METHODOLOGY FOR DEVELOPING ZERO2NATURE PROJECT ACTIVITIES TO REMOVE NEGATIVE EMISSIONS RELATED TO COVID19 THROUGH THE IMPLEMENTATION OF HOSPITAL EQUIPMENT.

COVID19-ZERO2NATURE-PREBIO

Version 1.0

ZERO2NATURE METHODOLOGY APPROVED UNDER REGISTRATION ZNP0005

SECTORAL SCOPE 18

"Developed from the methodological conception of UNFCCC."

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METHODOLOGY FOR DEVELOPING ZERO2NATURE PROJECT ACTIVITIES TO REMOVE NEGATIVE EMISSIONS RELATED TO COVID19 THROUGH THE IMPLEMENTATION OF HOSPITAL EQUIPMENT - COVID19-ZERO2NATURE-PREBIO

ZNP0005 – Sectorial Scope - 18

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ZNP0005 – Sectorial Scope - 18

1 INTRODUCTION

This methodology should be used in the context of the ZERO2NATURE project design platform. Its function is to guide ZERO2NATURE project activities aimed at reducing and/or removing negative emissions related to COVID19 through the implementation of medical equipment, devices, facilities in the existing/upcoming hospitals.

2 SCOPE, APPLICABILITY AND ENTRY INTO FORCE

2.1 Scope

This methodology applies to ZERO2NATURE-PREBIO project activities to reduce negative emissions related to COVID19 through the addition of hospital equipment and/or materials that allow better care for the patient suffering from the disease on screen (COVID19).

2.2 Applicability

When using this methodology, the baseline scenario to be adopted should be that resulting from the application of the "Tool for identifying the baseline scenario and demonstrating additionality in the project activities COVID19-ZERO2NATURE-PREBIO".

All COVID19-ZERO2NATURE-PREBIO project activities to remove negative emissions related to COVID19 will be based on the "Procedure for substantiating COVID19-ZERO2NATURE-PREBIO project activities".

a) Project activities may include one or a combination of activities eligible as a ZERO2NATURE project. The COVID19-ZERO2NATURE-PREBIO project activities may include different types of entities, such as individuals, legal entities, federal, state, municipal bodies, etc.

b) In the case of COVID19-ZERO2NATURE-PREBIO project activity, the area eligible for the project activity must be qualified as an intensive care unit, under the terms of the legislation in force at the site of the proposed project activity.

c) This methodology does not apply to mobile intensive care units.

d) The ZERO2NATURE project activity that adopts this methodology must also adapt to the conditions imposed by the tools, procedures, guidelines, etc. linked to it, available on the portal www.zero2nature.org.

2.3. Entry into force

The date of entry into force of this methodology version is May 8, 2020.

3. NORMATIVE REFERENCES

The following documents are indispensable for the application of this methodology:

(a) ZERO2NATURE Standard;

(b) Project Design Document – PDD-PREBIO;

(c) "Tool to identify the baseline scenario and to demonstrate additionality of COVID19-ZERO2NATURE-PREBIO project activities";

(d) "Procedure with the fundamentals related to project activities COVID19-ZERO2NATURE-PREBIO";

4. TERMS AND DEFINITIONS

The definitions contained in the following documents apply to this methodology:

(a) "Glossary of ZERO2NATURE terms";

(b) "ZERO2NATURE standard;

(c) "Harvard Atmospheric Chemistry Modeling Group – www.acmg.seas.harvard.edu.";

(d) WHO Guidelines - Home/Emergencies/Diseases/Coronavirus disease 2019/

5. BASELINE AND MONITORING PLAN

5.1 Related to project activities COVID19-ZERO2NATURE-PREBIO

The potential emitting agents of negative impact on the environment, accountable for the purpose of this methodology can be found throughout the ecosystem of the area where the ZERO2NATURE project activity is being proposed. The list of issuing agents, their potential for environmental impact-EIP and the segment (s) of the ecosystem affected are listed on the portal: www.zero2nature.org and in the tool and procedure essentials to the application of this methodology.

5.2 Identification of the baseline scenario and demonstration of additionality in the project activities COVID19-ZERO2NATURE-PREBIO

In identifying the baseline scenario and demonstrating additionality, the following tool shall be used:

- "Tool for identifying the baseline scenario and demonstrating additionality in the project activities COVID19-ZERO2NATURE-PREBIO".

5.3 Stratification

When accounting for negative emissions in any segment of the ecosystem where the implementation of the COVID19-ZERO2NATURE-PREBIO project activity is proposed, social stratification must be considered in order to make the inventory more accurate. The perspective of different stratifications may be appropriate for both the baseline scenario and the project scenario, in order to optimize the accuracy in the estimates of net removal of negative emissions (COVID19).

5.4 Baseline of COVID19 negative emissions net removals in ICUs

The baseline of net removals of negative emissions COVID19 in ICUs shall be calculated as follows:

$$E_{BL,y} = E_{ICU\_Beds\_BL,y} + E_{Ventilators\_BL,y} + E_{Oximeters\_BL,y} + E_{Electrocardiographs\_BL,y} + E_{Defibrillators\_BL,y} + E_{Multiparametric\ monitors\_BL,y}$$

Where:

$E_{BL,y}$ = *Baseline of net removal of negative COVID19 emissions in ICUs, in year y, on fully equipped beds, as per the "Tool for identifying the baseline scenario and demonstrating additionality in the project activities COVID19 – ZERO2NATURE – PREBIO";*

$E_{ICU_{Beds}\ BL,y}$ = *Number of baseline occupied ICU beds within the project boundaries in year y, in DLO;*

$E_{Ventilators\ BL,y}$ = *Number of baseline utilized ventilators within the project boundaries in year y, in DLO;*

$E_{Oximeters\ BL,y}$ = *Number of baseline utilized oximeters within the project boundaries in year y, in DLO;*

$E_{Electrocardiographs\ BL,y}$ = *Number of baseline utilized electrocardiographs within the project boundaries in year y, in DLO;*

$\Delta E_{Defibrillators\ BL,y}$ = *Number of baseline utilized defibrillators within the project boundaries in year y, in DLO;*

$\Delta E_{Multipara\_monitors\ BL,y}$ = *Number of baseline utilized multiparametric monitors within the project boundaries in year y, in DLO.*

5.5 Leakage

Leakages will be considered as all negative emissions resulting from inappropriate disposal of the medical waste from hospital and contamination of medical personnel, health agents, labor etc., involved in the implementation and operationality of the project activity COVID19-ZERO2NATURE-PREBIO.

5.6 COVID19 effective negative emissions anthropic removals in ICUs

The net anthropic removals of negative COVID19 emissions in ICUs, through the implementation of hospital equipment, shall be based on the application of the parameters presented in item 6.3 of this methodology, together with the application of the following formula, for all COVID19-ZERO2NATURE-PREBIO project activities:

$$E_{Effective,y} = E_{AR,y} - E_{BL,y} - Leakage_y$$

Where:

$E_{Effective,y}$ = *Effective anthropic removals of negative emissions, in year y, through implementation of COVID19 – ZERO2NATURE – PREBIO project activity, in DLO;*

$E_{AR,y}$ = *Total anthropic removals computed in the area of the COVID19 – ZERO2NATURE – PREBIO project activity, in DLO;*

$E_{BL,y}$ = *Baseline of anthropic removals of negative emissions, in year y, upon implementation of COVID19 – ZERO2NATURE – PREBIO project activity, in DLO;*

$Leakage_y$ = *negative emissions due to leakages, in year y, in DLO*

5.7 Calculations of COVID19-PREBIO-DTUs

The issuance of COVID19-PREBIO-DTUs will take place upon evaluation - by the Technical Committee - of the verification report, issued by a Designated Environmental Certifier - DEC. Once approved, the total of COVID19-PREBIO-DTUs contained in the report will be deposited in the project account (s) of the project proponent (s).

6. MONITORING PROCEDURE

6.1 Monitoring Plan

The monitoring plan shall provide for collection of all relevant data necessary for:

a) Verification that the applicability of conditions listed under paragraphs 3 and 4 of this methodology have been met;

b) Verification of changes in emitting agents' stocks (negative emissions) in the pools selected and

c) Verification of project emissions and leakage emissions.

The data collected shall be archived for a period of at least two years after the end of the last crediting period of the project activity.

6.2 Monitoring of project implementation

The information contained in the PDD-PREBIO project design document, should guarantee the establishment of practices and practical principles accepted in the negative emissions inventories of the country where the project is

implemented. In case such principles do not exist or are not available, standard operating procedures and quality control and quality assurance must be identified and applied in carrying out the inventories; including field data collection and data management. In the COVID19-ZERO2NATURE-PREBIO projects, the "Coronavirus Disease (COVID19) Situation Reports" from WHO, are recommended.

6.3 Precision requirements

To use this methodology, the following parameters are applied:

Parameter 1 - ICU beds	
Parameter/data:	Determination of COVID19-PREBIO-DTUs
Unit of measurement:	Defined Living Organism (DLO)
Description:	Description of the area where it was performed and the type of measurement performed
Data source:	Field Measurement
Measurement procedures (if any):	Procedures determined by WHO: www.Home/Emergencies/Diseases/Coronavirus disease 2019
Monitoring frequency:	At Validation and every Verification
QA/QC:	Procedures related to quality assurance / quality control (QA/QC) prescribed in the WHO "Core Medical Equipment" report.

Parameter 2 - Ventilators	
Parameter/data:	Determination of COVID19-PREBIO-DTUs
Unit of measurement:	Defined Living Organism (DLO)
Description:	Description of the area where it was performed and the type of measurement performed
Data source:	Field Measurement
Measurement procedures (if any):	Procedures determined by WHO: www.Home/Emergencies/Diseases/Coronavirus disease 2019
Monitoring frequency:	At Validation and every Verification
QA/QC:	Procedures related to quality assurance / quality control (QA/QC) prescribed in the WHO "Core Medical Equipment" report.
Coments:	For any and all considerations related to this parameter, this equipment must be used in conjunction with the equipment described in Parameter 1 - ICU Beds, of this methodology.

Parameter 3 - Oximeters	
Parameter/data:	Determination of COVID19-PREBIO-DTUs

Unit of measurement:	Defined Living Organism (DLO)
Description:	Description of the area where it was performed and the type of measurement performed
Data source:	Field Measurement
Measurement procedures (if any):	Procedures determined by WHO: www.Home/Emergencies/Diseases/Coronavirus disease 2019
Monitoring frequency:	At Validation and every Verification
QA/QC:	Procedures related to quality assurance / quality control (QA/QC) prescribed in the WHO "Core Medical Equipment" report.
Coments:	For any and all considerations related to this parameter, this equipment must be used in conjunction with the equipment described in Parameter 1 - ICU Beds, of this methodology.

Parameter 4 - Electrocardiographs	
Parameter/data:	Determination of COVID19-PREBIO-DTUs
Unit of measurement:	Defined Living Organism (DLO)
Description:	Description of the area where it was performed and the type of measurement performed
Data source:	Field Measurement
Measurement procedures (if any):	Procedures determined by WHO: www.Home/Emergencies/Diseases/Coronavirus disease 2019
Monitoring frequency:	At Validation and every Verification
QA/QC:	Procedures related to quality assurance / quality control (QA/QC) prescribed in the WHO "Core Medical Equipment" report.
Coments:	For any and all considerations related to this parameter, this equipment must be used in conjunction with the equipment described in Parameter 1 - ICU Beds, of this methodology.

Parameter 5 - Defibrillators	
Parameter/data:	Determination of COVID19-PREBIO-DTUs
Unit of measurement:	Defined Living Organism (DLO)
Description:	Description of the area where it was performed and the type of measurement performed
Data source:	Field Measurement
Measurement procedures (if any):	Procedures determined by WHO: www.Home/Emergencies/Diseases/Coronavirus disease 2019
Monitoring frequency:	At Validation and every Verification

QA/QC:	Procedures related to quality assurance / quality control (QA/QC) prescribed in the WHO "Core Medical Equipment" report.
Coments:	For any and all considerations related to this parameter, this equipment must be used in conjunction with the equipment described in Parameter 1 - ICU Beds, of this methodology.

Parameter 6 - Multiparametric Monitors	
Parameter/data:	Determination of COVID19-PREBIO-DTUs
Unit of measurement:	Defined Living Organism (DLO)
Description:	Description of the area where it was performed and the type of measurement performed
Data source:	Field Measurement
Measurement procedures (if any):	Procedures determined by WHO: www.Home/Emergencies/Diseases/Coronavirus disease 2019
Monitoring frequency:	At Validation and every Verification
QA/QC:	Procedures related to quality assurance / quality control (QA/QC) prescribed in the WHO "Core Medical Equipment" report.
Coments:	For any and all considerations related to this parameter, this equipment must be used in conjunction with the equipment described in Parameter 1 - ICU Beds, of this methodology.

6.4 Data requirements under this methodology

The description of applicable data and parameters can be found in the tool and procedure used in conjunction with this methodology.

The data and parameters obtained through measurements must be monitored as determined in the tool used in this methodology.

	Document information	
Version	**Date**	**Description**
1.0	May 8, 2020	Methodology