

GS886 Lifestraw Water Filter Project – Non Conformity overview and recommendations

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INTRODUCTION

This report provides the findings of fact, analysis, conclusions, and recommendations to resolve the project grievance filed by atmosfair on April 14, 2016 against the Gold Standard-certified carbon offset project, “Sustainable Deployment of the Lifestraw Family in Rural Kenya” (“GS886”).ⁱ Atmosfair alleges that GS886’s project developer, Vestergaard Frandsen (“VF”), misreported the household usage rates of the Lifestraw water filters. This allegation is significant because, if true, the Gold Standard issued carbon credits that are not real. In that case the Gold Standard may need to take action that cancels or replaces issued carbon credits.

Atmosfair’s grievance relies on the 2014 documentary “Carbon Crooks” by Tom Heinemann, public statements by the Managing Director of the Mulago Foundation, Kevin Starr, and a research article titled, [“Climate and Health Co-Benefits in Low-Income Countries: A Case Study of Carbon Financed Water Filters in Kenya and a Call for Independent Monitoring,”](#) authored by, among others, Dr. Amy Pickering, and published in the September 2016 issue of Environmental Health Perspectives (the “Article”).

The Gold Standard has previously addressed problems with “Carbon Crooks” and will not consider it here. This report will examine Mr. Starr’s comments and the Article.

The Gold Standard first conducted a desk review of the Article in January 2017 to assess whether its data constituted evidence not previously considered in a 2013 grievance filed against GS886. If the Article constituted new evidence, a new grievance investigation would be opened. The desk review concluded that the Article constituted new and relevant evidence because it appeared to present comparable and credible monitoring data that was significantly lower than results reported by GS886. The desk review called for further review of the Article’s approach and findings.

At the time of writing no verification or issuance has been sought by VF since 2014. To the best of our knowledge, VF has no plans to request a future issuance from the Gold Standard for GS886.

ISSUES FOR REVIEW

1. Do the allegations in the grievance constitute a “non-conformity” under the Gold Standard rules and requirements?
2. If so, is the alleged nonconformity “material” to the project certification or its issuance of carbon credits?
3. If so, is the data collected and reported in the Article comparable to the data collected and reported by GS886?
4. If so, is the data collected and reported in the Article credible?

ⁱ A glossary of defined terms can be found in **Exhibit A**.

EXECUTIVE SUMMARY

The allegations constitute a material non-conformity under the relevant Gold Standard rules and requirements. However, GSF finds that there are challenges with comparing the data in the Article with the data reported by GS886 due to the narrower focus of the Article; to wit:

	GS886	WASH Benefits Pilot Study
Target distribution /study population	Households with women between the ages of 15 and 64 (regardless of pregnancy or caretaker status)	Pregnant women or women with young children
Target/study area	32 districts in Western Province, Kenya	2 districts in Western Province Kenya, followed by 8 districts in Western Province, Kenya
Sample size: MR1 vs Pop. A	19,547 (MR1)	453 (Pop. A)
Sample size: MR2 vs Pop. B	18,473 (MR2)	374 (Pop. B)
Sample size: MR3 vs Pop. C	16,314 (MR3)	4,041 (Pop. C)
Survey methods	Usage surveys (self-reported and observational data)	Usage surveys (self-reported and observational data)
Definition of “usage”	<p>VF decided, per the methodology, to survey a “fraction of population using and maintaining the filters in accordance with the manufacturer’s instructions.”</p> <p>Usage was calculated as a fraction from the total number of Lifestraw units, excluding outliers, of the number of HHs that cannot meet the criteria set out in the survey.</p> <p>Indications of use for survey included: responding “Lifestraw” when asked what is used to make their water safe; household was able to properly demonstrate backwashing; household had LSF filtered water in a storage container; and household did not need any replacement parts for the filter</p> <p>HHs will be removed from usage calculation if: the filter is not hanging without good reason; no filtered water in the storage container in the last 24 hours; HHs filter less than 1x</p>	<p>For households that reported receiving a Lifestraw filter, field staff observed “whether the filter was present, hanging on a wall, looked unused (<i>e.g.</i> visible dust), and contained water or moisture.” Field staff then asked the respondent whether the filter worked, had any issues that prevented use, and if or when they had last received a visit from a Lifestraw promoter.</p>

	<p>per 2 weeks; cannot demonstrate how to use filter; filters are not functioning; HHs do not clean or backwash the filter.</p> <p>Note: The survey and monitoring approach was updated and executed in accordance with recommendations from the Berkeley Air Monitoring Group for MR3.</p>	
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Furthermore, the organization that collected the usage data for the Article, Innovation for Poverty Action (“IPA”), may have had a potential conflict of interest due to its strategic and financial interests in a competing technology and carbon offset project that falls within the same project boundary as GS886.

While GSF will take adverse action against a project that violates its rules, the evidence of malfeasance must be unequivocal in a case where the complainant requests the cancellation of carbon credits from a Registered project that has issued and sold carbon credits. The threshold for action must be very high in order to properly balance the rights of the project developer with environmental integrity. Here, there are too many challenges with the evidence presented in the Article to make an unequivocal finding. As a result of these concerns, GSF finds that it cannot take any adverse action against GS886 at this time.

It is important to note that VF recently notified GSF that it will no longer pursue credit issuances. The project has also exceeded the time allowed between verifications, which means it would have to seek TAC approval for any future issuance. TAC would undoubtedly hold GS886 to a higher level of scrutiny following this grievance investigation.

GS886 and the suppressed demand methodology provided both positive and negative disruptions to the market, challenging the delicate balance between innovation and integrity. While this grievance was under investigation, GSF was developing its new platform, Gold Standard for the Global Goals (“GS4GG”). Under GS4GG, Suppressed Demand applies only in certain project scenarios, such as small scale cookstove or clean water projects. There are also ongoing efforts to provide more robust guidance and formats to conduct surveys for usage rates. GSF hopes that these revisions will enhance Suppressed Demand and its applications.

DISCUSSION

I. BACKGROUND

GS886 is a large scale water filter technology distribution project in Kenya. It involved the distribution of approximately 877,000 hand-held water filtration devices (proprietary name 'Lifestraw') for domestic use from April – May 2011. In June 2011 VF registered the project activity with the Gold Standard under Version 2.1 of The Gold Standard Requirements. VF selected

a fixed 10-year crediting period that would allow carbon credits to be issued each year until June 2021.

“Registration” is the step in the certification process that confirms that the project design and implementation has been informed by stakeholder input and safeguarding principles, and that overall it meets the Gold Standard’s rules. To become Registered an accredited, independent third party (in this case a UN-accredited audit body) must have reviewed and visited the project to confirm that the project has been implemented in accordance with the Gold Standard rules. GS886 achieved Registration because it demonstrated that it complied with Version 2.1 of the Gold Standard Requirements.

During Registration a project must provide details regarding its baseline scenario (what would happen in the absence of the project) as well as its project scenario (an estimation of the impact, in emissions reductions terms, after the implementation of the project). Both of these scenarios are defined based on survey data collected in the area and default values for key parameters.

The Gold Standard allows projects providing access to basic services, such as clean water, to consider a 'Suppressed Demand' scenario for its baseline. This means the baseline can be defined as what local people would do if they had access to basic services, such as fuelwood, when in reality they do not. Here, Suppressed Demand assumed that if fuelwood was available in sufficient supply then some would be burned in order to boil and clean the water. The project’s baseline scenario was fuelwood burning (in volumes enough to boil a minimum service level of water) and the project scenario then removed the need for fuelwood burning, thereby generating emissions reduction benefits realised as carbon credits.

GS886 completed three issuances between 2011 and 2014, totalling approximately 4.5 million credits, using the Suppressed Demand scenario defined above. The detailed timeline of certification, including issuance volumes, is attached hereto as **Exhibit B**.

A. 2013 Grievance

GS886 has attracted a number of stakeholder comments since Registration in 2011. During the second issuance review in 2013, two NGO Supporters, including atmosfair, communicated concerns about the project’s reported usage rates. At the same time the documentary “The Carbon Crooks,” released in September 2013, also alleged VF misreported usage rates.

The Gold Standard, overseen by its independent Technical Advisory Committee (“TAC”), opened a grievance and corresponding investigation into the allegations (“2013 Grievance”). The Gold Standard hired Berkeley Air Monitoring Group (“BAMG”) to conduct an analysis of the usage rates. BAMG found evidence of confirmation bias in GS886’s monitoring surveys: recipients were naturally inclined to give positive answers to survey questions concerning technology distribution. BAMG recommended a lower usage rate, in turn leading to a reduced issuance volume for the second monitoring period and improvements to the monitoring guidelines to guard against further bias.

Following BAMG’s findings, the Gold Standard reduced the total number of carbon credits issued to GS886 in the second issuance compared to what was requested for issuance. In addition, the Gold Standard updated the methodological requirements for monitoring water filter projects in accordance with BAMG’s recommendation. VF implemented the revised monitoring requirements in the third monitoring period.

Further details on the 2013 Grievance can be found here: <http://www.goldstandard.org/our-work/grievances/sustainable-deployment-lifestraw-family-rural-kenya-gs886>.

The 2013 Grievance was investigated by the Gold Standard Secretariat with TAC oversight. The TAC approved the Secretariat's final recommendations, and the Secretariat closed the grievance. It has no bearing on the current investigation and is discussed only for background purposes.

B. 2016 Grievance

On April 14, 2016, atmosfair filed a second grievance against GS886. Atmosfair again alleged that GS886 misreported Lifestraw filter usage rates, resulting in Gold Standard over-issuing carbon credits to the project ("2016 Grievance"). The 2016 Grievance primarily relies on the film "Carbon Crooks," public statements by Starr criticizing GS886, and the Article.¹

In January 2017, following a desk review of the Article, the Gold Standard opened a new grievance. This report seeks to answer the following questions:

1. Do the allegations in the grievance constitute a non-conformity under the Gold Standard rules and requirements?
2. If so, is the alleged nonconformity "material" to the project certification or its issuance of carbon credits?
3. If so, is the data collected and reported in the Article comparable to the data collected and reported by GS886?
4. If so, is the data collected and reported in the Article credible?

The purpose of this report is to analyse and answer these questions.

C. Commercial Context

For transparency it is important to highlight the competitive relationship between atmosfair and VF. Atmosfair develops and sells credits from cookstove projects in Africa. Atmosfair's credits compete for buyers, particularly in Europe, with credits from GS886, which are sold by retailers including Climate Care and EcoAct.

II. DISCUSSION

A. The allegations in the grievance constitute a non-conformity under the Gold Standard rules and requirements.

Atmosfair alleges that VF misreported the Lifestraw filter usage rates, resulting in an over-issuance of carbon credits. This section examines whether misreporting Lifestraw filter usage rates gives rise to a non-conformity under, or breach of, any Gold Standard rule or requirement. We conclude that the allegations in the grievance, if true, would constitute a non-conformity under the standard (Version 2.1), the methodology, and the Gold Standard Terms and Conditions.

(i) Findings of Fact

1. Gold Standard Requirements Version 2.1, clause III.a.1 states that "[a]ll Gold Standard projects must be additional, contribute to sustainable development and result in real, measurable and verifiable permanent emission reductions."²

2. Gold Standard Technologies and Practices to Displace Decentralised Thermal Energy Consumption Methodology - TPDDTEC (Version 1.0, released in 2011), Section III.3 states that “[t]he project proponent is responsible for accurate and transparent record keeping, monitoring and evaluation.”³
3. Clause 12 of The Gold Standard Terms and Conditions states that “User acknowledges that GSF has established prestige and good will and is well recognized in the industry and the public, and that in conducting any activities in connection with or related to GSF, User shall ensure that it maintains the high standards and reputation of GSF. User further covenants that it shall not commit any act or omission of a substantial nature that causes or threatens to cause significant and adverse impact to the reputation of GSF and shall duly supervise its officers, directors, employees, agents, representatives and assigns accordingly.”⁴

(ii) Analysis and Conclusion

The clauses cited above clearly demonstrate that the reporting of inaccurate monitoring information would constitute a breach of Gold Standard principles and rules. In particular, the methodology requires that monitoring information be accurate and places this responsibility with the project developer. Logically, if any such information is later found to be inaccurate – whether intentionally or unintentionally -- then this would constitute a clear non-conformity. The reporting of incorrect monitoring results may also constitute a breach of the Terms and Conditions because it represents a clear risk to the reputation of Gold Standard. Any potential over-issuance of carbon credits would undermine the integrity of the system.

B. The alleged nonconformity is “material” to the project certification or its issuance of carbon credits.

This section examines whether the alleged non-conformity is “material.” This report defines “materiality” as a change in the issued emissions reductions of greater than 5%, which is applied as a benchmark in the methodology for emissions from production, transport, installation and delivery of the clean water supply or treatment options.⁵ The same is considered an appropriate materiality threshold for this assessment.

(i) Findings of Fact

The following table provides a comparison of the credits issued to GS886 versus the data presented in the Article for the VF water filters:

Monitoring period		GS886		Pickering et al ., 2016		% difference
Start	End	Usage rate	Issued ERs	Usage rate	Estimated ERs	
1/6/11	30/11/11	91.13%	1,355,185	61.40%	913,073	33%
1/12/11	31/10/12	74.98%	1,701,563	52.10%	1,182,334	31%
1/11/12	31/01/14	80.46%	1,419,458	18.60%	328,137	77%
		Total	4,476,206		2,423,545	46%

(ii) **Analysis and Conclusion**

The table above demonstrates that, if comparable and credible, the Article's data would require a change to the issued emissions reductions that would far exceed 5%. Therefore, the alleged non-conformity is material.

C. **The Article's data is not comparable because the Article had a more targeted study population and geographic scope than GS886.**

In addition to comparing the potential impact on the issuance of the emissions reductions, it is necessary to analyse whether the data is comparable. This section compares the sampling and methodological approaches taken by the Article and GS886.

(i) **Findings of Fact**

The WASH Benefits Study

1. VF's deployment of Lifestraw water filters in 2011 overlapped with the beginning of the WASH Benefits Study, a "multiarm, cluster, randomized, controlled trial" conducted in Bangladesh and Kenya and funded by the Bill and Melinda Gates Foundation.⁶
2. The primary objective of the WASH Benefits Study was to determine the impacts of WASH interventions -- together, separately, and together with nutrition -- on child health and growth.⁷ It was "designed to measure intervention effects under conditions of high uptake in the target populations since the central hypotheses have not been tested rigorously in randomised studies."⁸
3. The WASH Benefits Study started with a pilot study that included two randomised controlled trial that studied the health effects of WASH interventions among newborns in Kenya.⁹
4. The primary objective of the pilot study was to determine whether the researchers could achieve high adoption rates by combining "complementary hardware and behaviour change interventions" tailored to the local area.¹⁰
5. The pilot study was followed by a baseline data collection for the larger study.¹¹ Researchers surveyed households to determine the baseline level of water treatment and level of water quality.¹²
6. The researchers felt that Lifestraw water filter usage rates were important to properly document the baseline and determine the impacts of their interventions.¹³ They added questions to the household usage survey to measure Lifestraw filter ownership and use.¹⁴
7. The researchers conducted three household surveys after VF distributed its Lifestraw filters: (a) 6 months post-distribution in November 2011 ("Population A"); 18 months post-distribution from November – December 2012 ("Population B"), and 24-36 months post-distribution from June 2013 – May 2014 ("Population C").¹⁵
8. In November 2011, the pilot study first enrolled 72 villages consisting of 499 households in Population A. The only eligibility requirements for enrollment were age of children and pregnancy status.¹⁶

9. Population A consisted of 38 villages (or 367 households) located in the Shianda community near the town of Kakemega and 34 villages (or 132 households) located in the Kibingei community near the town of Bungoma, in the district Bungoma North.¹⁷
10. Water turbidity was not a concern in the pilot study area because most people relied on groundwater or rainwater for drinking; “thus, filters were not seen to have a significant advantage over chlorine.”¹⁸
11. The data for the second and third surveys (Population B and C) came from the baseline assessment and the enrolment survey of the full-scale WASH Benefits Study. The full-scale study enrolled pregnant women in their second or third trimester in villages with low levels of piped water access in Kakemega, Bungoma and Vihiga counties.¹⁹
12. Household selection criteria for this study population included the following:
 - a. Located in a rural area (defined as villages with <25% residents living in rental houses, <2 gas/petrol stations and <10 shops);
 - b. Not enrolled in ongoing WASH or nutrition programs;
 - c. Majority (>80%) of households do not have access to piped water into the home; and
 - d. at least six eligible pregnant women in the cluster at baseline.

In addition, the study excluded women who did not plan to stay in the village for the next 12 months, households that did not own the home, and villages that had chlorine dispensers at water sources installed by a programme separate from the study.²⁰

13. All data was derived from household surveys and observations of field staff.²¹ Field staff, who were employees of IPA, were trained and managed by the researchers.²²
14. For households that reported receiving a Lifestraw filter, field staff observed “whether the filter was present, hanging on a wall, looked unused (*e.g.* visible dust), and contained water or moisture.” Field staff then asked the respondent whether the filter worked, had any issues that prevented use, and if or when they had last received a visit from a Lifestraw promoter.²³

GS886

15. GS886 distributed Lifestraw water filters in Western Province from April - May 2011. Households received a Lifestraw filter for free. Approximately 877,505 filters were distributed during this campaign, covering approximately 90% of households.²⁴
16. The target population for GS886 was 80% of women between the ages of 15 and 64, representing approximately 1 million people.²⁵ There are approximately 4 million people in the Western Province of Kenya.²⁶
17. VF estimated that a Lifestraw unit would last “at least three years of typical use.” VF planned to repair or replace the unit for free after three years of use using revenue from carbon credit sales, but that “earlier or later replacement would be conducted as appropriate.”²⁷ Replacement and repair of a Lifestraw filter was free at any one of the 32 county-level facilities, staffed and managed by the local community.²⁸
18. Along with the water filter, VF launched health education campaigns in July/August 2011, September 2011, April/May 2012 and October 2012 to provide door-to-door household

level health education and Lifesraw filter training. Each campaign reached 90% of households that received a Lifesraw filter.²⁹

19. The first monitoring period occurred between June 1, 2011 to November 30, 2011. A total of 19,430 households were surveyed from August – September 2011 during this first monitoring period (“MR1”).³⁰ EXP, a third party hired by VF to conduct a separate independent check on adoption rates over and above the Gold Standard rules,³¹ conducted 108 household surveys in July and September 2011.³²
20. The second crediting period occurred between December 1, 2011 to October 31, 2012. A total of 20,220 household surveys were conducted for this second monitoring period (“MR2”) between April 11 – May 24, 2012 and between October 15 – 31, 2012. EXP conducted 252 household surveys in August 2012.³³
21. The third crediting period occurred between November 1, 2012 and January 31, 2014. A total of 16,313 surveys were conducted for this third monitoring period (“MR3”) between December 7, 2013 and January 31, 2014. EXP conducted 257 household surveys in January 2014.³⁴
22. Due to a delay in issuance for MR2 arising from the 2013 Grievance and resulting lack of program funds, VF was not able to implement its household-level health education campaign during MR3. Instead it conducted a smaller “volunteer mobilization activity” from October 17 – November 15, 2013 where volunteers visited a subset of households. However, the county-level maintenance facilities remained open and operational.³⁵
23. During MR3 no filters were distributed to new or additional households. A total of 3169 units were replaced (0.36% of all units distributed), and 4175 cartridges were replaced.³⁶ In the verification report, the auditor noted that “[a]s the age of the unit increases, it is expected that more units will require repair or replacement... . To the end of this monitoring period the time elapsed from the distribution campaign was less than three years... therefore during this monitoring period the lifestraws [*sic*] have not reached the end of lifetime and no high number of replacements took place.”³⁷
24. For all three monitoring periods, VF opted for usage surveys (self-reported and observational data) in randomly selected households in all 32 sub-counties. Indications of use included: responding “Lifestraw” when asked what is used to make their water safe, household was able to properly demonstrate backwashing, household had LSF filtered water in a storage container, and household did not need any replacement parts for the filter.³⁸

Temporal overlap

25. The WASH Benefits Study and G886 conducted their usage surveys concurrently:

GS886 surveys			Pickering et al ., 2016	
SURVEY PERIOD	VF sample size	EXP sample size ⁱⁱ	SURVEY PERIOD	SAMPLE SIZE*
MR1/Sep 2011	19547	108	Pop. A/Nov-2011	453

Baseline Scenario

27. GS886 employed the Suppressed Demand methodology to calculate the baseline scenario. The baseline scenario is used as the 'business as usual' starting point, which is the level of emissions reductions that would occur in the absence of the project. Emissions reductions are calculated from this baseline scenario. The baseline scenario is then compared to the project scenario (or what happens to emissions when the project is implemented) to calculate the number of emissions reductions.
28. Suppressed Demand is a specific approach to defining the baseline scenario for certain types of projects in poor countries. As described earlier, in a non-Suppressed Demand project, the baseline scenario is the pre-project or 'business as usual' state; it is the conditions that exist prior to the distribution of technology. Suppressed Demand is used where the local community does not have access to basic services to meet a minimum basic service level for services such as heating, cooking, lighting and potable water, leading to a low or negligible level of emissions reductions following project implementation. Suppressed Demand defines the baseline as what would happen if the local community did have access to basic services. In the case of water filter projects, the Suppressed Demand baseline scenario determines that the local community would boil water through the burning of an acceptable baseline fuel if that fuel were available. In GS886, the scenario considered how much wood would be burned in order to achieve a 'minimum service level' of clean water, were it available. This allowed GS886 to receive carbon finance. Otherwise VF would not have had access to the carbon market because the 'business as usual' baseline scenario would be difficult to create because the local community does not, save for a small fraction of the population, burn wood since it is not readily available.
29. Stated differently, in the absence of Suppressed Demand development projects such as GS886 would not have had access to the carbon market because the 'business as usual' baseline scenario does not take into account the real demand for minimum service level (or the fuel need for boiling water that is necessary for meeting basic human needs). This would lead to low or negligible emission reductions because a large fraction of the project population doesn't have resources or access to fuel to boil water, thereby removing this source of revenue.
30. The Article notes that wood use in the Project Area was found to be lower than the wood use assumed in the baseline scenario for GS886. This is due to the use of the Suppressed Demand baseline, which is by definition a theoretical scenario.
31. To further investigate this point, GSF re-checked the data from GS886 to ensure that the baseline fuel consumption complied with the relevant methodological requirements. To confirm how much fuel the households would have used for boiling water, VF estimated the fuel consumption using the Water Boiling Test. GSF confirmed that the baseline fuel consumption values applied are in line with observations from similar project types located in this region. For example, the VF baseline fuel consumption value is 26% lower than GS996, a competing cookstove and water treatment project in the same region in Kenya.
32. GSF confirmed that VF correctly followed the Suppressed Demand approach. The households were assumed to be boiling water in the baseline situation independent of whether households actually boiled their water. It is not unusual that the household fuel consumption level, which includes cooking and boiling water, is likely higher than the

actual fuel consumption levels observed in the Article. This difference is likely due to the assumed suppressed demand for households in GS886.

(ii) Analysis and Conclusion

This report finds that it is challenging to compare the data because the Article had a more targeted study population and geographic scope than GS886.

Study Population

The WASH Benefits study, and its associated pilot study, had a much more targeted study population than GS886. The study population only focused on pregnant women and its target study size was 8,000 women. By contrast, GS886 focused on women between the ages of 15-64 and their target distribution population was over 1,000,000.

Dr. Pickering acknowledged in her interview that the study population was different from the households in GS866; however, she posited that (at least intuitively) pregnant women should be more likely to use a water filter. Dr. Pickering also maintained that the study population could be a representative sample for GS886, and there was no reason to support otherwise.

We agree that the sample sizes are of a sufficient size that we should be able to draw a comparison. The sample size requirements in the Methodology dictate that the minimum total sample size for GS886 is 100. The surveys of Populations A, B, and C meet this requirement.

On its face the low usage rates in the Article are extremely concerning. But the experts interviewed for this report point out that using a criteria-driven sampling frame, as was done for the Article, may affect the prevalence of the Lifestraw filter usage observed, and the Article's households may have been systematically different from the households reached by GS886. There is not enough information to draw a conclusion either way, and it is therefore difficult to say unequivocally that GS886 and the findings from the WASH Benefits Study are comparable. The differences in geographic scope further compound the difficulty in this analysis.

Geographic Scope

The Article had a more targeted geographic scope than GS886. Population A and Population B only covered 2 sub-counties out of VF's 32 sub-counties (a 6.25% overlap). Population C, the Article's largest data set, covers only 8 out of the 32 sub-counties (a 25% overlap). In all cases the IPA data is from a tightly clustered geographic area; more than half of GS886's project region isn't covered by the WASH Benefits Study. VF maintains that it has the highest usage rates in harder to reach regions because those areas have the most turbid water sources and there are no government interventions, so the need for the water filters is high; it further maintains that these sub-counties were not covered by the WASH Benefits Study.³⁹

Dr. Pickering disagreed that turbidity would be a critical factor in analysing filter usage rates. However, the pilot study (Population A) purposefully focused on areas with low turbidity,⁴⁰ and "the reaction to (and appropriateness of) chlorine dispensers may be different in areas where turbidity could interfere with the efficacy of the chlorine."⁴¹ Thus, filters may have an advantage over chlorine in areas with higher turbidity.⁴² There is not enough information from either the Article or the GS886 project documents about the turbidity of the water across all of the households surveyed. Therefore, the differences in geographic scope and the issues surrounding turbidity further complicate the analysis into whether the data sets are comparable.

Even if a strong argument could be made that GSF should take a conservative view and assume that the data is comparable, the potential conflict of interest posed by IPA precludes any unequivocal finding in this case.

D. IPA had a potential conflict of interest when it collected data on usage rates for Lifestraw filters.

Finally, it is necessary to examine whether the Article's data is credible. A few stakeholders argued in their interviews that IPA had a conflict of interest when it collected data on GS886. We examine that argument here.

Page one of the Article makes the following disclosures that are relevant to this analysis:

The non-profit organization [IPA] in Kenya collected the data under the oversight of the authors. At the time of data collection, IPA was also involved in a project implementing community chlorine dispensers in Kenya and was exploring accessing carbon financing to operate the dispensers. None of the authors were involved in IPA's chlorine dispenser implementation project. ... The authors declare no competing financial interests.

As more fully discussed below, this report finds that IPA likely had a potential conflict of interest in collecting data on GS886 for the WASH Benefits Study due to its strategic and financial interests in chlorine dispensers.

(i) Findings of Fact

2010

1. IPA launched the Dispensers for Safe Water Program ("DSW") in Kenya in 2010.⁴³ The program aimed to "prevent water borne illness and death by providing communities with the Chlorine Dispenser System (DCS), a point of collection water treatment technology."⁴⁴
2. IPA is a highly de-centralized organization that focuses on data collection. It works closely with academics to secure grants. IPA lets the academics design and direct each project and there is not a lot of communication or coordination between projects.⁴⁵
3. It is believed that IPA may have received more than \$1 million in direct funding for DSW from The Bill and Melinda Gates Foundation ("Gates").⁴⁶ At the same time, IPA was also funded by, among others, the Mulago Foundation, which is run by Kevin Starr.⁴⁷

2011

4. The WASH Benefits Study launched in 2011 with funding from the University of California - Berkeley via Gates, which invited IPA to participate in the WASH Benefits Study due to its connection to Dr. Michael Kremer, who was already doing water treatment work in Kenya.⁴⁸
5. In its 2011 Annual Report, IPA described WASH Benefits as "one of the largest and most ambitious projects in IPA's ten-year history."⁴⁹

6. The WASH researchers were not aware of VF's plans to rollout Lifestraw filters in Western Province when they designed their program. They became aware of VF's plans just before the launch of the study. They allegedly wrote to VF and asked them to delay their water filter distribution, stating that the researchers' findings could help VF in the long term. VF allegedly declined to delay their distribution because they were also ready for launch.⁵⁰
7. Thereafter, on June 16, 2011, Mr. Starr wrote an online article for the Stanford Social Innovation Review titled, "Thirty Million Dollars, a Little Bit of Carbon, and a Lot of Hot Air." Mr. Starr called VF's Carbon for Water program (GS886) a "loopy funding scheme" that offered "a lousy health solution." In the comments section Mr. Starr wrote that VF's "massive program in western Kenya was dropped down on top of other efforts to find lasting solutions, such as Innovations for Poverty Action's community chlorine dispensers."⁵¹
8. [PARAGRAPH REDACTED FOR CONFIDENTIALITY.]
9. From November 1 – 29, 2011, IPA employees collected data on Lifestraw filter usage from Population A.⁵² The data collectors (enumerators) identified themselves to the households as representatives of IPA, and it is possible that some of the households surveyed knew of IPA and its chlorine dispenser program.⁵³ It is also possible that the enumerators, who were members of the local community, were familiar with the Lifestraw filters and had their own feelings about the veracity of the technology.⁵⁴
10. IPA wanted to quickly scale up the distribution of chlorine dispensers and was looking for an appropriate business model.⁵⁵ [SENTENCE REDACTED FOR CONFIDENTIALITY.]

2012

11. On February 7, 2012, the Gold Standard received a letter from Impact Carbon and the Paradigm Project, the project developers representing GS966, "Paradigm Healthy Cookstove and Water Treatment Project, a cookstove and clean water project in Western Province, Kenya ("GS966"). They requested a design change to "begin implementing community level water treatment products, which consists of centrally located chlorine dispensers that are maintained and operated by local community members."⁵⁶ GS966 sought to receive carbon credits for the community level dispensers retroactively to August 29, 2011, the end date of GS966's first issuance period.⁵⁷
12. The design change report identifies IPA as the implementing partner for the dispensers.⁵⁸
13. IPA's participation in GS966 represented a step outside of its normal business model of partnering with academics for data collection. IPA joined GS966 because it had some initial success with chlorine dispensers, and it was looking to scale-up the distribution of dispensers.⁵⁹
14. The operations for the WASH Benefits Study and IPA's work with GS966 were separate. They did not share office space or staff. In fact, in some cases, the two projects competed for territory in Western Province.⁶⁰
15. Several months after IPA joined GS966, IPA employees collected data on Lifestraw filter usage from Population B.⁶¹

2013 - 2014

16. In 2013, IPA received a \$5.5 million grant from USAID to scale up DSW.⁶²
17. On August 23, 2013, IPA announced that it would transfer management of DSW to Evidence Action, a “new organization supported by IPA to scale up proven interventions.”⁶³ IPA spun off Evidence Action, at least in part, because it wasn’t suited to implement a project like GS966; the work was too far outside of it’s business model⁶⁴ and IPA may not have been comfortable entering into an Emissions Reduction Purchase Agreement to sell the credits generated from its piece of the project.⁶⁵
18. In a press release Annie Duflo, Executive Director of IPA, stated that “[t]he launch and success of Evidence Action is central to IPA's overall strategic vision. ... While IPA will continue to operate and provide support for [DSW] throughout the transition period, the management and strategic planning of this work are transitioning to Evidence Action. Both organizations will continue to work closely together after the transition is complete.”⁶⁶
19. Evidence Action was founded by, among others, Dr. Amrita Ahuja, who was IPA’s Managing Director for DSW since at least 2011. She served as Evidence Action’s first Board Chair.⁶⁷ Alix Zwane served as Evidence Action’s founding Executive Director. She came to Evidence Action from Gates where she was a member of the WASH team.⁶⁸
20. Evidence Action and IPA continued to work together on DSW. Evidence Action received IPA’s chlorine dispensers after the close of the WASH Benefits Study.⁶⁹
21. In 2013 Evidence Action paid IPA \$189,250 for dispenser installation.⁷⁰
22. In 2014 Evidence Action paid a \$410,750 cash grant to IPA “to conduct research on the costs and benefits of scaling up targeted migration subsidies as a strategy to avoid famine risk and installing and maintaining chlorine dispensers in Kenya.”⁷¹
23. IPA employees collected data on Lifestraw filter usage from Population C in May 2014.⁷²
24. [SENTENCE REDACTED FOR CONFIDENTIALITY.] Evidence Action first reported revenue from carbon credits in 2015 in the amount of \$197,091.⁷³
25. As of the date of this writing, Evidence Action’s website claims to have generated 1,327,621 in carbon credits from DSW.⁷⁴

(ii) Analysis and Conclusions

There are two types of conflicts of interest: potential and actual. The World Health Organization (“WHO”) defines a “potential conflict of interest” when it hires external experts as “any interest that may affect, or may reasonably be perceived to affect, the expert’s objectivity and independence.”⁷⁵ The WHO document does not provide a definition for “actual conflict of interest.” GSF considers an “actual conflict of interest” as one that arises where financial, personal or professional considerations compromise an individual’s objectivity, judgment or overall ability to perform his or her duties.

IPA

This report finds that IPA had a potential conflict of interest, as that term is defined by the WHO, when it collected data on GS886 for the WASH Benefits Study. At the time it collected data on

GS886, IPA had strategic and financial interests in both a competing intervention and a competing carbon offset project. Moreover, IPA's involvement with and support for chlorine dispensers may have been known by the local community, raising the potential for survey bias.

First, at an organizational level IPA had a financial interest in chlorine dispensers, a competing intervention. IPA had raised several million dollars from prominent donors for its DSW program. It was invested heavily in chlorine dispensers and expressly viewed Lifestraw filters as a competing product that posed a risk to its success. Second, at an organizational level IPA had a strategic interest in the success of DSW due to the amount of money raised, the prominence of the donors, and the fact that it was a key program for IPA. Finally, although IPA never had a direct financial interest in GS966 (it never signed an ERPA), it had a strategic interest in that project's success through Evidence Action.

On the other hand, Dr. Pickering and Dr. Null emphasized the de-centralized structure of IPA as precluding any conflict of interest. This report finds that there was likely no actual conflict of interest at the organizational or project management level based on the following factors: (1) IPA's large, de-centralized structure, (2) rigorous quality controls, (3) efforts to keep the local enumerators objective (i.e., the researchers trained and managed the data collectors – not IPA); and (4) the fact that the researchers' activities, office space, and employees were wholly separate from IPA's other activities, including any other chlorine dispenser program. However, it is impossible to ignore the bigger strategic and financial picture for IPA, which may have created bias at the enumerator or household level. Specifically, households may have had previous exposure to IPA and chlorine dispensers; enumerators introduced themselves as IPA employees, which may have created survey bias; and, as local community members, enumerators may have had their own biases against Lifestraw water filters.

Accordingly, IPA's involvement in the WASH Benefits Study meets the WHO definition of "potential conflict of interest" based on these circumstances.

Kevin Starr

For the purpose of this report, Mr. Starr is not a credible source of evidence due to an actual conflict of interest. The Mulago Foundation has funded IPA over several years and has acted as an advocate for IPA and its work.⁷⁶ For this reason, GSF cannot consider the statements of Mr. Starr as evidence in this investigation.

CONCLUSION AND RECOMMENDATION

Atmosfair's grievance was based on three pieces of evidence: Carbon Crooks, comments by Kevin Starr, and the Article. The first two can be easily dismissed. The allegations in Carbon Crooks are old and have been previously debunked by GSF. Kevin Starr's negative comments are not credible for the purpose of this Report due to an actual conflict of interest as a funder of IPA. The Article, however, required careful consideration and analysis. While GSF will take adverse action against a project that has violated its rules, there are too many challenges associated with the comparability of the Article's data and the potential conflict of interest on behalf of IPA to make an unequivocal finding that GS886 misreported its usage rates.

It is important to note that VF recently notified GSF that it will not submit any additional monitoring or verification documents for GS886, which means there will be no further issuances. VF has also exceeded the time allowed between site visits to complete a verification under the Gold Standard Requirements. GS886 is therefore not eligible for any further issuances unless it makes a

convincing case to the TAC to justify its actions. In that case, the TAC would likely hold GS886 to a higher level of scrutiny based on the historical grievances.

Notwithstanding the conclusions in this report, GSF recognizes that there have been several stakeholder concerns about GS886, one of the first clean water projects to use the Suppressed Demand methodology. GS886 and the suppressed demand methodology provided both positive and negative disruptions to the market, challenging the delicate balance between innovation and integrity. GSF notes that there are inherent risks in being a first mover, and GSF has learned important lessons from this grievance as it continues to chase innovation in the carbon markets.

Suppressed Demand was created to unlock carbon finance in the poorest communities on the planet. It is a controversial approach and has thus been subject to much critique. But GSF still believes it is a useful tool to achieve its original objective, though its best and highest use may not be in large scale projects like GS886. While this grievance was under investigation, GSF was developing its new platform, Gold Standard for the Global Goals (“GS4GG”). Under GS4GG, Suppressed Demand applies only in certain project scenarios, such as small scale cookstove or clean water projects. There are also ongoing efforts to provide more robust guidance and formats to conduct surveys for usage rates and GSF continually reviews its guidance for further improvements. GSF hopes that these revisions will enhance Suppressed Demand and its applications.

PROCESS

For a full view of this grievance investigation, please see the [investigation plan](#). During the preparation of this report, the Gold Standard interviewed the following key stakeholders and thanks them for their time:

- The auditor for the verifications of GS886, ERM Certification and Verification Services
- David Pennise, Berkeley Air Monitoring Group
- Jay Graham, Berkeley Air Monitoring Group
- Tara Lundy, Vestegaard Frandsen
- Neil Bellefeuille, Paradigm Project
- Dr. Amy Pickering PhD, lead author of the the Article
- Dr. Clair Null, co-author and principle investigator of the Article
- Matt Evans, co-founder of Impact Carbon

DECISION MAKING

This report and its supporting documents were provided to a panel of the Gold Standard Technical Advisory Committee (TAC), convened to analyze and adopt this assessment and recommended actions. The panel comprised four TAC Members with prior experience in household projects (including specific WASH expertise). The decision was taken by consensus.

The TAC is wholly independent of the Gold Standard Secretariat and is mandated to decide upon technical matters. The Secretariat is mandated to carry out the recommended actions decided upon by TAC and cannot overturn the TAC decision without further TAC approval.

The following TAC members were recused from all discussion and voting due to an actual conflict of interest:

- Meinrad Burer, EcoAct

- Thomas Owino, Climate Care
- Adam Harvey, formerly of Climate Care

The following TAC member was recused from voting due to a potential conflict of interest (as defined by the WHO):

- Matt Spannagle, Del Agua

**EXHIBIT A
GLOSSARY**

The “2013 Grievance” means the grievance filed in 2013 against GS886 on the basis that VF misreported its usage rates. The 2013 Grievance was resolved after an investigation by BAMG and VF’s implementation of BAMG’s recommended mitigation measures.

The “2016 Grievance” means the grievance filed by atmosfair against GS886 on the basis that VF misreported its usage rates. The 2016 Grievance relies on, among other things, the Article.

The “Article” means the research article titled, “Climate and Health Co-Benefits in Low-Income Countries: A Case Study of Carbon Financed Water Filters in Kenya and a Call for Independent Monitoring,” authored by Dr. Amy Pickering, Benjamin F. Arnold, Holly N. Dentz, John M. Colford, Jr., and Clair Null, and published in the September 2016 issue of Environmental Health Perspectives.

“Berkeley Air Monitoring Group” or “BAMG” means the social venture, located in California, whose mission is to provide “rigorous, scientific and field-based testing, monitoring, and evaluation services to household energy implementers and funders in both the public and private sectors.” Please see <http://berkeleyair.com/>.

“The Dispensers for Safe Water Program” or “DSW” means the program launched in Kenya in 2010 by Innovations for Poverty Action which aims to “prevent water borne illness and death by providing communities with the Chlorine Dispenser System (DCS), a point of collection water treatment technology.” For more information please see <http://www.poverty-action.org/impact/chlorine-dispensers-safe-water>.

“Evidence Action” means the US nonprofit founded in 2013 by Innovation for Poverty Action to implement and scale-up proven development interventions, including the DSW program in Kenya. For more information please see www.evidenceaction.org.

“GS886” means the large scale water filter technology distribution project in Kenya, developed by Vestergaard Frandsen, and certified by The Gold Standard Foundation.

“Innovations for Poverty Action” or “IPA” means the research and policy nonprofit that seeks to “discover and promote effective global policy solutions.” For more information please see <http://www.poverty-action.org/about>.

The “Progress Report” means the report submitted to the Bill and Melinda Gates Foundation by Innovations for Poverty Action in 2011 which identified GS886 as a risk to the success of DSW.

The “Technical Advisory Committee” or “TAC” means the independent, third-party governance body that provides technical oversight over decisions made by the Secretariat of The Gold Standard Foundation.

“Vestergaard Frandsen” or “VF” is the global health company that manufactures and distributes the Lifestraw water filter, a point-of-use microbial water treatment system for use in poor communities, as part of the Gold Standard-certified carbon offset project, “Sustainable Deployment of the Lifestraw Family in Rural Kenya.” See also “GS886.”

The “WASH Benefits Study” means the study, funded by the Bill and Melinda Gates Foundation, that seeks to measure the benefits of water quality, sanitation, hand washing, and nutritional interventions to improve child health and development. For more information please see <http://www.washbenefits.net/>.

EXHIBIT B
TIMELINE OF CERTIFICATION FOR GS886

Activity	Date
Project Registration	01 st June 2011
Monitoring Period 1 (Issuance 1,355,185)	01 st June 2011 to 30 th November 2011
Monitoring Period 2 (Issuance 1,701,563 – based on usage rates put forward by BAMG)	01 st December 2011 to 31 st October 2012
Atmosfair (GS NGO Supporter) submitted comments to the Issuance Review	01 st February 2013
GS initial response (post-TAC discussion)	20 th March 2013
Atmosfair further comments received	26 th March 2013
Final GS responses	12 th April 2013
TAC decision to issue limited amount of VERs pending further investigation (based on 55% conservative usage rate)	16 th May 2013
BAMG report	November 2013
TAC approval of BAMG usage rates (ultimately leading to final issuance for this period)	09 th December 2013
Issuance of balance credits	February 2014
Monitoring Period 3 (Issuance 1,419,458 – based on survey information under new guidance)	01 st November 2012 to 31 st January 2014

¹ A copy of the complaint is located here:

https://www.goldstandard.org/sites/default/files/formal_grievance_from_atmosfair_for_project_gs_886_140416.pdf.

² See The Gold Standard Foundation, “Gold Standard Requirements Version 2.1” (June 2009) at page 28, located at https://www.goldstandard.org/sites/default/files/gsv2.1_requirements-11.pdf.

³ See The Gold Standard Foundation, “Technologies and Practices to Displace Decentralized Thermal Energy Consumption Version 2.0,” (April 2015) at page 26, located at https://www.goldstandard.org/sites/default/files/documents/gstpdtec_meth_110411.pdf (hereinafter “Methodology”).

⁴ See The Gold Standard Foundation, “Terms and Conditions” (effective as of June 1, 2012), located at https://www.goldstandard.org/sites/default/files/v2.2_annex-m_0.pdf.

⁵ See Methodology at page 34.

⁶ See Christensen, Garret, et al., “Pilot Cluster Randomized Controlled Trials to Evaluate Adoption of Water, Sanitation, and Hygiene Interventions and Their Combination in Rural Western Kenya,” (2015) at page 437, located at <http://www.ajtmh.org/docserver/fulltext/14761645/92/2/437.pdf?expires=1495834290&id=id&accname=guest&checksum=FDE7BE212B68F8A6906AC46B40F0D8A4> (the “Christensen Paper”).

⁷ See Arnold, Benjamin F., et al., “Cluster-randomised controlled trials of individual and combined water, sanitation, hygiene and nutritional interventions in rural Bangladesh and Kenya: the WASH Benefits study design and rationale,” (2013) at page 4, located at <http://bmjopen.bmj.com/content/3/8/e003476.info> (the “Arnold Paper”).

⁸ See Arnold Paper at 7.

⁹ See Christensen Paper at 437.

¹⁰ See *id.*

¹¹ See Interview with Dr. Amy Pickering, lead author of the Article (June 19, 2017) (hereinafter “Pickering Interview”).

¹² See Pickering Interview.

¹³ See *id.*

¹⁴ See *id.*

¹⁵ See *id.*

¹⁶ See Christensen Paper at 438.

¹⁷ See *id.*; Article at 8.

¹⁸ See Christensen Paper at 439.

¹⁹ See Article at 9.

²⁰ See Arnold Paper at 5-6.

²¹ See Christensen Paper at 442.

²² See Pickering Interview.

²³ See Article at 9.

²⁴ See ERM Certification and Verification Services, “Gold Standard Verification Report,” (June 19, 2014) at pages 13 & 19, located at https://mer.markit.com/br-reg/public/project.jsp?project_id=103000000002043 (verification report for the third monitoring period).

²⁵ See Vestergaard Frandsen, “Project Design Document Form,” at page 6, located at https://mer.markit.com/br-reg/public/project.jsp?project_id=103000000002043 (hereinafter “PDD”).

²⁶ See PDD at page 32.

²⁷ See *id.* at 7.

²⁸ See Vestergaard Frandsen, “GS886 Sustainable Deployment of the Lifestraw Family in Rural Kenya Verification Report – Verification 2 – December 1, 2011 to October 31, 2012,” at page 2 (December 27, 2013), located at https://mer.markit.com/br-reg/public/project.jsp?project_id=103000000002043 (hereinafter “MR2 Report”).

²⁹ See *id.*

³⁰ See Vestergaard Frandsen, “GS886 Sustainable Deployment of the Lifestraw Family in Rural Kenya Verification Report – Verification 1 – June 1, 2011 to November 30, 2011,” at page 1 (February 13, 2012), located at [file:///Users/lisarosen/Downloads/_GS0086_MonitoringReport2.14.12%20\(2\).pdf](file:///Users/lisarosen/Downloads/_GS0086_MonitoringReport2.14.12%20(2).pdf) (hereinafter “MR1 Report”).

³¹ EXP is a third party appointed by VF to carry out an additional independent audit of the usage surveys. This is not part of the Gold Standard certification approach but an added check conducted by the project developer for their own assurance purposes. If EXP’s results were more conservative than that of VF, then the more conservative figure was used to determine creditable emissions reductions.

³² See MR1 Report at 1.

³³ See MR2 Report at 1.

³⁴ See Vestergaard Frandsen, “GS886 Sustainable Deployment of the Lifestraw Family in Rural Kenya Monitoring Report – Verification 3 – November 1, 2012 to January 31, 2014,” at 4 (June 18, 2014), located at https://mer.markit.com/br-reg/public/project.jsp?project_id=103000000002043 (hereinafter VF MR3 Report”).

³⁵ See MR3 Report at 4.

³⁶ See MR3 Report 1 & 14.

³⁷ See *id.*

³⁸ See MR2 Report at 15. The survey methodology complied with Gold Standard’s requirements.

³⁹ Interview with Tara Lundy, Head of Program Development at Vestergaard Frandsen (April 4, 2017).

⁴⁰ See Christensen Paper at 439 (“Turbidity is not a major concern in this part of Kenya, where most people rely on groundwater or rainwater for drinking; thus, filters were not seen to have a significant advantage over chlorine.”) and 446 (“Also, water sources in our study areas are not very turbid...”).

⁴¹ See Christensen Paper at 446.

⁴² The turbidity issue was discussed by the members of the Gold Standard TAC. The consensus opinion strongly confirmed that turbidity does indeed influence the likelihood of adoption and use of water filter technology. Members of the TAC have directly observed that in areas of high turbidity users often demonstrate higher usage rates of water filter technology.

⁴³ See Innovations for Poverty Action, 2012 Annual Report at 14, located at http://www.poverty-action.org/sites/default/files/publications/ipa_2012_annual_report.pdf.

⁴⁴ See Innovations for Poverty Action, 2011 Annual Report at 26, located at <http://www.poverty-action.org/about/annual-reports-finance>.

⁴⁵ See id.

⁴⁶ [FOOTNOTE REDACTED FOR CONFIDENTIALITY.]

⁴⁷ See infra. footnote 52.

⁴⁸ See Interview with Dr. Clair Null, co-author of the Article (August 11, 2017) (hereinafter “Null Interview”).

⁴⁹ See Innovations for Poverty Action, 2011 Annual Report at 26, located at <http://www.poverty-action.org/about/annual-reports-finance>.

⁵⁰ See Null Interview.

⁵¹ See https://ssir.org/articles/entry/thirty_million_dollars_a_little_bit_of_carbon_and_a_lot_of_hot_air. IPA received funding from the Mulago Foundation from 2009-2010 and 2012-2014. See Innovations for Poverty Action, 2009 Annual Report at 26; 2010 Annual Report at 36; 2012 Annual Report at 20; 2014 Annual Report at 22, each located at <http://www.poverty-action.org/about/annual-reports-finance>.

⁵² See Article at 8.

⁵³ See Pickering Interview. See also Christensen Paper at 439 (“Dilute chlorine...was widely promoted and distributed by the manufacturer in Kenya ..., and therefore, it was familiar to the study population and could be considered an intervention that had already been scaled up.”).

⁵⁴ See Null Interview.

⁵⁵ See Null Interview.

⁵⁶ See id.

⁵⁷ See id. at 3.

⁵⁸ See id. at at 5, footnote 8, DC Annex 12, and DC Annex 13.

⁵⁹ See Null Interview.

⁶⁰ See Null Interview.

⁶¹ See Article at 8-9.

⁶² See <http://www.poverty-action.org/blog/usaid-and-dispensers-safe-water-announce-55-million-partnership>.

⁶³ See Innovations for Poverty Action, 2012 Annual Report at 14, located at http://www.poverty-action.org/sites/default/files/publications/ipa_2012_annual_report.pdf.

⁶⁴ See Null Interview.

⁶⁵ See Interview with Matt Evans, former Managing Director of Impact Carbon (July 5, 2017) (hereinafter Evans Interview).

⁶⁶ See id.

⁶⁷ See <https://www.evidenceaction.org/>; Progress Report at Cover Page.

⁶⁸ See LinkedIn, <https://www.linkedin.com/in/alix-zwane-1819292/?ppe=1>

⁶⁹ See Null Interview.

⁷⁰ See Evidence Action, “Form 990” at page 8 (2013), located at http://990s.foundationcenter.org/990_pdf_archive/900/900874591/900874591_201312_990.pdf.

⁷¹ See Evidence Action, “Schedule I, Form 990”, (2014) located at http://990s.foundationcenter.org/990_pdf_archive/900/900874591/900874591_201412_990.pdf

⁷² See Article at 8-9.

⁷³ See Evidence Action, “Form 990,” at page 9 (2015), located at <https://static1.squarespace.com/static/546f9316e4b0ced8102e4c74/t/58910390ff7c50a01619a9be/1485898659304/Evidence+Action+Form+990+Public+Document.pdf>.

⁷⁴ See Evidence Action live monitoring dashboard, located at <http://dispenserdata.evidenceaction.org/#/?k=887tnx>.

⁷⁵ See Declaration of Interests for WHO Experts, located at http://www.who.int/occupational_health/declaration_of_interest.pdf. There is no legal standard or test to judge whether IPA should have disclosed its interest in GS966 to the WASH Benefit Study researchers and funders. Therefore, we are using the WHO standard for hiring external experts, which we believe to be analogous.

⁷⁶ See Starr, Kevin. “More Than Good Intentions: How A New Economics Is Helping To Solve Global Poverty,” located at <http://mulagofoundation.org/ideas/new-school-economics> (“Our Mulago Foundation funds ... Innovations for Poverty Action (IPA). We do whatever we can to get others to fund IPA.”).