

Comment on AMS - III.AV./Version 01

“ Low greenhouse gas emitting water purification systems”

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Paragraph 1

A key document for the evaluation of the performance of POU water treatment systems recently has been developed by WHO (WHO's network for the promotion of household water treatment)¹. It is essential that the technologies are evaluated according to a risk-based framework outlined in this document. This framework has been developed to inform the development or revision of national or international performance verification programmes.

The performance targets were determined by applying the tolerable disease burden (acceptable risk) as set forth in the 3rd edition of WHO Guidelines for Drinking water Quality (GDWQ, WHO 2008).

Paragraph 3.b)

It is essential that the evaluation of the project technologies follow standardized procedures as described in the above document¹.

Paragraph 4

A clear distinction should be made between access to an improved drinking-water source and access to safe drinking water! While according to JMP about 884 million people lack access to improved water sources, several billion people have access to an “improved” water source and still consume water that is highly contaminated with waterborn pathogens². Water disinfection prior to consumption is of high importance where ever people consume contaminated water.

The method's distinction into Case 1 for countries with less than 50% access to improved drinking water sources and Case 2 for the other countries is not optimal

¹ WHO, 2011: Evaluating household water treatment options: Health-based targets and microbiological performance specifications, Geneva, revised 1 March 2011

² WHO/UNICEF, 2008: Rapid Drinking Water Quality Assessment. Geneva. World Health Organization.

because a) efforts to improve access to water shall not be replaced by promotion of household drinking water; b) there is a great need for drinking water disinfection also in areas where people have access to “improved” sources (according to JMP):

According to description of Case 1 project activities shall be implemented in rural areas. Very unfortunately this definition excludes project activities in urban slums, where access safe water is very critical and there is a great need for household water disinfection.

Paragraph 6

The method defines: “For case 1, it is assumed that all of the purified water produced and monitored during the project period is consumed for drinking purposes”. - There is no rational basis whatsoever to accept such an assumption. A membrane filtration device for example can filter more than 240 liters of water per day. No household ever would boil this amount of water for drinking!

Paragraph 7

There should not be any distinction for QPWy (Quantity of purified water per year) for Case 1 and Case 2. The definition for Case 2 makes equally sense for Case 1.

Paragraph 15

A clear distinction has to be made between comprehensive technology verification procedures and water quality testing at field level. WHO’s Guidelines for drinking water quality and WHO’s document outlining the evaluation of household water treatment options suggest *Campylobacter jejuni* as reference pathogen for bacteria, Rotavirus for viruses and *Cryptosporidium* for protozoan parasites. These pathogens were suggested for technology verification because they are relatively well characterized, of high public health importance, are conservative with respect to dose-response and infectivity, and represent each major class of waterborne pathogen³. Routine water quality testing with these pathogens however is not practicable for regular water quality monitoring at field level.

Faecal indicator bacteria, including *E.coli* are important parameters for the routine verification of the microbiological quality at field level. See chapter 7.4 of WHO’s Guidelines for drinking water quality⁴.

³ WHO, 2011: Evaluating household water treatment options: Health-based targets and microbiological performance specifications, Geneva, revised 1 March 2011

⁴ WHO, 2008: 3rd edition of WHO Guidelines for Drinking water Quality. Geneva. World Health Organization