Nazava Impact 2021

Key Impact Indicators	Until end of 2021
Households with access to safe drinking water	119,229 households
People with access to safe drinking water (accumulative)	534,145 people
People under 8 USD PPP with access to safe drinking water	463,689 people
Increased disposable income (million US$/ year)	$2.3 million
Water consumption (clients PPP <USD8) million liter per year	305
Accumulative water consumption (clients PPP <8USD) million liters	1805
Accumulative increase in disposable income (in Million US$)	$12 million
Increased disposable time (working year per year)	8 thousand years
Increased disposable time in working years (accumulative)	37 thousand years
Reduced CO_2 in metric Ton CO_2 equivalent	177-thousand-ton CO_2 equivalent

Nazava Impact calculation methods, parameters and underlying studies.

This file contains the main impact numbers, calculations and links to underlying datasets. Our impact calculation is based on 3 studies namely an Impact Study by Santa Clara University , an impact study by HEC Paris and a survey undertaken for the verification of Nazava's carbon credit project. You can find the dataset of the surveys here. Please contact guido@nazava.com if you would like to get additional information.

Nazava Impact Matrix	
Cost saving **US$21.64** per filter per year	Based on survey of 194 non-users and 757 users. 63% user LPG to boil, 23% uses wood, 26% buys water. People that boiled water on LPG before save on average IDR458K or US$32.75 per year compared to non-users. People that buy water save on average US37.71 per year compared to non Nazava users. People who boil using wood infrequently buy fuel wood. We lack data to determine savings related to buying less fuelwood. The average cost saving per filter user is then 63% x US$32.75 + US37.71 x 26% = US$30.39. The average price that people paid for the filter to our resellers is US$26.24. This figure is taken from 212 users that were interviewed for our carbon project. Nazava does not set the retail price and the price depends on transport costs and

	payment terms. The filter lasts for 3 years before the candle needs to be replaced. Within the first 3-year users save 3 x US$30.39- US$26.24 = US$64.93 or US$21.64 per year. After 3 years they will save more because the replacement filter is only US$8 but we will use US$21.64 to be conservative. Source: Survey Data
Time Saving 139 hours per filter per year	The Santa Clara study did a detailed analysis of time spend on obtaining water. They found that filter users save on average 139 hours per year which equals 0.07 FTE per filter saved per year. One full time equivalent is the number of hours in a full time labor contract. (https://www.wikihow.com/Calculate-FTE)

The Santa Clara study surveyed 46 users. |
| **People with improved health** 4.48 per filter per year | This is the number of filters in use times the family size (4.48 persons per family based on all surveys we did).

Nazava Water Filters remove 99.9% of bacteria as tested by WHO. Therefore, Nazava water filter users are less likely to get diarrhea. Users surveyed in the HEC study report 59% les diarrhea than non-users. The HEC study compared how often Nazava users and non-users had experienced diarrhea in the last month, half year, one year and two year. Sources: HEC report. HEC dataset. |
| **Carbon Dioxide reductions** 0.29 tCO2 per filter per year | 0.29 tCO2/year calculated Gold Standard methodology verified by Bureau Veritas. Source: Emission Reduction calculation (MP2, 2021) spreadsheet & Verification Report by Bureau Veritas(2021) |
| **Additional revenue informal resellers** 26USD | In the last 5 years we have had an average of 100 informal resellers. Together they purchased around 6000USD per month (Source sales database, audited financial reports, available on request). They sell the products on with a margin of around 30% which implies that they earn 26USD per month or about 14% of average monthly earnings ((185USD source: (CEIC) Sales Database (accessible on request) |

Parameters	
Filters Continued to be in Use for data before 2018 87%	87% of all filters stay in use from one year to another. This is based on user survey done for carbon project verified by Bureau Veritas. The survey found usage rates fluctuates greatly between the years. We used Excel to find the best fitting use rate and found 87%. The table below shows the results from the carbon-credit survey and show the percentage of filters still in for each year they were sold. Source: survey data & emission reduction calculation 2018 (MP1) **Table:** 	Filters sold in	Still in use by end of 2018
2018	96.39%
2017	97.56%
2016	78.15%
2015	71.67%
2014	47.62%
2013	4.90%	
Filters Continued to be in Use for data after 2018 93%	93% of all filters stay in use from one year to another. This is based on user survey done for carbon project verified by Bureau Veritas in 2021 The survey found usage rates fluctuates greatly between the years. We used Excel to find the best fitting use rate and found 93%. The table below shows the results from the carbon-credit survey and show the percentage of filters still in for each year they were sold. Source: survey data & emission reduction calculation MP2 (2021) Data from 2021. **Table:** | Age from				Usage rates
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8	to	9	years	0.00%
7	to	8	years	9.02%
6	to	7	years	36.17%
5	to	6	years	63.33%
4	to	5	years	68.24%
3	to	4	years	57.29%
2	to	3	years	84.57%
1	to	2	years	99.13%
0	to	1	years	93.55%	

Family size 4.48	4.48 based on HEC, Santa Clara and 2 Carbon project surveys (757 users) Sources: survey data

FAMILY SIZE		
HOUSEHOLD SIZE	**average**	**n**
Household size from Carbon Credit Survey 2020	4.65	730
Household size carbon survey 2018	**4.21**	212
HEC User Survey	**4.35**	499
Santa Clara 2018	**4.46**	46
Weighted Average	**4.48**	

Poverty Probability Index score 46.82	Averages 46.82 implying that Nazava users have a 1.4% probability of living below the poverty standard (of Indonesia) a 2.6% probability having a PPP below 1.25USD and 54.70% change of having PPP below USD2.5. This data is based on HEC study and Carbon Credit Survey with a total of 711 respondents. Non-users (194 respondents) have an average PII score of 44 which is not significantly different. Source: survey data , survey data PII for Indonesia
63% user LPG to boil water before buying a Nazava	Based on survey of 194 non-users and 757 users from HEC, Santa Clara and Carbon Survey. survey data
17% boil water on wood, before buying a Nazava	
26% buys water before buying a Nazava	
Bottled Water Consumption of non-users 0.97 liter per day	Based on non-users that buy bottled water from HEC and SC study. Source: survey data
Water Consumption	1.8 liter Danone Communities standard