CARBON OFFSETS: WATER PURIFICATION TECHNOLOGY

This work is preliminary, and subject to change. Questions and comments are welcome at givinggreen@idinsight.org.

SUMMARY:
Offsets based around water purification technology rely on the assumption that the technology is replacing boiling water for purification. All parties would agree that households receiving the filters are not currently boiling water nor do they plan to. However, the offsets are granted on the questionable theory of “suppressed demand,” which is based on the concept that households have a right to clean water, and if they were wealthy enough, they would have boiled the water in the absence of the new technology. Although endorsed by the UN’s Clean Development Mechanism (CDM), we don’t find this logic convincing, and therefore do not recommend any offsets tied to water purification.

OUR RESEARCH PROCESS:
WATER PURIFICATION TECHNOLOGY DOES NOT WORK AS A CARBON OFFSET
Projects that distribute water purification technology to poor households can be certified by all of the main certification organizations. A bit of head-scratching is warranted: what exactly does water purification have to do with GHG emissions? The answer is complicated, but derives from the fact that purifying water using say, chlorine tablets or a filter, emits far less carbon than boiling water.

But in order to certify emissions from water purification, project implementers do not have to show that households would have been boiling water in absence of the new technology. In fact, boiling water for purification is extremely rare throughout the world, as it is very expensive to do so.

So how do they get away with this? The slight of hand comes from the concept of “suppressed demand”, which has been endorsed by the UN’s Clean Development Mechanism (CDM) as a valid way to calculate offsets. The logic goes as follows: poor people have a right to certain basic necessities, such as clean water. But in some cases, they are not accessing these necessities due to poverty. If there were not poor, they might use carbon-intensive approaches to achieve these necessities. So by providing a carbon-neutral technology to provide these same necessities, we are providing human rights in a way that previously would only have been possible through emitting carbon. Get all that? In other words, in the absence of the water purification technology and had they been wealthy enough to achieve their basic rights, households would have burned fuel to boil water.

This logic is problematic for a number of reasons. First, it clearly does not require any emissions to be avoided by providing the technology. That seems problematic for an offset. Second, there is no evidence that households would indeed boil water if they had the resources to do so. There are no examples we’ve seen of countries in which boiling water has become a common purification practice as it has developed. Instead other systems (such as UV purification) are much more common.
This logic behind water purification offsets (specifically the “suppressed demand” assumption) has been challenged frequently over the years. For instance, an SSIR article by Kevin Starr called out the absurdity of the situation, and spurred some extremely interesting and heated discussion in the comments, including by Adrian Rimmer of the Gold Standard. Experts agree the funding water purifiers is unlikely to decrease emissions. As described this assessment of expert opinions, the concept of suppressed demand is “considered ‘fiction’ in terms of baseline measurement” and “contradicts the goal of carbon credits that aims to reduce emissions”.

Overall, it is clear that purchasing offsets for water purification do not avoid emissions whatsoever, and therefore we do not recommend purchasing them.

REFERENCES
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