



# METHODOLOGY SUMMARY

Methane emission reduction by adjusted water management practice in rice cultivation

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## BACKGROUND

Gold Standard published an Agriculture methodology: *Methane Emission Reduction by Adjusted Water Management Practice in Rice Cultivation* in July 2023. This methodology targets reducing methane from rice fields through adjusted water management practices and replaces the CDM methodology AMS-III.AU under Gold Standard for the Global Goals (GS4GG).

The Gold Standard rice methodology is fully aligned with the 2019 guidelines from the Intergovernmental Panel on Climate (IPCC), is applicable to all project scales, and includes additional features, such as safeguards and improved monitoring guidelines, to support a more user friendly and fit-for-purpose option for rice field methane mitigating projects.

## INTRODUCTION TO THE METHODOLOGY

### Overview

Globally, around 8% of agricultural greenhouse gas emissions are produced by growing rice.

If rice production was a country, emissions associated with it would be larger than the total footprint of Canada, Saudi Arabia, or France and the UK combined. The grain is also the world's most important staple food-crop, helping to feed over four billion people.

The Global Methane Pledge, launched at COP26 in November 2021 to catalyse action to reduce methane emissions, has set a commitment to reduce methane emissions by at least 30% below 2020 levels, by 2030. Most of the emissions associated with rice production are methane, a

particularly potent Greenhouse gas. Methane is produced when organic matter decomposes in flooded rice fields without access to oxygen.

The methodology has been developed with inputs from the Eurecat Centre Tecnològic de Catalunya, and from the International Rice Research Institute as part of a partnership with the Department of Foreign Affairs and Trade of the Government of Australia through the Business Partnerships Platform.



## Applicability

The new methodology will reduce the emission of methane by:

- changing the water regime during the cultivation period from continuously to intermittently flooded conditions and/or a shortened period of flooded conditions;
- using the alternate wetting and drying method;
- adopting aerobic rice cultivation methods; and/or
- switching from transplanted to direct-seeded rice (DSR).

## Impacts

As with all Gold Standard methodologies, any reductions will be verified by an independent audit before any impacts are recorded. The methodology opens a new source of income from the sale of carbon credits.

Rice is a commodity purchased by corporations through their value chains. Mitigation outcomes could therefore become reportable towards value chain targets, such as Scope 3. For companies purchasing rice from producers applying the methodology, these outcomes can be incorporated into accounting and reporting, subject to alignment with the Greenhouse Gas Protocol. Further work by Gold Standard through the AIM Platform will assess the potential for market-based allocation of outcomes in future. Credits could also be used towards corporate 'beyond value chain mitigation' targets, to take responsibility for unabated emissions.

## KEY FEATURES

### Design

**Geographical scope and scale** – The methodology is applicable globally to all geographies. The methodology is also applicable to all project scales (large, small and micro) and to Programme of Activities (PoAs).

**Greenhouse Gases** – The methodology applies only to reductions in methane emissions (CH<sub>4</sub>). However, project emissions from N<sub>2</sub>O, CH<sub>4</sub>, and CO<sub>2</sub> are to be considered. Emission reductions from N<sub>2</sub>O are not currently considered in the methodology. Gold Standard is exploring whether to release specific instructions on decreasing N<sub>2</sub>O emissions from the management of fertilisers being applied to rice fields. The method is updated to the latest IPCC 2019 data - a refinement from IPCC 2006 Guidelines.

**Stratification Plan** – Flexibility in designing the stratification plan is given. There are certain elements which are considered mandatory while designing a stratification plan, however, the project developer has flexibility to introduce other relevant elements based on project conditions. *Table 2* of the methodology entitled 'Parameters for the definition of cultivation patterns' gives an example of the stratification elements that can be considered, and *Table 3* of the methodology provides an example of how such stratification is to be applied to the project.

**Additionality** – Mandates demonstration of regulatory surplus by all projects, irrespective of scale.

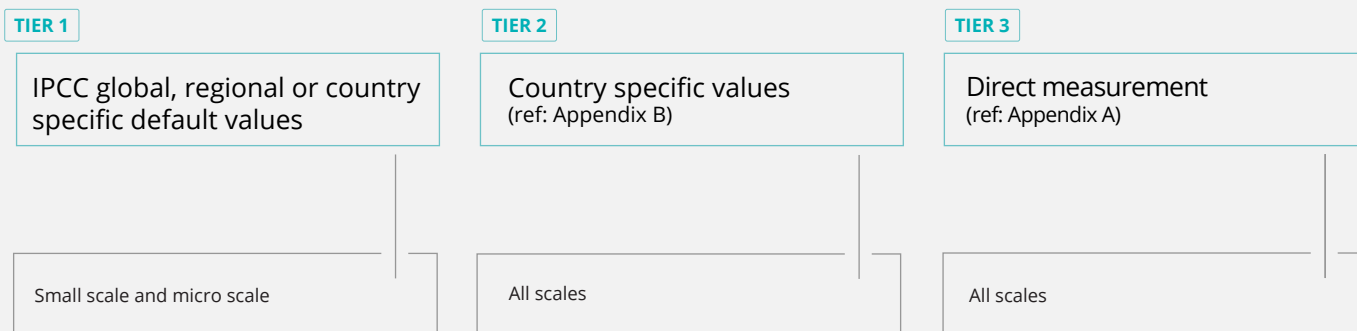
### Accounting

**Direct measurement** – Requires direct measurement of methane emissions in project fields and in baseline reference fields. Additional guidance on in-field methane measurements is provided in Annex A of the rice methodology.

**Tier 2 approach** – The methodology also introduces IPCC tier-2 approaches to estimate methane emissions by determining country-specific baseline emission factors. This gives flexibility to project developers to anchor projects around country specific figures.

Additional guidance is provided in *Annex B* of the rice methodology.

**Simplified approach** – The methodology allows further flexibility for small-scale and microscale projects by offering a simplified approach to estimate emission reductions. The simplified approach allows use of default emission factors – country-specific, regional and global default values from IPCC. To help the project developers, these default values are given in *Table 9* of the methodology (§ 3.8.17 of the methodology).



**Uncertainty** – A statistically robust default deduction of 15% is to be applied by those projects applying the simplified approach to account for uncertainties (Ref: Para 6.1.2 of the methodology). Uncertainties must be estimated in other cases as provided in section 6 of the methodology.

**Safeguards** – There are dedicated safeguards against misuse of simplified approaches. Such projects shall demonstrate that there is no project/voluntary programme of activity (VPA) by the same project developer, which is design certified or under design review using this methodology, within 1 km of the project boundary of the proposed project at the closest point (§ 2.2.3 of the methodology).

## FURTHER INFORMATION

Simply reducing the amount of rice we grow is not tenable in a world with a growing population. We must develop and support sustainable production to protect local economies and reduce the risk of food scarcity.

Find out more information about the methodology and other supporting resources below

<p><b>WEBINAR RECORDING</b></p> <p>Methane Emission Reduction in Rice Cultivation Webinar</p> <p>RECORDED 28 JULY 2023</p>	<p><b>RICE PLATFORM</b></p> <p><i>Enabling Impact in Rice Cultivation PLATFORM</i></p> <p>A full guide to apply the Rice methodology</p>	<p><b>METHODOLOGY</b></p> <p><i>Methane Emission Reduction by Adjusted Water Management Practice in Rice Cultivation</i></p>	<p><b>FAQS</b></p> <p>Rice methodology Questions &amp; Answers</p>	<p><b>CONTACT</b></p> <p>Helpdesk contact via email</p> <p>help@goldstandard.org</p>
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