VCS Methodology

VMR0012

PRODUCTION OF GEOPOLYMER CEMENT

Version 1.0

03 July 2024

Sectoral Scope 6

The original CDM methodology *AM0125 Production of geopolymer cement, v1.1* was adopted on 22 March 2024. This methodology revision must be used with the latest version of AM0125 available on the CDM website.

Version 1.0 of this methodology revision was developed by Verra.

CONTENTS

1   SOURCES

This methodology revision applies to the CDM large-scale methodology *AM0125 Production of Geopolymer cement*. Project proponents must use this methodology revision in conjunction with the latest version of AM0125.

This methodology uses the following CDM methodologies and tools as sources:

- *ACM0003 Partial substitution of fossil fuels in cement or quicklime manufacture*

- *ACM0005 Increasing the blend in cement production*

- *ACM0015 Reduction of emissions from raw material switch in clinker production*

- *TOOL02 Combined tool to identify the baseline scenario and demonstrate additionality*

- *TOOL03 Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion*

- *TOOL05 Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation*

- *TOOL12 Project and leakage emissions from transportation of freight*

2   SUMMARY DESCRIPTION OF THE METHODOLOGY

Additionality and Crediting Method	
Additionality	Activity Method
Crediting Baseline	Project Method

The CDM methodology AM0125 applies to the production of geopolymer cement to displace Ordinary Portland Cement (OPC) that would have otherwise been produced and used in the host country.

This methodology revision (VMR0012) includes a discount factor to account for emission reductions from upstream displacement of production of Ordinary Portland Cement, in alignment with the *VCS Methodology Requirements*.

VMR0012 must be used with the latest version of AM0125. The procedures and requirements of AM0125 must be applied unless indicated otherwise.

3 DEFINITIONS

The definitions in AM0125 and the latest version of the *VCS Program Definitions* apply to this methodology unless this methodology or the *VCS Program Definitions* indicate otherwise.

4 APPLICABILITY CONDITIONS

All applicability conditions of the latest version of AM0125 must be met.

5 PROJECT BOUNDARY

The project boundary must be determined following the procedure provided in the latest version of AM0125.

6 BASELINE SCENARIO

The baseline scenario must be determined following the procedure provided in the latest version of AM0125.

7 ADDITIONALITY

Additionality must be demonstrated following the procedure provided in the latest version of AM0125.

8 QUANTIFICATION OF ESTIMATED GHG EMISSION REDUCTIONS AND REMOVALS

8.1 Baseline Emissions

The baseline emissions must be determined following the procedures provided in the latest version of AM0125, replacing the equations as indicated in the following.

The following equation replaces Equation 1 of AM0125:

$$BE_y = Q_{OPCy} \times (1 - DF) \times EF_{OPC,BL,y} \qquad (1)$$

Where:

BE_y	=	Baseline emissions in year y (t CO_2e)
$Q_{OPC,y}$	=	Quantity of OPC replaced by geopolymer cement in year y (t OPC)
DF	=	Discount factor for upstream displacement (default 30%)
$EF_{OPC,BL,y}$	=	Baseline emission factor of OPC replaced by geopolymer cement in year y (t CO_2e/t OPC)

8.2 Project Emissions

Project emissions must be determined following the procedures provided in the latest version of AM0125.

8.3 Leakage Emissions

Leakage emissions must be determined following the procedures provided in the latest version of AM0125.

8.4 Estimated GHG Emission Reductions

No change from AM0125.

9 MONITORING

Project proponents must follow the monitoring procedures of the latest version of AM0125 and apply the changes indicated in this section.

9.1 Data and Parameters Available at Validation

Data / Parameter	DF
Data unit	Dimensionless
Description	Discount factor for upstream displacement
Equations	(1)
Source of data	VCS Methodology Requirements, v4.4

Value applied	30%
Justification of choice of data or description of measurement methods and procedures applied	The default value of 30% for upstream displacement was applied. Project proponents may propose a methodology revision with a different discount factor for upstream displacement in accordance with the latest version of the *VCS Methodology Requirements*.
Purpose of Data	Calculation of baseline emissions
Comments	N/A

9.2   Data and Parameters Monitored

Project proponents must follow the procedure provided in the latest version of AM0125.

9.3   Description of the Monitoring Plan

All monitoring requirements of AM0125 must be followed unless otherwise indicated in VMR0012.

10 REFERENCES

Not applicable.

DOCUMENT HISTORY

Version	Date	Comment
v1.0	03 Jul 2024	Initial version