter #2

<i>Data/parameter</i>	<i>VS<sub>rateLT,PS</sub></i>
<i>Description</i>	<i>Maximum methane producing capacity for manure produced by livestock type LT,</i>
<i>Data Unit</i>	<i>cubic meters (m<sup>3</sup>) methane (CH<sub>4</sub>) per kg of VS excreted</i>

<i>Purpose of Data</i>	<i>Emission reductions</i>
<i>Value(s) applied</i>	
<i>Source of data</i>	<i>Table 10.16 of chapter ‘Emissions from Livestock and Manure Management’ under the volume ‘Agriculture, Forestry and other Land use’ of the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories</i>
<i>Comments/Remarks if any</i>	

**Parameter #3**

<i>Data/parameter</i>	<i><math>MCF_{LT,MS,k}</math></i>
<i>Description</i>	<i>Methane conversion factors for each manure management system MS by climate region k</i>
<i>Data Unit</i>	<i>Percent</i>
<i>Purpose of Data</i>	<i>Emission reductions</i>
<i>Value(s) applied</i>	
<i>Source of data</i>	<i>Table 10.17 of chapter ‘Emissions from Livestock and Manure Management’ under the volume ‘Agriculture, Forestry and other Land use’ of the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, following the definitions of manure management systems provided in Table 10.18.</i>
<i>Comments/Remarks if any</i>	

**E.2. Data and parameters to be monitored**

**Parameter 1**

<i>Data/parameter</i>	$N_{LT,PS,y}$
<i>Description</i>	<i>Annual average number of animals of livestock type LT in year y for productivity system PS</i>
<i>Data Unit</i>	<i>Number</i>
<i>Purpose of Data</i>	<i>Emission reductions</i>
<i>Value(s) applied</i>	<i>2 (cow), 1 (buffalo)</i>
<i>Source of data</i>	<i>Monitoring survey</i>
<i>Measurement/calculation methods and procedures</i>	<i>Monitored as per Standard: Sampling and surveys for ICM project activities and programmes of activities</i>
<i>Entity/person responsible for the measurement</i>	<i>Kosher Climate</i>
<i>Measuring Instrument(s)</i>	
<i>QA/QC Procedures Applied</i>	
<i>Comments/Remarks if any</i>	

**Parameter 2**

<i>Data/parameter</i>	$AM_{LT,y}$
<i>Description</i>	<i>Animal mass for livestock type LT</i>
<i>Data Unit</i>	<i>kg per animal</i>
<i>Purpose of Data</i>	<i>Emission reductions</i>
<i>Value(s) applied</i>	
<i>Source of data</i>	<i>Default values as provided in Table 10A.5 of the chapter 'Emissions from Livestock and Manure Management' in the volume 'Agriculture, Forestry and other Land use' of the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories</i>

<i>Measurement/calculation methods and procedures</i>	
<i>Entity/person responsible for the measurement</i>	<i>Kosher Climate</i>
<i>Measuring Instrument(s)</i>	
<i>QA/QC Procedures Applied</i>	
<i>Comments/Remarks if any</i>	

**Parameter 3**

<i>Data/parameter</i>	$N_{k,0}$
<i>Description</i>	<i>Number of domestic biogas digester, methane recovery and combustion systems of category k commissioned</i>
<i>Data Unit</i>	<i>Number</i>
<i>Purpose of Data</i>	<i>Emission reductions</i>
<i>Value(s) applied</i>	
<i>Source of data</i>	<i>Installation records</i>
<i>Measurement/calculation methods and procedures</i>	<i>Once, at the time of installation</i>
<i>Entity/person responsible for the measurement</i>	<i>Kosher Climate</i>
<i>Measuring Instrument(s)</i>	
<i>QA/QC Procedures Applied</i>	
<i>Comments/Remarks if any</i>	

**Parameter 4**

<i>Data/parameter</i>	$n_{k,y}$
<i>Description</i>	<i>Proportion of domestic biogas digester, methane recovery and combustion systems of category k commissioned that remain operating at year y (fraction)</i>

<i>Data Unit</i>	<i>Fraction</i>
<i>Purpose of Data</i>	<i>Emission reductions</i>
<i>Value(s) applied</i>	
<i>Source of data</i>	<i>Monitoring of operationality of the biogas systems, including domestic biogas digester, methane recovery and combustion system, shall be conducted using monitoring survey and as per ICM guidelines to achieve 90/ 10 precision levels.</i>
<i>Measurement/ calculation methods and procedures</i>	<i>Annually</i>
<i>Entity/ person responsible for the measurement</i>	<i>Kosher Climate</i>
<i>Measuring Instrument(s)</i>	
<i>QA/ QC Procedures Applied</i>	
<i>Comments/ Remarks if any</i>	

**Parameter 5**

<i>Data/ parameter</i>	<i>BS<sub>k,y</sub></i>
<i>Description</i>	<i>The average quantity of biogas combusted in domestic biogas digester, methane recovery and combustion systems of category k in year y</i>
<i>Data Unit</i>	<i>Volume units</i>
<i>Purpose of Data</i>	<i>Emission reductions</i>
<i>Value(s) applied</i>	
<i>Source of data</i>	<i>Measured using flow meters and as per ICM guidelines to achieve 90/ 10 precision levels.</i>

<i>Measurement/calculation methods and procedures</i>	<i>For each measurement campaign at each site, continuous measurement shall be carried out for at least 30 days;</i>
<i>Entity/person responsible for the measurement</i>	<i>Kosher Climate</i>
<i>Measuring Instrument(s)</i>	<i>Flow meters</i>
<i>QA/QC Procedures Applied</i>	
<i>Comments/Remarks if any</i>	

**Parameter 6**

<i>Data/parameter</i>	<i>W<sub>ch4</sub></i>
<i>Description</i>	<i>Methane content of the biogas in year y</i>
<i>Data Unit</i>	<i>%</i>
<i>Purpose of Data</i>	<i>Emission reductions</i>
<i>Value(s) applied</i>	<i>60%</i>
<i>Source of data</i>	<i>Methodology default</i>
<i>Measurement/calculation methods and procedures</i>	
<i>Entity/person responsible for the measurement</i>	<i>Kosher Climate</i>
<i>Measuring Instrument(s)</i>	
<i>QA/QC Procedures Applied</i>	
<i>Comments/Remarks if any</i>	

**Parameter 7**

<i>Data/parameter</i>	<i>Sizing of the digester</i>
<i>Description</i>	<i>Ensuring biodigesters are appropriately designed in terms of their sizing, considering manure inputs</i>

	<i>and the thermal energy requirements of households</i>
<i>Data Unit</i>	
<i>Purpose of Data</i>	
<i>Value(s) applied</i>	
<i>Source of data</i>	<i>Design specification of biogas digesters</i>
<i>Measurement/calculation methods and procedures</i>	<i>Confirm that biodigesters are appropriately designed in terms of their sizing, considering manure inputs and the thermal energy requirements of households. Justifications shall be provided in the project design document and monitoring reports to demonstrate that gasholders are sufficiently large to capture and store all the biogas that would be generated until consumption. Monitored once at construction or installation of biogas digesters.</i>
<i>Entity/person responsible for the measurement</i>	<i>Kosher Climate</i>
<i>Measuring Instrument(s)</i>	
<i>QA/QC Procedures Applied</i>	
<i>Comments/Remarks if any</i>	

**Parameter 8**

<i>Data/parameter</i>	<i>Compliance with standards and QA/QC system</i>
<i>Description</i>	<i>Ensuring that the construction or installation of biodigesters complies with relevant national and/or international standards and that a</i>

	<i>quality assurance/quality control (QA/QC) system is put in place for the construction or installation;</i>
<i>Data Unit</i>	
<i>Purpose of Data</i>	
<i>Value(s) applied</i>	
<i>Source of data</i>	<i>Comparison against national and/or international standards followed for biogas digesters - QA/QC system</i>
<i>Measurement/calculation methods and procedures</i>	<i>Confirm that the construction or installation of biodigesters (complies with relevant national and/or international standards and that a QA/QC system is put in place for the construction or installation. Monitored once at construction or installation of biogas digesters.</i>
<i>Entity/person responsible for the measurement</i>	<i>Kosher Climate</i>
<i>Measuring Instrument(s)</i>	
<i>QA/QC Procedures Applied</i>	
<i>Comments/Remarks if any</i>	

**Parameter 9**

<i>Data/parameter</i>	<i>Training for all users of biodigesters</i>
<i>Description</i>	<i>Ensuring trainings are conducted for all users of biodigesters prior to their commissioning or installation and that the trainings shall be documented in a verifiable manner.</i>
<i>Data Unit</i>	
<i>Purpose of Data</i>	

<i>Value(s) applied</i>	
<i>Source of data</i>	<i>Training records</i>
<i>Measurement/calculation methods and procedures</i>	<i>Confirm that trainings are conducted for all users of biodigesters prior to their commissioning or installation. The trainings shall be documented in a verifiable manner (e.g. protocol of trainings, documentation of on-site visits)</i>  <i>Monitored at least once, prior to commissioning or installation of biogas digesters</i>
<i>Entity/person responsible for the measurement</i>	<i>Kosher Climate</i>
<i>Measuring Instrument(s)</i>	
<i>QA/QC Procedures Applied</i>	
<i>Comments/Remarks if any</i>	

**Parameter 10**

<i>Data/parameter</i>	<i>Periodic inspection and maintenance</i>
<i>Description</i>	<i>Ensuring that a plan for periodic inspection and maintenance is in place and rehabilitation services are available throughout the crediting period.</i>
<i>Data Unit</i>	
<i>Purpose of Data</i>	
<i>Value(s) applied</i>	
<i>Source of data</i>	<i>Training records</i>
<i>Measurement/calculation methods and procedures</i>	<i>Confirm that a plan for periodic inspection and maintenance is in</i>

	<p><i>place and rehabilitation services are available throughout the crediting period.</i></p> <p><i>Description of such technical support system shall be provided in the project design document and verified by the designated operational entity during verification)</i></p> <p><i>Monitored at least once, prior to commissioning or installation of biogas digesters</i></p>
<i>Entity/person responsible for the measurement</i>	<i>Kosher Climate</i>
<i>Measuring Instrument(s)</i>	
<i>QA/ QC Procedures Applied</i>	
<i>Comments/Remarks if any</i>	

### **E.3 Sampling Plan**

*The monitoring surveys will be carried out in the project scenario using representative and random sampling. The following parameters will be determined through annual sample survey:*

- *Annual average number of animals of type LT in year y*
- *Fraction of manure handled in project animal manure management system*
- *Number of farmers adopted practices promoted by the project*
- *Fraction of livestock category T's manure fed into the biodigester*
- *Number of animals of livestock category T*
- *Percentage of biodigester in use in year y*
- *Percentage of households apply biogas slurry to agriculture field in the year y*
- *Number of households bio digesters are installed*

Sample size calculations shall be conducted following the requirements in the “Standard for sampling and surveys for ICM project activities and programme of activities” for a precision level of 90/10. The results shall be checked for precision levels. When results are not complied with, the lower bound or upper bound of the confidence interval shall be considered, whichever gives a conservative estimate. However, in any case, CME shall ensure the sample size is greater than 30.

## Section VI : Sustainable Development

### F.1. Environment and Social Safeguards

The following Environmental and social safeguards elements were assessed for the proposed project activity.

<b>Safeguard</b>	<b>Element</b>	<b>Assessment</b>
<b>Environmental</b>	Climate and Energy	No Harm. The project does not increase greenhouse gas emissions or fossil fuel energy use compared to baseline scenario.
	Air, land and water	No Harm. The project does not contribute to pollution of air, land and water.
	Ecology and natural resources	The project does not have a negative impact on Ecology and natural resources.
<b>Social</b>	Human rights	No impact. The project does not marginalize any

		<i>particular group in its implementation.</i>
	Labour	<i>No Harm. The project does not violate any labour conventions or child labour policies in its implementation.</i>
	Health and safety	<i>No Harm. The project does not affect adversely the health any stakeholder involved.</i>
	Gender equality	<i>No Harm. The project does not affect adversely gender equality and/or the situation of women and girls.</i>
	Land acquisition and involuntary resettlement	<i>No Harm. The project does include land acquisition and involuntary resettlement.</i>
	Local Communities	<i>No Harm. The project does not affect adversely local communities or their rights.</i>
	Corruption	<i>No Harm. The project does not involve or promote instances of corruption.</i>
	Cultural heritage	<i>No Harm. The project does not affect any cultural heritage sites</i>

**F.2. Quantification of Impact due to Project Activity**

*The proposed project activity involves the installation of biogas units at the target households. No legal, environmental, ecological and social regulations in India prevent implementation of biodigesters in the rural households. Hence, the project follows the Host Country's legal, environmental, ecological and social regulations. Biodigesters are generally considered as a positive technology and have no negative social/ environmental impact.*

## **Section VII : Local Stakeholder Consultation**

### **G.1. Local Stakeholder Consultation**

#### **G.1.1. Stakeholder Mapping**

The following stakeholders were identified as part of initial assessment. These include local stakeholders, national and state level government bodies and non-governmental agencies working in the sector.

Bureau of Energy Efficiency	<a href="mailto:dgbee@nic.in">dgbee@nic.in</a> , <a href="mailto:beesecretary@beeindia.gov.in">beesecretary@beeindia.gov.in</a>
Development Mechanism Authority (NCDMA)	<a href="mailto:shard.sapra@nic.in">shard.sapra@nic.in</a>
Ministry of Environment, Forest and Climate Change	<a href="mailto:m.yadav@gov.in">m.yadav@gov.in</a>
Ministry of rural development (Rural development Secretary)	<a href="mailto:secyrd@nic.in">secyrd@nic.in</a>
Central Pollution Control Board	<a href="mailto:ccb.cpcb@nic.in">ccb.cpcb@nic.in</a>
Ministry of New and Renewable Energy	<a href="mailto:manoj.ksingh82@gov.in">manoj.ksingh82@gov.in</a> , <a href="mailto:raju.goswami12@nic.in">raju.goswami12@nic.in</a>
Karnataka Renewable Energy Development Limited (KREDL)	<a href="mailto:kredlroklb@gmail.com">kredlroklb@gmail.com</a> , <a href="mailto:kredlmd@gmail.com">kredlmd@gmail.com</a> , <a href="mailto:regionalofficekredl.hbl@gmail.com">regionalofficekredl.hbl@gmail.com</a>
Ministry of Women and Child Development	<a href="mailto:secy.wcd@nic.in">secy.wcd@nic.in</a>
Local community/beneficiaries	Newspaper
Sambhav Foundation	<a href="mailto:info@sambhavfoundation.org">info@sambhavfoundation.org</a>
Rehabilitative Assistance for People in Distress	<a href="mailto:info@rapidind.org">info@rapidind.org</a>
YWCA	<a href="http://ywcablr.org">ywcablr.org</a>
eVidyaloka Trust	<a href="mailto:talktosomeone@evidyaloka.org">talktosomeone@evidyaloka.org</a>
The Nudge Foundation	<a href="mailto:hello@thenudge.org">hello@thenudge.org</a>
Inchara Foundation	<a href="mailto:info@incharafoundation.in">info@incharafoundation.in</a>
Centre for Wildlife Studies	<a href="mailto:outreach@cwsindia.org">outreach@cwsindia.org</a>
Karnataka State Women's Development Corporation	<a href="http://kswdc.karnataka.gov.in">kswdc.karnataka.gov.in</a>

### **G.1.2. Mode of conducting stakeholder consultation**

*The stakeholder consultation was conducted through electronic and physical means. The stakeholders mapped were invited to the meeting through email along with a non-technical summary of the project and a means for feedback on the project. Local stakeholders were invited through newspaper advertisements published in all Karnataka district editions.*

### **G.1.3. Details on Consultation**

*The physical stakeholder consultation was conducted on 21/12/2025 in Vinayaka Nagara, Shikaripura, Shivamogga - 577427. Around 20 stakeholders have participated in the consultation. The electronic consultation started in the second week of December and was open for two weeks.*



### **G.1.4. Summary of comments**

The comments from the physical stakeholder consultation were generally positive and with regard to the implementation schedule of the project. No comments have been received so far in regard to the electronic consultation.

### **G.1.5. Summary on how comments are addressed.**

The comments from the consultation were generally positive and did not require any particular addressal.

