PROJECT CONCEPT NOTE

CARBON OFFSET UNIT (CoU) PROJECT

Title: Emission Reduction in Aluminium Recycling process by CMR Group.

Version 1.0
Date 15/03/2023

First COU Issuance Period: 10 years, 00 months
Date: 01/01/2013 to 31/12/2022

Project Concept Note (PCN)
CARBON OFFSET UNIT (CoU) PROJECT

BASIC INFORMATION	
Title of the project activity	Emission Reduction in Aluminium Recycling process by CMR Group.
Scale of the project activity	Small Scale
Completion date of the PCN	15/03/2023
Project participants	CMR Green Technologies Limited
Host Party	India
Applied methodologies and standardized baselines	**Applied Baseline Methodology:** AMS III BD – Version 01 GHG emission reduction due to supply of molten metal instead of ingots for Aluminium Castings. **Standardized Methodology:** Not Applicable.
Sectoral scopes	04 : Manufacturing industries
Estimated amount of total GHG emission reductions	To be estimated during verification. [An ex-ante estimate is 16,780 COUs per year]

SECTION A. Description of project activity

A.1. Purpose and general description of Carbon offset Unit (CoU) project activity >>

The project titled as "**Emission Reduction in Aluminium Recycling process by CMR Group"** is a grouped project activity with four aluminium recycling units of CMR Group located in Haridwar (Uttrakhand), Bawal, Gurugam & Manesar (Haryana) in India. The project units are operational with continuous reduction of GHG, currently being applied under "Universal Carbon Registry" (UCR).

The details of the project activity under carbon cycle are as follows:

Purpose of the project activity:

The project activity is promoted by "CMR Green Technologies Limited" (hereinafter also referred to as (i) project proponent or PP and (ii) CMR Group), is a manufacturer of Aluminium and Zinc based alloys. CMR Group has pride of being the biggest producer for these alloys in India.

These are the aluminium metal recycling units located in two different districts in India, wherein the metal will be supplied to the casting unit in the molten state (against the traditional solid ingots). The project units supply molten Aluminium to casting units, thus molten aluminium can reduce carbon emissions compared to solid ingots due to lower energy requirements. The production of molten aluminium requires less energy than producing solid ingots. This is because the melting point of aluminium is relatively low, so less energy is needed to melt the metal than to melt it and then solidify it. In order to supply the metal in the molten state the metal recycling facilities are being established by the side of the producer of the castings. CMR being a responsible company, continuously seeks opportunities for energy conservation and other environmentally and socially benign activities; and these units are the examples of such initiative towards sustainability.

The four units included under the UCR project activity are as follows:

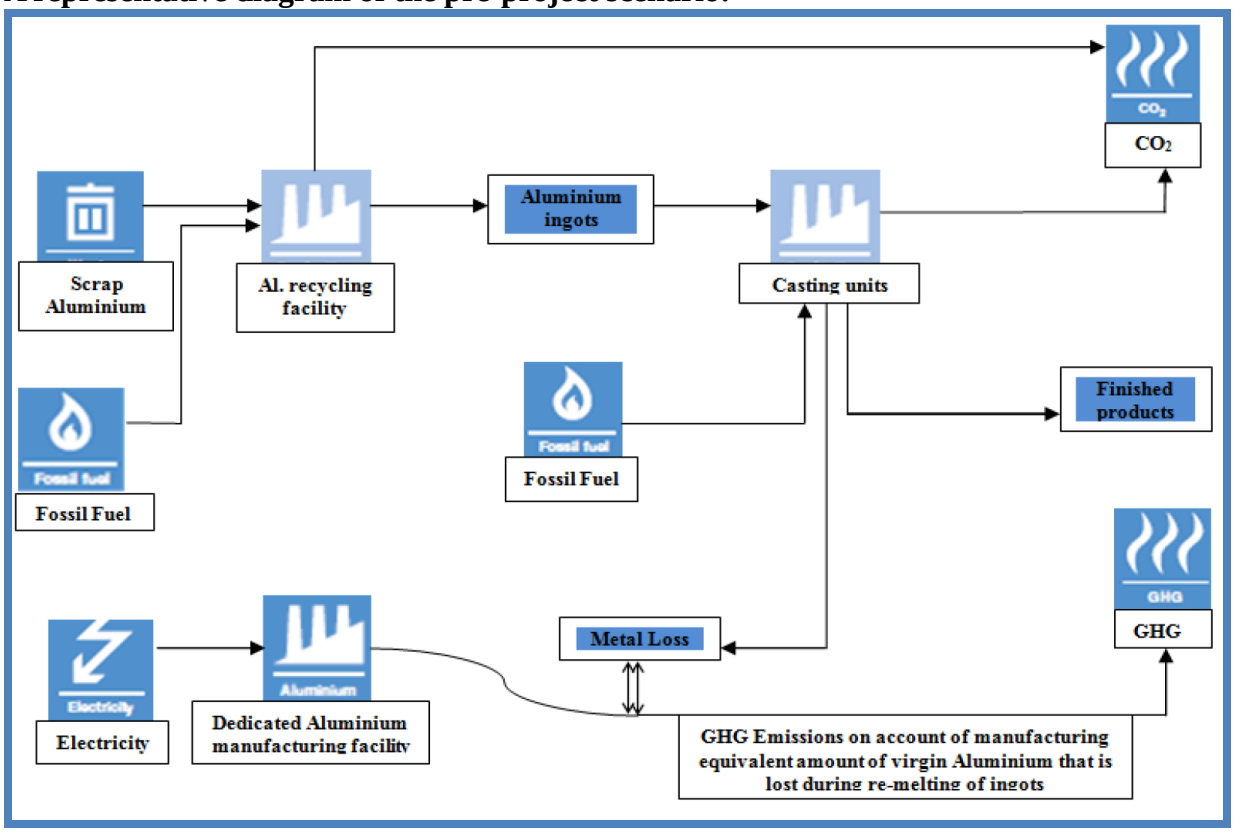
Unit Reference	Location Reference	Commissioning Date	Remarks
Unit 1	Haridwar (Uttrakhand)	22 Aug 2008	Represented under "CMR Green Technologies Limited"
Unit 2	Gurugram (Haryana)	30 Dec 2009	Represented under "CMR Green Technologies Limited"
Unit 3	Manesar (Haryana)	01 Aug 2013	Represented under "CMR Green Technologies Limited"
Unit 4	Bawal (Haryana)	02 Dec 2013	Represented under "CMR Nikkei India Pvt. Ltd."

In line with the application of the carbon methodology AMS III.B.D, the emission reductions with these project units are on account of:
(a) energy savings due to avoidance of fossil fuel usage for re-melting the ingots at casting units;
(b) avoiding aluminium metal loss due to metal oxidation during re-melting of ingots at casting units.

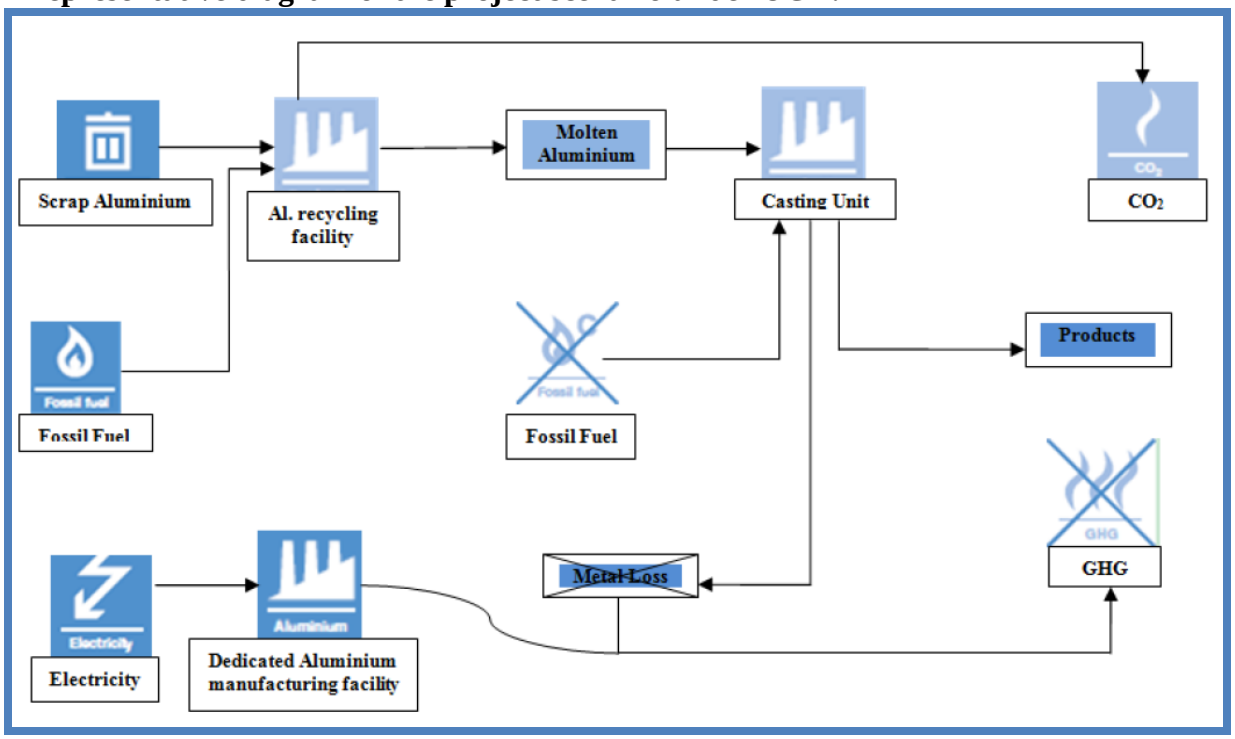
Therefore, the purpose of the project activity can be summarized as to reduce GHG emissions by supplying metal for aluminium castings in the molten state. Prior the implementation of the project

activity, the casting units procures aluminium ingots and re-melts it in in-house melting furnaces for subsequent use in die-casting of various automotive components/parts. The project activity involves supply of molten Aluminium and utilization in die-casting operation directly. Therefore, the project activity reduces the dependence on fossil fuel and avoid associated aluminium metal loss due to oxidation during re-melting of ingots; thereby, effecting an overall reduction in GHG emissions.

A representative diagram of the pre-project scenario:



A representative diagram of the project scenario under UCR:



As can be checked from the table above, the earliest date of commissioning of the units was on 22nd August 2008 which is for Haridwar plant and the latest commissioning was for Bawal plant which was 02nd Dec 2013. All units have been in continuous operation since its commissioning. Therefore, the consideration of crediting period for the project is justified as 01 Jan 2013.

In order to present an ex-ante estimated value in this Project Concept Note for all future reference, a detailed calculation has been done. Based on the primary data collected during the project design and based on all methodological parameters, the estimated emission reductions are about 16,780 tCO_2e per annum, whereas actual emission reductions accounted during the first CoU period shall be submitted as a part of first monitoring and verification.

A.2 Do no harm or Impact test of the project activity>>

The project does not have any negative impact on the environment or in the region, rather it has positive attributes. There are several positive impacts of a metal recycling project that focuses on recycling molten aluminium compared to solid ingots:

Energy savings: Recycling molten aluminium requires significantly less energy than producing aluminium from virgin ore. According to the Aluminium Association, recycling aluminium saves about 95% of the energy needed to produce primary aluminium from bauxite ore. This results in significant reductions in greenhouse gas emissions and other air pollutants.

Resource conservation: Recycling aluminium conserves natural resources like bauxite ore and reduces the need for mining, which can cause environmental damage.

Waste reduction: Recycling molten aluminium produces less waste than producing solid ingots from virgin ore. Recycling aluminium also helps to reduce landfill waste and associated environmental issues.

Cost savings: Recycling aluminium is often less expensive than producing aluminium from virgin ore, especially as the cost of energy continues to rise.

Job creation: Metal recycling projects can create new jobs in recycling, collection, and processing of aluminium scrap.

Improved sustainability: By recycling aluminium, we can move towards a more sustainable and circular economy, where resources are used more efficiently and waste is minimized. This can lead to a more sustainable future for both the environment and the economy.

Therefore, if we summarize the positive impacts as mentioned above, the overall we could mention that recycling molten aluminium can have a significant positive impact on the following broad categories:

- **Environmental**
- **Social**
- **Economical.**

The project units are already operational and all these positive attributes are achieved by the project units. Thus this project is contributing to various sustainable benefits which can be realized both in direct and indirect forms and positive impacts are realizable across the operational lifetime of the project.

Additional Information on Do No Harm Assessment:

A DO NO HARM assessment is an evaluation of the potential impacts of a project on human rights, labour standards, environmental conditions, and community development. Here is an assessment of the metal recycling project that focuses on recycling molten aluminium compared to solid ingots:

1. **Human Rights:** The project is not experiencing any direct negative impacts on human rights. Generally, workers in the metal recycling industry have risks such as exposure to hazardous materials and heavy machinery. However, at CMR plants the best possible proper safety measures are taken to ensure worker safety. Hence no negative impact.

2. **Labour Standards:** The project complies with labour laws and standards, including those related to working hours, wages, and worker safety. Workers are provided with appropriate protective gear and training to minimize risks. Moreover, CMR is already certified as "Great Place to Work", which certainly confirms the compliance of all labour laws as well as qualitative employment across the organization.

3. **Environmental Conditions:** Recycling molten aluminium is generally more environmentally friendly than producing solid ingots from virgin ore. While achieving this climate friendly action, CMR group also implemented appropriate environmental management practices across the plants and offices to ensure that any environmental hazards or probable risks are minimized. Moreover, the required environmental clearances and consent to operate from Pollution Control Board received in all the units, hence it ensures no direct or indirect impacts to air and water pollution, waste generation/disposal methods etc.

4. **Community Development:** The project units are already having positive impacts on the community as new jobs and local economic opportunities have been created. Also, CMR group conducts various CSR (Corporate Social Responsibility) activities for community with the active participation and involvement of the local community to ensure that their needs and concerns are considered.

Overall, the metal recycling project that focuses on recycling molten aluminium compared to solid ingots has the potential to have positive impacts on the environment, the economy, and society. However, it is important to ensure that appropriate measures are in place to mitigate any potential negative impacts on human rights, labour standards, environmental conditions, and community development. The project proponent "CMR Group" has been successfully addressing to all these areas that ensures that No negative impact or No Harm to the community and the region.

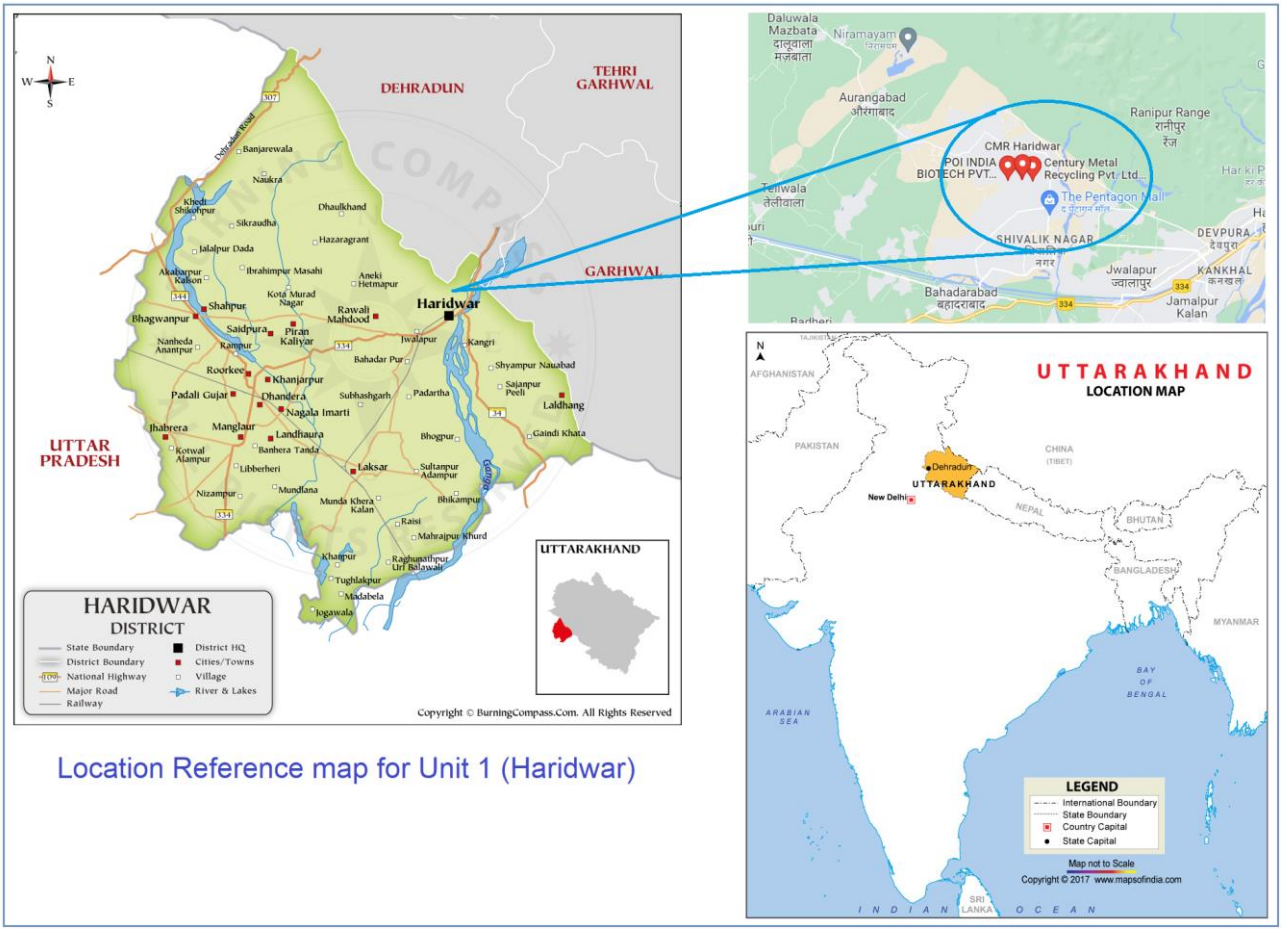
A.3. Location of project activity >>

Country : India
District : Manesar, Gurgaon, Bawal and Haridwar
State : Haryana and Uttarakhand

The location details of the four units are given below:

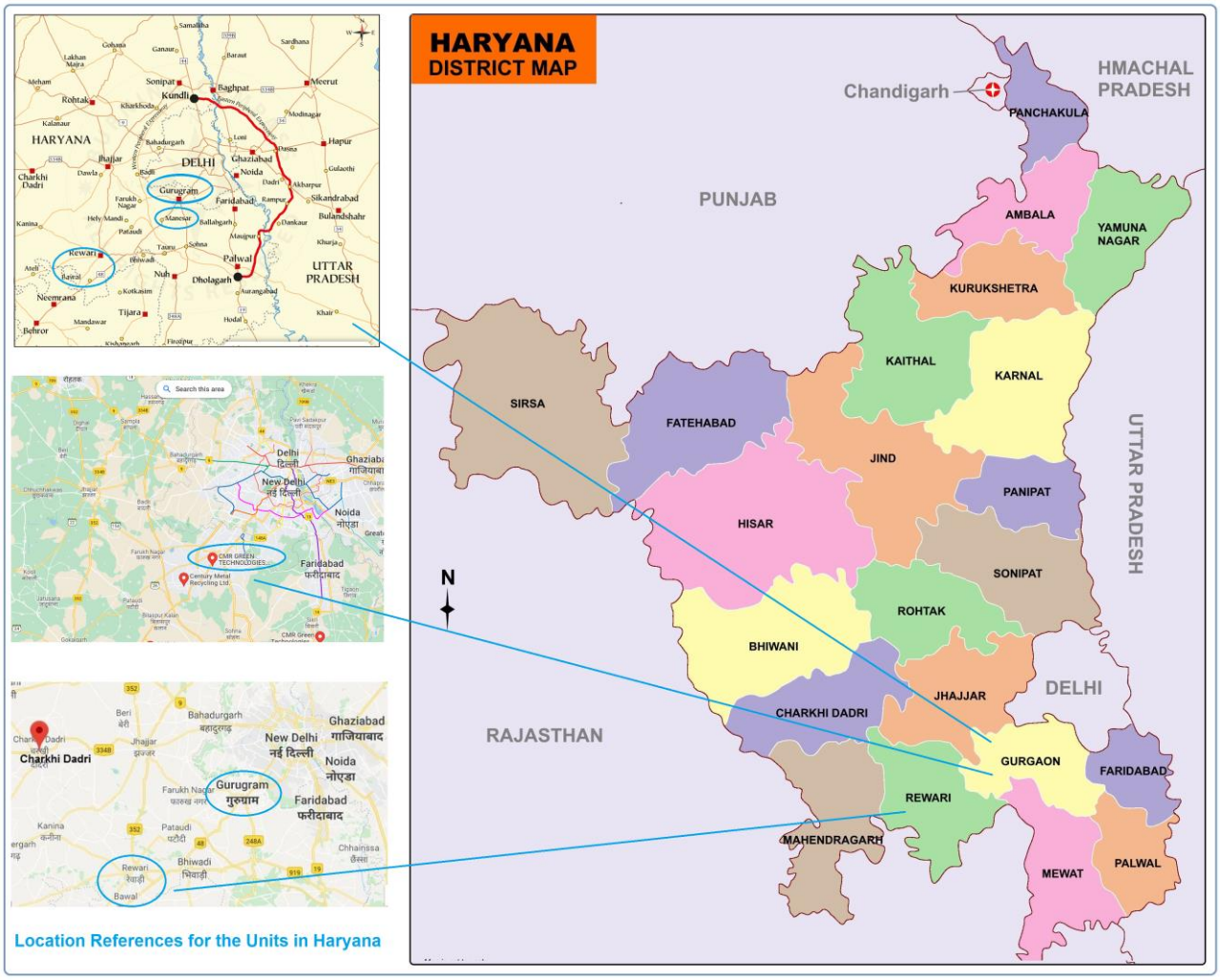
Unit Ref	Location Reference	Location Details
Unit 1	Haridwar (Uttarakhand)	Haridwar Sidcul, Plot 3/P2, Sector 10, Haridwar. Latitude: 29° 56' 44.4876", Longitude: 78° 9' 51.2928"
Unit 2	Gurugram (Haryana)	38/6, Miles Stone, Delhi-Jaipur highway, vill-Narsinghpur, Dist. – Gurgaon, Haryana. Latitude: 28.3715° N, Longitude: 76.9237° E
Unit 3	Manesar (Haryana)	68F6+2CW, Tatarpur, Manesar, Haryana 121102. Latitude:28.22311° N, Longitude: 77.31163° E
Unit 4	Bawal (Haryana)	Plot No 65 Sector 15, Patuhera, Rewari, Bawal 123501. Latitude: 28.1034° N, Longitude: 76.6210° E

The representative location maps are included below:



Location Reference map for Unit 1 (Haridwar)

(Image courtesy: Google maps & images)



(Image courtesy: Google maps & images)

A.4. Technologies/measures >>

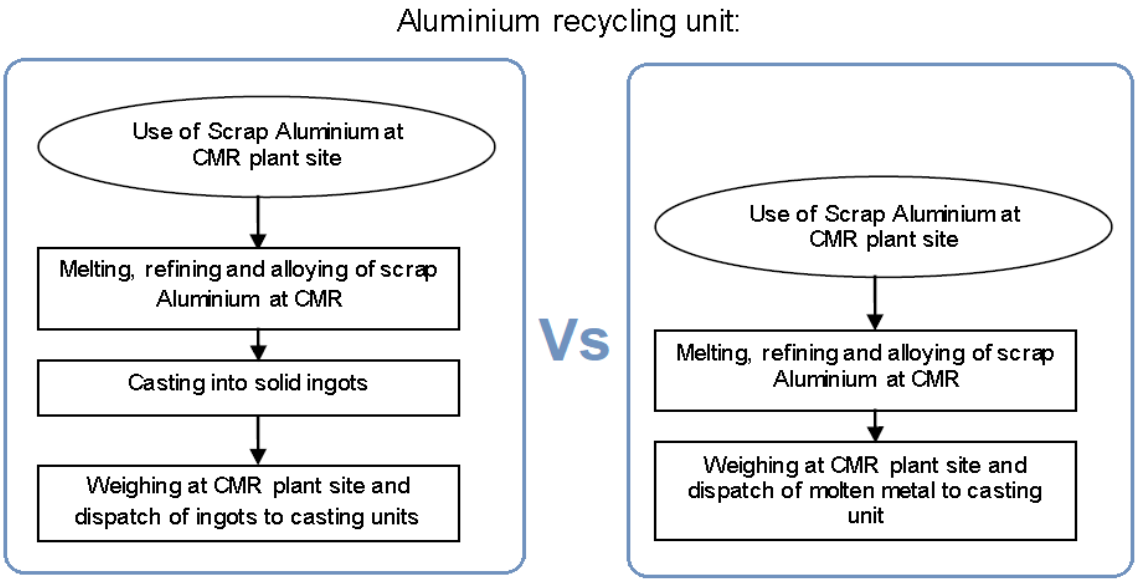
The type of the project activity is Type III – "Other project activities".
The project activity involves supply of molten Aluminium and thereby eliminating the consumption of fossil fuel in the furnaces for melting of Aluminium ingots prior to casting. As already prescribed in the section above, the project activity will reduce GHG emission on account of the following:

1) Emissions associated with the use of fossil fuel and electricity used for melting of Aluminium ingots in the casting units;
2) Emissions associated with virgin Aluminium production apportioned to that quantity of Aluminium metal that is lost in the form of Aluminium oxide during the process of melting the ingots at the casting units.

The technology and processes involved in the pre-project and project scenario have been explained below:

Baseline Scenario: In the pre-project scenario, CMR group was following the common process in the units i.e., supply of aluminium ingots to the casting units. The solid ingots were re-melted at the casting units for utilization in casting operations. For casting operations casting units melt solid ingots in their in-plant FO fired furnaces and use the molten Aluminium for castings. The use of fossil fuel for melting of the ingots leads to emissions of GHG. The process of melting of the ingots also leads to loss of some quantity of metal due to oxidation of the molten metal.

Project Scenario: Under the project level, the main activity that forms the carbon project is primarily saving the fuel and metal in the production process through modification of the existing process. The project activity involves supply of Aluminium alloy to casting units in molten state. Processes at Aluminium recycling facility in project scenario are same as that of process at Aluminium recycling facility in the pre-project scenario and baseline case. However, in project case molten aluminium produced from scrap Aluminium is supplied to the casting units for direct use in die-casting machines. Whereas in pre-project case molten Aluminium produced from melting of scrap Aluminium is casted into H-caster moulds to produce solid ingots. Solids ingots are then supplied to die-casting facilities for subsequent use.



The overall process flow value chain at CMR units are demonstrated below:

Thus, in all the units in the project activity supply molten Aluminium to casting units instead of supplying solid ingots by the Aluminium recycling unit. The technology used to produce Aluminium ingots or molten Aluminium remains the same in both the cases but it differs in the physical state in which the metal is delivered.

The major equipment used in Aluminium metal recycling unit to produce Aluminium metal are:

- Baling machine
- Nibbler Machine
- Furnaces

The key technical specifications of all the four units are provided under the Appendix to this report.

A.5. Parties and project participants >>

Party (Host)	Participants
India	**CMR GREEN TECHNOLOGIES LIMITED** **(formerly Century Metal Recycling Ltd.)** **Contact details:** Contact Person: Mr. Ankur Singh Director Ph: +91 (0129) 4223050 Email: ankur.s@cmr.co.in **Address:** Corp. Office: 803, SSR Corporate Park, Opp NHPC Metro Station, Delhi Mathura Road, Faridabad- 121003, Haryana. India. **Other Parties:** Not applicable. All the four units are owned by the respective entities of CMR group, hence no additional parties are reported here.

A.6. Baseline Emissions>>

Baseline is determined for the proposed project activity in accordance with paragraph 4 - applicability condition (c) of the Small Scale Methodology AMS III.BD, Version 01.0 titled "GHG emission reduction due to supply of metal instead of ingots for Aluminium castings".

The project activity of the CMR four units result in reduction of anthropogenic emissions of GHG by sources below those that would have occurred in the absence of the project activity under UCR. The project units aim to achieve fuel and metal saving at casting units by supplying molten Aluminium in place of solid ingots. Supply of molten Aluminium to the casting unit is less GHG emission intensive technology, whereas, supply of solid ingots is more GHG intensive technology.

There are no any National and/or Sectoral policies or Regulations that give comparative advantages to supply of solid ingots to casting units over supply of molten Aluminium to the casting units. Also, there is no National and/or sectoral policy or regulation that give comparative advantages to supply of molten Aluminium to the casting units over supply of solid ingots to casting units which is a more emissions-intensive technology.

Hence, the proposed project activity is voluntary in nature. The E+ and E- policies in accordance with "Clarifications on the Consideration of National and/or Sectoral Policies and Circumstances in Baseline Scenarios" published in CDM EB22/Annex 3 with regards to the local, national and sectoral policies have been taken into account while developing the baseline scenario.

Post implementation of the project activity the project proponent would directly supply molten Aluminium/Aluminium alloy, thereby eliminating **the use of fossil fuel at casting units** for melting of Aluminium ingots procured in the pre-project scenario and **avoiding the metal loss** that would have happened due to oxidation. In absence of the project scenario, proponent (PP) would continue the supply of Aluminium metal to the casting units in the form of solid ingots from its existing facility.

The input parameter used to estimate baseline emissions are as follows:

Parameter	Choice of data
$EF_{CO2,grid,y}$ - The emissions associated with grid electricity consumption	A "grid emission factor" refers to a CO2 emission factor (tCO2/MWh) which will be associated with each unit of electricity provided by an electricity system. The UCR recommends an emission factor of 0.9 tCO2/MWh for the 2014 - 2020 years as a conservative estimate for Indian projects not previously verified under any GHG program. Also, for the vintage 2021 & 2022, the combined margin emission factor calculated from CEA database in India results into higher emission than this UCR default value. Hence, the same emission factor has been considered to calculate the emission reduction under conservative approach.
$EF_{fossilfuel}$ - CO2 emission factor ($tonCO_2/MJ$) of the fossil fuel which would have been consumed at the	Calculated using the "Tool to calculate Project or leakage CO2 emissions from fossil fuel combustion".

casting unit to which the molten metal is being supplied.	
Q_y - quantity of molten Aluminium alloy supplied in the year y to the casting unit (ton).	Monitored data, which will be obtained from the plant records during the verification. For the purpose of ex-ante estimation, an annual avg. value from the plant's records considered which is more realistic.
$\eta_{furnace}$ - Efficiency of the furnace at the casting unit to which the molten metal is being supplied (fraction)	Efficiency value shall be taken as mentioned in paragraph 11 of the applied methodology AMS III BD (Version 01.0).
T_{amb} - Ambient temperature (°C)	The ambient temperature T_{amb} = 50.6 °C is prescribed as per the applied methodology AMS III BD (Version 01.0). However, for the purpose of estimation the ambient temperatures recorded in the respective units are used.
β - Percentage loss of aluminium due to oxidation during the process of re-melting of ingots.	Use of default value given in applied methodology AMS III BD (Version 01.0).
EI_{AP} - Emission factor for primary aluminium production from virgin inputs (electricity)/tonne molten aluminium	Use of conservative default value of 7.3 MWh (electricity)/tonne molten aluminium as per the guidance in paragraph 12 of the applied methodology AMS III BD (Version 01.0).

A.7. Debundling>>

This project activity is not a debundled component of a larger project activity.
Instead, the overall project is bundle of four recycling units of CMR group.

Additionally, the project comes under the type-III category as per CDM methodology. The ex-ante estimated value of annual average ERs are less than the threshold limit of 60 k tCO_2e. Hence, there is no concern related to de-bundling from the project carbon accounting as well.

SECTION B. Application of methodologies and standardized baselines

B.1. References to methodologies and standardized baselines >>

SECTORAL SCOPE:
04, Manufacturing Industries

CATEGORY:
AMS. III.BD. (Title: "GHG emission reduction due to supply of molten metal instead of ingots for aluminium castings")

Standardized Baseline: Not Applicable.

B.2. Applicability of methodologies and standardized baselines >>

In accordance with Appendix B of the simplified modalities and procedures for small-scale CDM project activities, the project category is categorized as Type – III.B D. (Version 01), Sectoral Scope: 04, "GHG emission reduction due to supply of molten metal instead of ingots for aluminium castings". The applicability of methodology is discussed below:

Applicability Criterion	Project Case
1. This methodology is applicable to existing facilities as well as new constructions (Greenfield facilities).	The four units of the project activity were newly constructed metal recycling units. Hence, applicability condition is satisfied.
2. For facilities to qualify as existing, both the recycling unit and the casting units have a history of operation for at least three years prior to the start date of project activity and it shall be demonstrated that the baseline is the continuation of the existing practice i.e. casting units solely use ingots prior to the start date of the CDM project. The baseline emissions are established from the characteristics of the existing systems using data from the immediately prior three years. If any one of the units (recycling or casting) is a new construction it shall be considered as Greenfield.	The project units are newly constructed facilities and hence, a greenfield facility.
3. For Greenfield and existing facilities, if the estimated average annual emission reductions from the project activity is greater than 600 tCO2 per installation (i.e. casting unit), then mandatory investment analysis is required for identification of the baseline and demonstration of additionality of the project. The investment analysis shall take into account all costs and benefits that result from the project activity;	The estimated emission reduction from the project activity is about 16778 tCO2e per year. However, demonstration of additionality is not considered to be applicable under the UCR activity. Hence, this criterion is not applicable.
4. The hot metal transport between the recycling facility and casting unit is undertaken in closed ladle all through the crediting period;	As demonstrated under the project description, the hot metal transport between the recycling facilities and

Applicability Criterion	Project Case
	casting units are undertaken in closed ladle only. This has been included in the monitoring parameter.
5. It is possible to directly measure and record the output of the recycling facility i.e. the quantity of molten aluminium metal or alloy supplied to the casting units;	Molten Aluminium produced by the recycling facility is measured at plants and the values are recorded for every trip of molten metal transfer to the casting units.
6. In order to avoid double counting of emission reductions, a contractual agreement between the recycling facility and casting unit shall indicate that only one of them will claim emission reductions;	This condition is already established as the project has required contractual agreements in place. The required declaration shall be submitted during the verification process.
7. Production outputs in baseline and project scenario remain homogenous and within a range of ±10% with no change in installed capacity. The methodology is not applicable to project activities for retrofit of an existing facility to increase production outputs	Production output both in baseline and project case would remain homogenous, as composition of the production output is dependent on the requirement from die-casting facility. And this requirement would remain same irrespective of the physical state in which it is supplied.
8. It shall be demonstrated that the use of hot metal in the casting unit will not increase auxiliary consumptions. Any transportation related emissions is included as project emissions	It is evident from the process description included under the section A that use of hot metal in the casting unit does not lead to any increase in auxiliary energy consumption, except for the energy consumption during transporting the hot metal from the recycling facility to the casting facility. All transportation related energy consumption has been accounted in the project emissions.
9. Measures are limited to those that result in aggregate emission reductions of less than or equal to 60 kt CO2 annually	The ex-ante estimate shows that the annual average estimated ER is 16,778; hence well below the prescribed limit.

The project activity thus meets all the applicability criteria set out under the selected small scale methodology (i.e. AMS-III.BD / Version 01.0) and hence the methodology is applicable to this project activity.

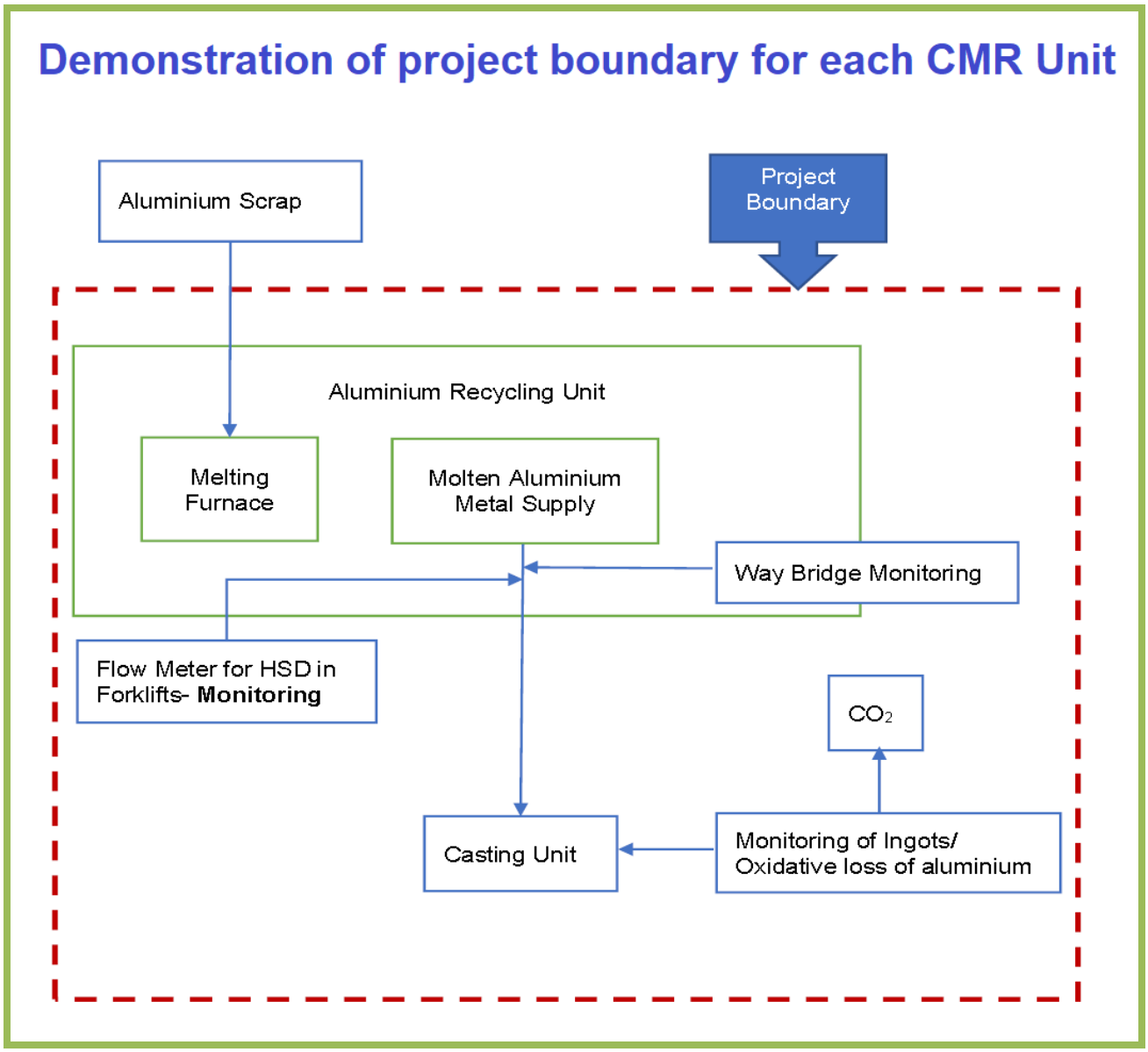
B.3. Applicability of double counting emission reductions >>

There is no double accounting of emission reductions in the project activity due to the following reasons:

- Project is uniquely identifiable based on its location coordinates,
- Project has dedicated commissioning certificate of the production unit,
- Project is associated with energy meters and other measuring devices for the key parameters which are uniquely identifiable for the carbon project.

B.4. Project boundary, sources and greenhouse gases (GHGs)>>

As per applicable methodology, the project boundary would be the physical site of the CMR units located in the state of Haryana and Uttarakhand.



The table below provides an overview of the emissions sources included or excluded from the project boundary for determination of baseline and project emissions.

Source		Gas	Included?	Justification/Explanation
Baseline	Grid connected fossil fuel-based electricity	**CO_2**	**Yes**	**Main emission source, associated with virgin Aluminium production.**
		CH_4	No	Minor emission source
		N_2O	No	Minor emission source
		Other	No	No other GHG emissions were emitted from the project

Source		Gas	Included?	Justification/Explanation
	generation			
	Fuel used in furnaces (Thermal energy)	**CO_2**	**Yes**	An important emission source due to the combustion of FO
		CH_4	No	Minor emission source
		N_2O	No	Minor emission source
		Other	No	No other GHG emissions were emitted from the project
Project	Fuel used in transportation on of molten Aluminium	CO_2	Yes	An important emission source produced during transportation
		CH_4	No	Project activity does not emit CH_4
		N_2O	No	Project activity does not emit N_2O
		Other	No	No other emissions are emitted from the project
	Electricity Requirement	CO_2	No	Not applicable
		CH_4	No	Not applicable
		N_2O	No	Not applicable
		Other	No	Not applicable

B.5. Establishment and description of baseline scenario >>

This section provides details of emission displacement rates/coefficients/factors established by the applicable methodology selected for the project.

Baseline is determined for the proposed project activity in accordance with paragraph 4 - applicability condition (c) of the Small-Scale Methodology AMS III.BD, Version 01.0 titled "GHG emission reduction due to supply of metal instead of ingots for Aluminium castings".

The detailed assessment of baseline scenario has been demonstrated under the previous section A.4 and A.6; the same shall be referred for baseline establishment.

Net GHG Emission Reductions and Removals:

Thus, $ER_y = BE_y – PE_y – LE_y$

Where:

ER_y = Emission reductions in year y (tCO_2/y)

BE_y = Baseline Emissions in year y ($t CO_2/y$)

PE_y = Project emissions in year y (tCO_2/y)

LE_y = Leakage emissions in year y (tCO_2/y)

Baseline Emission *(BEy)*

As per the provisions in the proposed new small-scale methodology the baseline emissions are calculated as follows:

$BE_y = BE_{fuel,y} + BE_{metal,y}$

Where,

BE_y =	Baseline emissions in the year y ($tonCO_2$-e)
$BE_{fuel,y}$ =	Baseline emission in the year y due to combustion of fossil fuel for melting of Aluminium ingots (tonCO2-e)
$BE_{metal,y}$ =	Baseline emission in the year y due to metal loss in oxidation during melting of Aluminium ingots prior to casting (tonCO2-e).

GHG associated with fuel saving ($BE_{fuel,y}$), is calculated as follows:

$$BE_{fuel,y} = Q_y * [\{1.07 * (660 - T_{amb}) + 390\} / \eta_{furnace}] * EF_{fossil\ fuel}$$

Were,

Q_y =	Quantity of molten Aluminium alloy supplied in the year y to the casting unit (tons).
660 =	Melting Temperature of Aluminium.
T_{amb} =	Ambient Temperature (°C)
1.07 =	Specific heat of solid Aluminium metal/alloy in MJ/ ton°C.
390 =	Latent heat of fusion of Aluminium (MJ/ton).
$EF_{fossil\ fuel}$	CO2 emission factor of the fossil fuel which would have been consumed at the casting unit to which the molten metal is being supplied (tonCO2/MJ),
$\eta_{furnace}$	Efficiency of the furnace at the casting unit to which the molten metal is being supplied (fraction)

GHG emission associated with Aluminium metal loss is calculated as follows:

$BE_{metal, y}$ = (β * Qy * EIAP * EF_{CO2}, grid, y)/ 100

Where,

$BE_{metal, y}$ =	Baseline GHG emission in year y due to metal loss during melting of Aluminium ingots (tonCO2-e)
Qy =	Quantity of molten Aluminium alloy supplied in year y to the casting unit (ton)
β =	Percentage loss of Aluminium due to oxidation during the process of re-melting of ingots
EI_{AP} =	Energy intensity for primary aluminium production from virgin inputs (MWh/tonne aluminium. Conservative default value of 7.3 MWh (electricity)/tonne molten aluminium alloy can be applied if the host country is net exporter of aluminium. This shall be demonstrated for each crediting year using credible official documented evidence (e.g., from government and/or from industrial association). Otherwise, the emission factor shall be discounted using baseline correction factor of 0.63.3 These values shall be updated at each renewal of the crediting period, and project participants shall use the values from the latest version of the methodology at renewal of the crediting period

Here, $EF_{CO2, grid, y}$ has been referred to the value prescribed by UCR. The reference has already been justified under the section A.6

Project emissions (PEy):

Project Emission is calculated in accordance with paragraph 19 of the applied methodology AMS III BD, version 01. Which states that The project emissions (PEy) on account of use of any fossil fuel/electricity consumption associated with transportation of molten metal between recycling facility and casting units and also any incremental auxiliary consumption for the use of the hot metal in casting unit.

Relevant tools such as the "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion" have been used. In the project case, energy is consumed in transporting the molten metal from the point of melting furnaces located at the recycling facility to the point of use i.e., die-casting machines located at the casting facility. The molten metal is transported in closed ladles carried by Forklifts. One trip of forklift carrying the molten metal comprises of travel from melting furnaces to the weight dispatch centre for weighing and recording of the molten metal in the ladle, from the load dispatch centre to the casting machine at the casting facility, return form the casting facility to the load dispatch centre for weighing and recording the empty weight of the ladle and finally to the melting furnaces to start the trip again. Energy consumption in forklifts for

transportation of molten metal is the only energy consumption in the project case. There is no other auxiliary energy consumption in the project activity.

To calculate the project emissions, "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion" has been used as the fuel used in the forklift is Diesel. The formula used to calculate project emission using the above referenced tool is:

$PE_y = FC_{iy} * COEF_{iy}$

Where

PE_y =	Project emission in year y tonCO2-e
$COEF_{iy}$ =	Is the CO2 emission coefficient of diesel in year y (tCO2/mass or volume unit)
FC_{iy} =	Is the quantity of diesel used in forklifts during the year y (mass or volume unit/yr);
I	Type of fuel consumed in year y. Type of fuel consumed is Diesel.

The CO2 emission coefficient $CO_{EFi,y}$ can be calculated using one of the following two Options, depending on the availability of data on the fossil fuel type i, as follows:

Option A: The CO2 emission coefficient COEFi,y is calculated based on the chemical composition of the fossil fuel type i,

Option B: The CO2 emission coefficient COEFi,y is calculated based on net calorific value and CO2 emission factor of Diesel

Since chemical composition of the fossil fuel used i.e. Diesel, is not available, option B has been chosen, which requires NCV of the fuel.

Formula used for option B as per the mentioned tool is as follows:

$COEF_{iy} = NCV_{iy} * EF_{CO2\ iy}$

Where,

COEFi,y	Is the CO2 emission coefficient of diesel in year y (tCO2/mass or volume unit)
NCVi,y	Is the weighted average net calorific value of diesel in year y (GJ/mass or volume unit)
EFCO2,i,y	Is the weighted average CO2 emission factor of diesel in year y (tCO2/GJ)
I	Are the fuel types combusted in process j during the year y. Fuel is diesel.

Leakage Emissions (LEy):

If the energy generating equipment is transferred from another activity leakage is to be considered. However, there is no such transfer of equipment

The net Emission Reductions:

The actual emission reduction achieved during the first CoU period shall be submitted as a part of first monitoring and verification. However, for the purpose of an ex-ante estimation, following calculation has been submitted:

Estimated net annual baseline emission reductions:

Thus, $ER_y = BE_y – PE_y – LE_y$

Here,
BE_y = 17,366 tCO_2e
PE_y = 586 tCO_2e
LE_y = 0 tCO_2e

Hence, ER_y = 16,780 tCO_2e (i.e. CoUs/year)

The detailed calculations are referred in an ER excel file and the summary of the calculations are attached to the appendix 1 of this document.

B.6. Prior History>>

The project activity has not been registered under any other GHG program for generation or issuance of carbon offsets or credits for the said crediting period.

Also, project has not been applied for any other environmental crediting or certification mechanism under any regional or national or international platforms other than UCR. Hence project will not cause double accounting of carbon credits (i.e., COUs).

B.7. Changes to start date of crediting period >>

There is no change in the start date of crediting period; the project is applied under UCR with its first crediting period starting from 01/01/2013. Any change in consideration of crediting for CoUs shall be informed and updated during the verification.

However, at the time of first verification the respective date of commissioning of the CMR units or 01/01/2013 whichever is later shall be considered for calculation and reporting.

B.8. Permanent changes from PCN monitoring plan, applied methodology or applied standardized baseline >>

Not applicable.

B.9. Monitoring period number and duration>>

Number : First Monitoring Period
Duration : 10 years, 00 months
01/01/2013 to 31/12/2022 (inclusive of both dates)

B.8. Monitoring plan>>

The monitoring plan for the project activity (across all the four units) has been developed in line with the guidance provided in paragraph 17 of the methodology. According to that, quantity of Aluminium alloy supplied to the casting unit is monitored. GHG emission reduction associated with fuel and metal saving due to the project activity is calculated from monitored data, fixed data and default values. The only data that needs to be monitored is the quantity of molten Aluminium supplied to the casting units. The operational and management structure that the project participant will implement in order to monitor the quantity of molten Aluminium (Qy) supplied is explained below.

All required equipment(s) are available at the plant (such as weigh bridge, fuel consumptions, fork lift operations, time requirement etc.), hence monitoring of all the required parameters are properly addressed.

The manager of the recycling unit will be responsible to prepare the daily, monthly and annual reports. These reports will be reviewed by the plant head. Quarterly this data will also be reviewed by the plant management. Since the emissions reductions mainly depend on the amount of molten metal supplied, the weigh bridge/scale becomes an important monitoring equipment. Weigh bridge shall be calibrated as per manufacturer's prescription or at least once in five years. All the monitored data and calibration certificates shall be archived and stored (electronically & hard copies) till two years beyond the crediting period.

The basic technical details and the required flow charts are included under the appendix 2, whereas all required monitoring data (both ex-ante and ex-post) are reported below:

Data and Parameters available at validation (ex-ante values):

Data / Parameter	**UCR recommended emission factor**
Data unit	tCO_2 /MWh
Description	A "grid emission factor" refers to a CO_2 emission factor (tCO_2/MWh) which will be associated with each unit of electricity provided by an electricity system. The UCR recommends an emission factor of 0.9 tCO_2/MWh for the 2014- 2020 years as a fairly conservative estimate for Indian projects not previously verified under any GHG program. Hence, the same emission factor has been considered to calculate the emission reduction under conservative approach.
Source of data	https://a23e347601d72166dcd6-16da518ed3035d35cf0439f1cdf449c9.ssl.cf2.rackcdn.com//Documents/UCRStandardNov2021updatedVer2_301121081557551620.pdf
Value applied	0.9

Measurement methods and procedures	-
Monitoring frequency	Ex-ante fixed parameter
Purpose of Data	For the calculation of Emission Factor of the grid
Additional Comment	The combined margin emission factor as per CEA database (current version 17, Year 2022) results into higher emission factor. Hence for 2021-22 vintage UCR default emission factor remains conservative.

Data / Parameter	**T_{amb}**
Data unit	°C
Description	Ambient Temperature at the casting unit.
Source of data	Either of the options can be followed during the verification: **Option 1:** as per the applied Small Scale methodology AMS III BD version 01. **Option 2:** Take the ambient temperature T_{amb} = 100°C as a default value.
Value applied	**Unit Reference** / **Location Reference** / **Default value** Unit 1 / Haridwar (Uttrakhand) / 54 Unit 2 / Gurugram (Haryana) / 39 Unit 3 / Manesar (Haryana) / 44 Unit 4 / Bawal (Haryana) / 44
Measurement methods and procedures	Default value, taken from credible public sources.
Monitoring frequency	Ex-ante fixed parameter
Purpose of Data	For the calculation of baseline emissions
Additional Comment	The option 1 as per methodology has been prescribed as the ex-ante default value. However, respective plants may also have records of ambient temperature. So during the verifications such values may also be used if the results are conservative.

Data / Parameter	**EI_{AP}**
Data unit	MWh (electricity)/tonne molten aluminium alloy
Description	Emission factor for primary aluminium production from virgin inputs
Source of data	As per Paragraph 12 of the applied methodology AMS III BD. Conservative default value of 7.3 MWh (electricity)/tonne molten aluminium alloy can be applied if the host country is net exporter of aluminium. Here annual report 2008-09 and 2012-13 of the Ministry of Mines, Government of India has been taken to demonstrate that India has been a net exporter of primary aluminium during the year. This value shall be validated for each crediting period using credible document.
Value applied	**Unit Reference** / **Location Reference** / **Default value** Unit 1 / Haridwar (Uttrakhand) / 7.3 Unit 2 / Gurugram (Haryana) / 7.3

	Unit 3 | Manesar (Haryana) | 7.3 Unit 4 | Bawal (Haryana) | 7.3
Measurement methods and procedures	Default value given in Paragraph 12 of the applied methodology AMS III BD has been taken.
Monitoring frequency	Ex-ante fixed parameter
Purpose of Data	For the calculation of baseline emissions
Additional Comment	In case if it cannot be demonstrated for any particular crediting year that India is a net exporter of primary Aluminium, then the value of emission factor shall be discounted using baseline correction factor of 0.63 for that year.

Data / Parameter	$\eta_{furnace}$
Data unit	Fraction
Description	Efficiency of the melting furnace
Source of data	The efficiency value of the type of furnace used has been taken from the Table 1 on efficiency of furnaces given in Paragraph 10 point number (a).
Value applied	Values taken for respective units: **Unit Reference** | **Location Reference** | **Applied value** Unit 1 | Haridwar (Uttrakhand) | 100 Unit 2 | Gurugram (Haryana) | 85.14 Unit 3 | Manesar (Haryana) | 87.3 Unit 4 | Bawal (Haryana) | 80
Measurement methods and procedures	Based on plant records
Monitoring frequency	Ex-ante fixed parameter
Purpose of Data	For the calculation of baseline emissions
Additional Comment	For conservative and reasonable estimation, value has been derived from the plant records, in line with the methodology para 10(a)

Data / Parameter	**B**
Data unit	%
Description	Percentage loss of aluminium due to oxidation during the process of re-melting of ingots
Source of data	Based on the methodology default value, as per Para 13 (a)
Value applied	4
Measurement methods and procedures	Default value as per methodological choice.
Monitoring frequency	Ex-ante fixed parameter
Purpose of Data	For the calculation of baseline emissions
Additional Comment	The selected default value shall be used for the crediting period and updated at renewal of crediting period

Data and Parameters to be monitored (ex-post monitoring values):

Data / Parameter	**Q_y**
Data unit	Tons
Description	Quantity of molten Aluminium supplied to the casting unit in year y.
Source of data	Plant records
Measurement procedures (if any):	Primary records maintained at the plant or copy of invoice of supply of molten Aluminium alloy, and the MIS records etc.
Measurement Frequency:	On a continuous basis.
Value applied:	To be applied on actuals, during the first monitoring period. For the purpose of ex-ante estimate an annual avg. value from each plant records considered, as follows:
QA/QC procedures applied:	Not applicable, however primary records will be considered which can be cross checked from the supply invoices.
Purpose of data:	The Data/Parameter is required to calculate the baseline emission.
Any comment:	-

Unit Reference	**Location Reference**	**Applied value**
Unit 1	Haridwar (Uttrakhand)	13,574
Unit 2	Gurugram (Haryana)	8,489
Unit 3	Manesar (Haryana)	14,135
Unit 4	Bawal (Haryana)	22,649

Data / Parameter	**$EF_{fossil\ fuel}$**
Data unit	tCO2/MJ
Description	Weighted average CO2 emission factor of FO in year y CO2 emission factor (tonCO2/MJ) of the fossil fuel which would have been consumed at the casting unit to which the molten metal is being supplied. For the purpose of determining the fuel, it is to be considered that the fuel used at the recycling facility and the casting unit is the same. The fossil used in recycling facility is FO. As per the applied methodology AMS III BD, paragraph 9, for the purpose of determining the fuel, it is to be considered that the fuel used at the recycling facility and the casting unit is the same. Fuel used at the recycling facility is FO. Hence, the fuel used in the baseline is FO.
Source of data	IPCC default value of emission factor for FO at the upper limit of uncertainty at a 95 % confidence interval as provided in table 1.4 of chapter 1 of Vol. 2 (Energy) of the 2006 IPCC guidelines on National Greenhouse Gas inventories. This option is applicable as option B has been applied since, emission factor value of FO is not provided by the fuel supplier in the fuel supply invoices.
Measurement procedures (if any):	Not applicable as IPCC default value is being taken

Measurement Frequency:	Not applicable
Value applied:	78.8 x 10^-3
Monitoring equipment	Not applicable
QA/QC procedures applied:	Not applicable
Purpose of data:	The Data/Parameter is required to calculate the baseline emission.
Any comment:	This value shall be fixed for the entire crediting period. However, in case of any future revision of the IPCC, the value shall be taken into account based on conservativeness.

Data / Parameter	**FC_{iy}**
Data unit	m^3/yr
Description	Quantity of High Speed Diesel (HSD) combusted in fork lifts to transport molten Aluminium during the year y
Source of data	Onsite Measurements
Measurement procedures (if any):	Diesel used in forklifts is measured and recorded and filled in the forklifts on a daily basis. Daily records are maintained for the consumption of Diesel in the forklifts.
Measurement Frequency:	Continuous
Value applied:	To be applied on actuals, during the first monitoring period. For the purpose of ex-ante estimate an avg. diesel consumption value from each plant records considered, as follows:
Monitoring equipment	Not applicable
QA/QC procedures applied:	Average consumption of diesel in the forklifts can be cross checked with the mileage as rated by the forklift manufacturer.
Purpose of data:	The Data/Parameter is required to calculate the project emission.
Any comment:	For the purpose of annual value which can be used for calculation, other parameters shall be considered such as total number of trip by the fork lift, time required, density, NCV etc.

Unit Reference	**Location Reference**	**Applied value**
Unit 1	Haridwar (Uttrakhand)	2.25 l/hr
Unit 2	Gurugram (Haryana)	2.5 l/hr
Unit 3	Manesar (Haryana)	2.5 l/hr
Unit 4	Bawal (Haryana)	3 l/hr

Data / Parameter	**$NCV_{k,y}$**
Data unit	GJ/mass or volume unit
Description	Weighted average net calorific value of diesel used in the forklifts in year y
Source of data	The fossil fuel used in running forklifts to transport molten metal is diesel.IPCC default value for NCV of diesel at the upper limit of uncertainty at a 95 % confident interval as provided in table 1.2 of chapter 1 of Vol. 2 (Energy) of the 2006 IPCC guidelines on National Greenhouse Gas inventories. This option is applicable as option B has

	been applied as carbon fraction of diesel is not available in fuel invoices.
Measurement methods and procedures	Plant level records
Frequency of monitoring/recording	Sample basis
Value applied	44.3
Measurement methods and procedures	Not applicable as IPCC default value is being taken.
Purpose of Data	The Data/Parameter is required to calculate the project emission.
Comments	Applicable since option B is applied. This value shall be fixed for the entire crediting period. However, in case of any future revision of the IPCC, the value shall be taken into account based on conservativeness.

Data / Parameter	**EF_{CO2iy}**
Data unit	tCO2/MJ
Description	Weighted average CO2 emission factor of diesel in year y
Source of data	The fossil used for running forklifts to transport molten metal is diesel. IPCC default value of emission factor for diesel at the upper limit of uncertainty at a 95 % confidence interval as provided in table 1.4 of chapter 1 of Vol. 2 (Energy) of the 2006 IPCC guidelines on National Greenhouse Gas inventories. This option is applicable as option B has been applied as emission factor value of diesel is not available in the fuel supply invoices.
Measurement procedures (if any):	Not applicable as IPCC default value is being taken
Measurement Frequency:	Not applicable
Value applied:	74.8 x 10^-3
Monitoring equipment	Not applicable
QA/QC procedures applied:	Not applicable
Purpose of data:	The Data/Parameter is required to calculate the baseline emission.
Any comment:	This value shall be fixed for the entire crediting period. However, in case of any future revision of the IPCC, the value shall be taken into account based on conservativeness.

Thus, monitoring plan includes recording of all required parameters in line with the methodology. However, this PCN hereby keeps the provision that any amendment, addition, deletion of data/parameters required to establish the actual monitoring practices of the project units shall be reported during the first verification and required changes to the monitoring plan shall be proposed under deviations.

Appendix 1:

Summary of the Emission Reductions of the four CMR units included under this project:

BASELINE

$BE_{fuel,y}$

	Plant - Bawal	Plant - Gurgaon	Plant -Manesar	Plant - Haridwar	
Q_y	22649	8489	14135	13574	tons
T_{amb}	44	39	44	54	°C
$\eta_{furnace}$	0.80	0.85	0.87	1	Fraction
β	4	4	0	4	%
EI_{AP}	7.3	7.3	7.3	7.3	MWh/ton of molten Al supplied
$EF_{CO2,\ grid,y}$	0.90	0.90	0.90	0.90	UCR Database
$EF_{\ fossil\ fuel}$	78.8	78.8	78.8	78.8	t CO_2/TJ
$BE_{fuel,y}$	2341	828	1339	1111	t CO_2
$BE_{metal,y}$ =	5952	2231	0	3567	t CO_2
Basline Emission BE_y	**8292**	**3059**	**1338**	**4677**	**t CO_2**

Total BEy **17366** tCO2e

PROJECT CASE

$PE_{FC,y}$

	Plant - Bawal	Plant - Gurgaon	Plant -Manesar	Plant - Haridwar	
FC_y	83	29	49	15	t
NCV_y	44.3	44.3	44.3	44.3	GJ/t
$EF_{CO2,y}$	74.8	74.8	74.8	74.8	tCO_2 /TJ
$COEF_y$	3.31	3.31	3.31	3.31	tCO_2 /t
Project Emission $PE_{FC,y}$	**276**	**98**	**162**	**50**	**tCO2**

Total PEy **586** tCO2e

Net Emission reductions tCO2e = **16780**

Appendix 2:

Technical specification/key technical parameters of the project plants are as follows:

References:	Unit - CMR Manesar	Unit - CMR Gurgaon	Unit - CMR Haridwar	Unit - CMR Bawal
Projecty Type:	Recycling of Aluminum scrap	Recycling of Aluminum scrap	Scrap Recyling Aluminum Base (non feross)	Ferrous and Non - ferrous metal extraction involving different furnaces through melting, refining, -processing, casting and alloy re making
Main Project equipment:	Melting & Holding Furnace,Bag house,Utility equipment	Melting & Holding Furnace,Bag house,Utility equipment	Melting 6MT ton 2 no`s ,Melting 10 MT 2 no`s & Holding 15 MT Furnace, 1 No`s 8MT , D.G SET 250 KVA ,380 KVA Rotary sieve Tumbler m/c furnace charger MTS degassing caster machine ,Air screw compressor ,air dryer, ACB Panel transfarmer 1000 KVA	Melting Furnace,Holding Furnace,DG Set, Bag House,Caster, degassing Machine,Cooling tower & Rotory Sieve
Main Product & sub-products:	Aluminum alloy (liquid)	ss	Aluminum Alloy (Liquid+solid)	Aluminium Alloy (Molten & Solid Ingot)
Installed capacity as per commissioned documents:				
(I) Input Raw material capacity per day:	*100*	72 MT	110 mt/ Per Day	124.5 MT
(II) Product output against the input raw material, per day:	95% of input	95% of input	90.0%	95 % of Raw Material
Any change (addition / decrease/ increase) in original capacity:	No	no	No	No
Technical specifications:	3 Melting furnace and 3 Holding furnace 220 Kw bag house	Melting & Holding furnace	5 Melting 10 MT 2 no`s,6MT 3 no`s 4 Holding Furnaces 15MT,8MT,5MT 2 no`s	Regenerative melting furnace, Bag house for emission control, Holding furnace Metal holding and maintaing Temperature of molten aluminum Rotory Sieve for Scrap handling & caster for Solid ingot
Raw material required per kg output of the main product?	105%	105%	1.1 kg	105% of Output Material

PROCESS FLOW DIAGRAM

Connector Symbols

Operation Decision

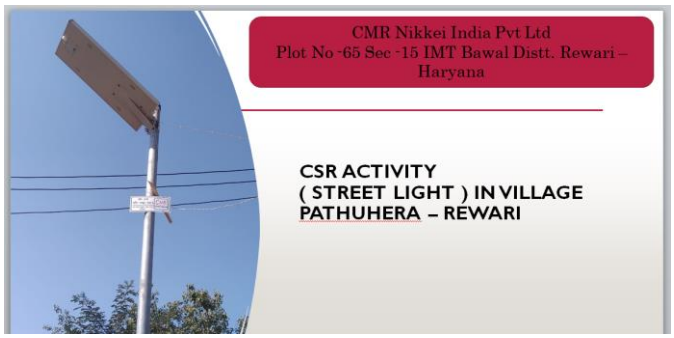
Inspection Storage

Transfer

S No	Process & Description	SYMBOLS
10	Raw Material weighing / unloading	
20	Sampling and Inspection	
30	Sorting	
40	Weighment/ material feeding on furnace	
50	Charging	
60	Melting	
70	Drossing and Iron removal	
80	Casting Sampling for testing of raw material composition	
90	Alloying	
100	Final Sampling for testing of required customer specification	
110	Metal Pouring in ladle from furnace	
120	Ladle transfer from furnace to degassing m/c and start degasing	
130	Vacuum sample for porosity testing, K value test,density test	
140	Weighment	
150	Delivery	

Appendix 3:

Some glimpses of the CSR related activities of CMR Group are presented below:



टीबी मरीजों को बांटे गए पोषाहार

हरिद्वार। सामुदायिक स्वास्थ्य केंद्र बहादराबाद में सीएमआर ग्रीन टैक्निक्स लिमिटेड कंपनी सिडकुल रोशनाबाद ने प्रधानमंत्री टीबी मुक्त भारत अभियान से 21 टीबी मरीजों को गोद लिया है। जिन्हें बुधवार को कंपनी प्रबंधन की ओर से निक्षय मित्र बनकर पोषण आहार वितरण किया गया। चिकित्सा अधिकारी डॉ. तरुण मिश्रा, डॉ. हेमंत आर्य, प्रेरणा, सुधीर, दिनेश पंत, कंपनी प्लांट हेड महेश त्यागी रहे। संवाद

मूर्ति को न्य, ानंद ानन्द

ललिताम्बा के साथ राष्ट्रव्यापी आन्दोलन चलाया उनके आन्दोलन ने तत्कालीन सरकार को झुकाने का काम किया था। गौरक्षा आन्दोलन हेतु उन्होंने जेलयात्रा भी की।

हरिद्वार व बद्रीनाथ धाम में श्री मानव कल्याण आश्रम के माध्यम से सेवा प्रकल्पों का निरन्तर संचालन कर रहा है।

स्वामी कल्याणानन्द सरस्वती जी महाराज की छठी पुण्यतिथि के अवसर पर देवी ट्रस्ट की कोषाध्यक्ष रेणुका बेन एल. ठक्कर, स्वामी कमलानन्द, स्वामी प्रसादानन्द, हंसानन्द सरस्वती, सुरेन्द्र मिश्रा, ब्रह्मजीत समेत अनेक गणमान्यजन उपस्थित रहे।

र

सीएमआर कंपनी ने अपने सीसीआर के तहत वृद्ध आश्रम रावली महदूद में प्रदान की गीजर

-सुखदेव सिंह

बहादराबाद, 12 जनवरी। सिडकुल स्थित सीएमआर ग्रीन टेक्नोलेजेस लिमिटेड कम्पनी ने अपने सीएसआर फंड से रावली महदूद स्थित आश्रय गृह वृद्धाश्रम को सोलर वाटर हीटर प्रदान किया।इस अवसर पर कम्पनी के प्लांट हैड महेश त्यागी व एचआर हैड ऋषि तिवारी मौजूद रहे।कम्पनी के एचआर हैड ऋषि तिवारी ने बताया कि कम्पनी द्वारा समय समय पर जरूरतमंद संस्थाओं को आवश्यक वस्तुएं देती रही है। उन्होंने बताया कि कम्पनी द्वारा औरंगाबाद गांव के प्राथमिक स्कूलों व स्वास्थ्य संस्थानों को भी आवश्यक वस्तुएं उपलब्ध कराती रही है और आगे भी इसी प्रकार कराई रहेगी। इस अवसर पर रामराज ग्रामोद्योग संस्थान के प्रोजेक्ट को ऑर्डिनेटर चंद्रप्रकाश शर्मा ने बताया कि वर्तमान में संस्थान में 25 वृद्ध निवास कर रहे हैं जिनकी समूची देखभाल संस्थान की ओर से की जाती है।उन्होंने बताया कि सीएमआर ग्रीन कम्पनी द्वारा पूर्व में भी संस्थान को बेड, कूलर व अन्य आवश्यक सामग्री दी जाती रही है उन्होंने संस्थान की ओर से कम्पनी का धन्यवाद किया। इस अवसर पर संस्थान के प्रबंधक राजेन्द्र शर्मा,नेहा,भगवानदास आदि लोग उपस्थित थे।

ोखा द्वारा बहुत साफ र से देनी

ड़ा पहुंचकर लेमनग्रास की खेती का जायजा

हुये वहां के निदेशक ने बताया कि पहले यहां पर पथरीली जमीन थी, जिस पर काफी मेहनत करने के पश्चात, यहां पर ये पॉली हाउस स्थापित किये गये हैं। मुख्य विकास विकास अधिकारी यहां सबसे पहले सीड लैस खीरा उत्पादित करने वाले पॉली हाउस में पहुंचे, जहां एक निश्चित तापमान पर इस मौसम में भी सीडलैस खीरे की खेती की जा रही है। इसके बाद वे

सूचना
नाम परिवर्तन

सर्वसाधारण को सूचित किया जाता