EMISSION REDUCTION CALCULATION TOOL - TRAINING EXERCISE SCENARIOS

SCENARIO 1

The project is a small-scale activity located in a South-East Asian country, for which country-specific emission factors are not available. Because of the project's scale, the project developer can apply the simplified approach using Tier 1 emission factors to estimate emission reductions from the activity.

The project involves transitioning fields from a system of continuous flooding to alternate wetting and drying. There are two rice crops per year. Five tonnes of rice straw and one tonne of compost are applied per hectare.

The project's first crediting period runs from 16/01/2024 until 15/01/2029. In the first year the project is implemented over 1,000 hectares. In year two this is expanded by an additional 3,000 hectares, bringing the total project area to 4,000 from year two.

Question

— What are the average annual emission reductions over the first five-year crediting period?

SCENARIO 2

The project is a large-scale activity located in a South Asian country and involves transitioning 12,000 hectares of fields from a system of continuous flooding to alternate wetting and drying. The project's first crediting period runs from 16/01/2024 until 15/01/2029. There are two rice crops per year and the cultivation period lasts 112 days. Five tonnes of rice straw are applied per hectare.

Because of the project's scale, the project developer must apply either Tier 2 (country-specific emission factors) or Tier 3 (direct measurement) to calculate

emission reductions from the activity. The Tier 2 approach is chosen. Peer-reviewed literature suggests a national emission factor for continuously flooded fields without organic amendment of 1.05kg CH_4 / ha / day. National scaling factors are not available, therefore IPCC default values are applied.
110 kg of nitrogen input are applied per hectare under the project activity, whereas in the baseline situation the rate of application was 100 kg per hectare. 0.5 litres of diesel fuel are consumed per hectare. Following the LUF Activity Requirements, an uncertainty reduction of 10% is applied.

Question

— What are the average annual emission reductions over the first five-year crediting period?

SCENARIO 3

The project is a large-scale activity located in an African country and involves transitioning 10,000 hectares of fields from a system of continuous flooding to alternate wetting and drying (AWD). The project's first crediting period runs from 16/01/2024 until 15/01/2029. Five tonnes of rice straw are applied per hectare. Because of the project's scale, the project developer must apply either Tier 2 (country-specific emission factors) or Tier 3 (direct measurement) to calculate emission reductions from the activity. The Tier 3 approach is chosen. The seasonally integrated baseline emission factor is 420 kg CH4 / ha / year. With the application of AWD under the project scenario, methane emissions are reduced to 95 kg CH4 / ha / year.
In the project scenario is 110 kg of N-input are applied per hectare, which does not exceed baseline conditions. 0.5 litres of diesel fuel are consumed per hectare. Following the LUF Activity Requirements, an uncertainty reduction of 10% is applied.

Question

— What are the average annual emission reductions over the first five-year crediting period?