

This is a  
TerraClear  
water filter

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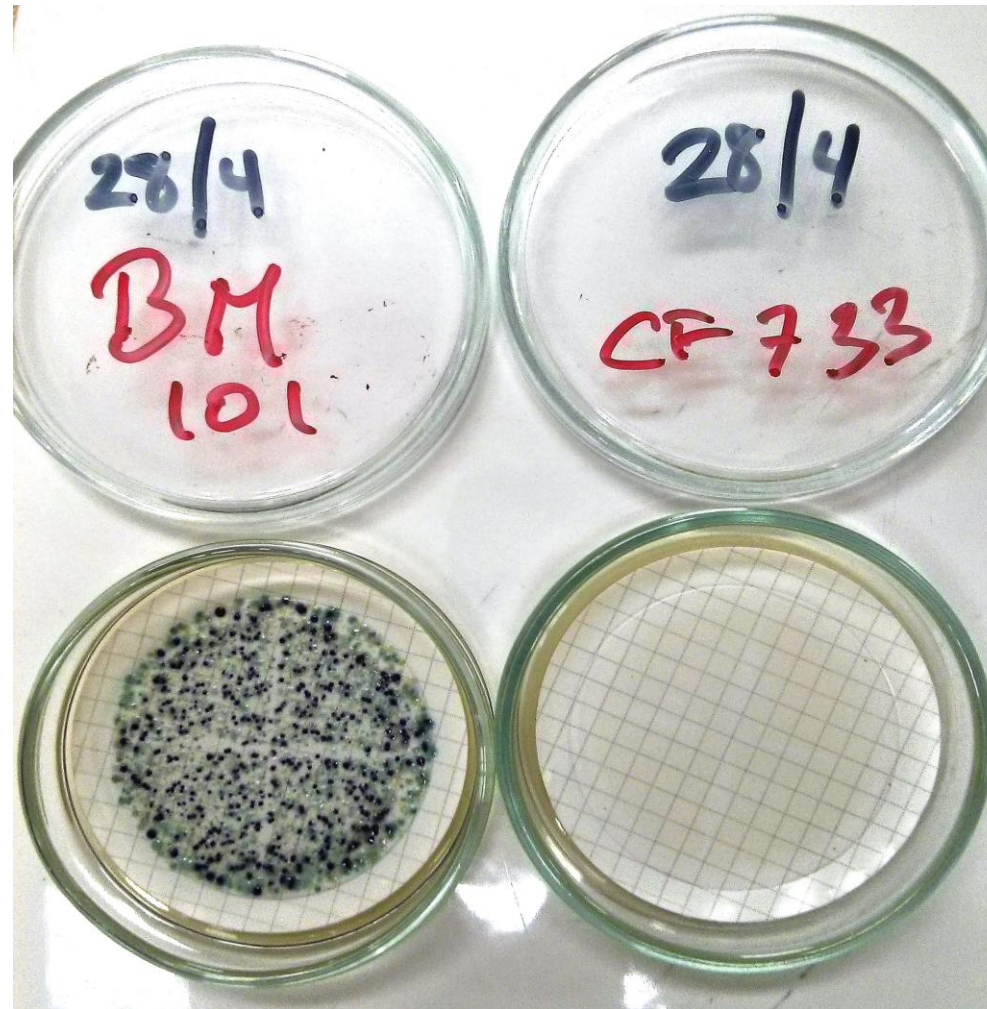
We mix clay

A close-up photograph showing a person's hand holding a mound of fine, brown, powdery rice husk. The hand is positioned above a large, shallow tray filled with the same material. In the background, a red and white patterned bag is partially visible. The text "And rice husk" is overlaid in white on the hand.

And rice husk

A person wearing a light blue striped shirt and blue jeans is holding a large, orange, circular water filter component. The component is a thick, hollow ring with a smooth interior. In the background, there are stacks of similar components and a grey mesh filter. The scene is set in a factory or production area.

To make water filters  
(over 195,000 to date)



Filters remove greater than 99% of bacteria from water



A coating of silver nano-particles keeps bacteria from growing on the filter

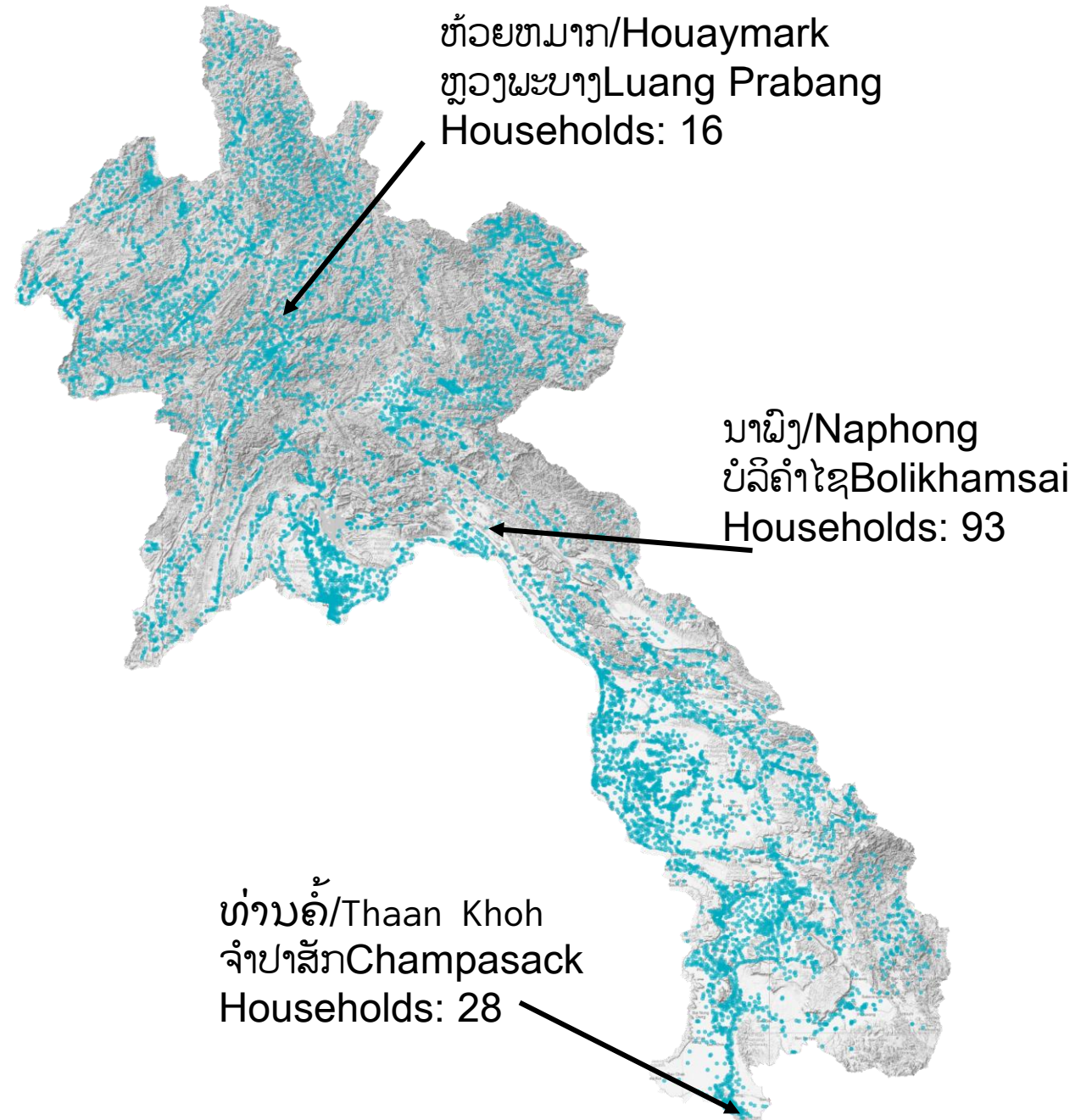
Villages  
3,867

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Households  
167,770

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People  
922,735



Last mile delivery, service, and financing  
to **ALL** the places that need drinking water



# TerraCare: 15,000 households



TerraKids: 1,503 classrooms & 36,776 students



79 Employees



# TerraClear Filters:

Clean and safe drinking water

Save time and money

**Good for the environment**



Developer -



Consultant -



Standard -



# TerraClear Safe Drinking Water in Laos

- Small Scale Project
- Estimated 60,000 Credits per year
- Status: In preparation
- Proposed Dates:

PERIOD	START DATE	END DATE
Period 1	01/09/2025	31/08/2030
Period 2	01/09/2030	31/08/2035
Period 3	01/09/2035	31/08/2040

# ASSESSMENT ON PROJECT IMPACT AND CONTRIBUTION TO SUSTAINABLE DEVELOPMENT



## Contribution to SDG 13 (Climate Action)

### **Cutting emissions at the household level**

When projects replace boiling with filtration, families burn less wood, charcoal, or gas. Scaled across thousands of households, this significantly lowers CO<sub>2</sub> emissions and slows deforestation—both key climate drivers.

Annually, the project help to reduce 60,000 tCO<sub>2</sub>/year.

### **Reduced plastic and lifecycle emissions**

Distributing durable filters (lasting 7+ years) cuts dependence on bottled water. That means less plastic production, packaging, and transport emissions over time.

### **Climate resilience (adaptation)**

Projects strengthen communities' ability to cope with climate impacts like floods or droughts. When water sources become contaminated after extreme weather, having a filter ensures continued access to safe drinking water.



# Contribution to SDG 1 (No Poverty)

- Lower household expenses and Reduce time on fuel collection and water boiling: Reduces time and expenses spending on fuel (for boiling water) and bottled water, leaving more income for essentials like food, education, and healthcare.
- Income and job creation: Local manufacturing, sales, and distribution create jobs and small business opportunities, especially in low-income communities.
- Improved health = fewer financial shocks: Access to safe water lowers waterborne diseases, reducing medical costs and loss of income due to illness.
- Increased productivity: Healthier individuals can work more consistently, and children miss fewer school days, supporting long-term economic mobility.



## SDG 3 (Good Health and Well-being)

- Reduces waterborne diseases: Filters remove pathogens like bacteria and protozoa, lowering cases of diarrhea, cholera, and other infections.
- Reduce indoor air pollution by displacing water boiling using firewood or charcoal.
- Improves child and maternal health: Safer drinking water decreases illness among vulnerable groups, contributing to lower child mortality and healthier pregnancies.
- Promotes preventive healthcare: Provides a simple, daily method to avoid disease rather than relying on treatment after infection.
- Strengthens community health resilience: Ensures safe water access during emergencies (e.g., floods), helping prevent outbreaks and protect public health systems.



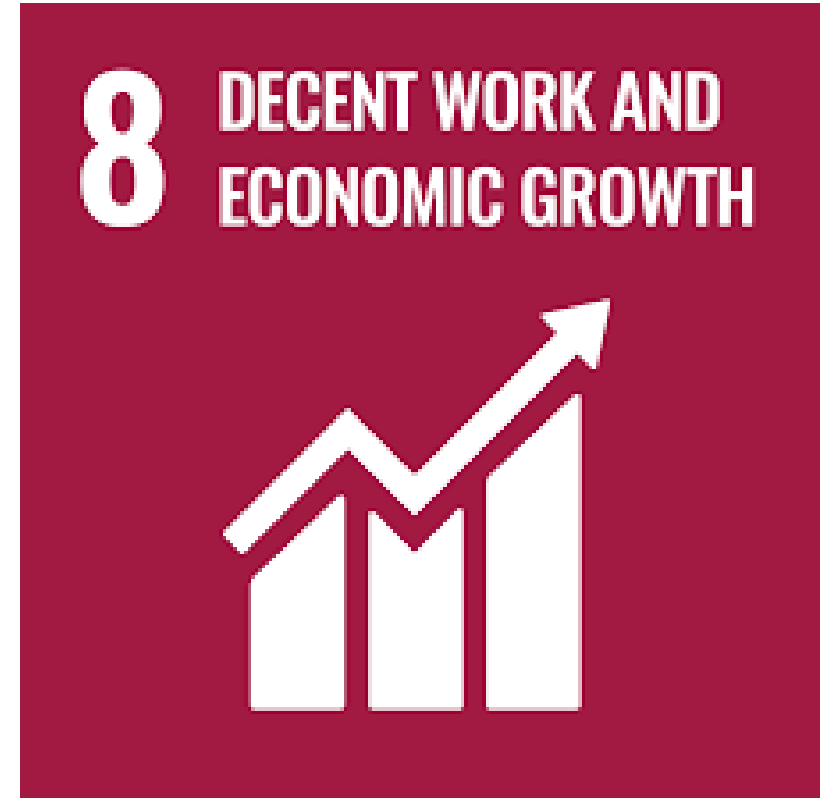
## Contribution to SDG 6 (Clean Water and Sanitation)

- Expands access to safe drinking water: Provides an affordable, point-of-use solution for households lacking treated piped water.
- Improves water quality at the source of use: Removes pathogens and turbidity, ensuring safer water even when the source is contaminated.
- Promotes equitable access: Targets low-income and rural communities, helping reduce inequalities in water access.
- Encourages safe water practices: Support the communities with hygiene campaigns for raising awareness, hygiene education, supporting better water handling and storage.

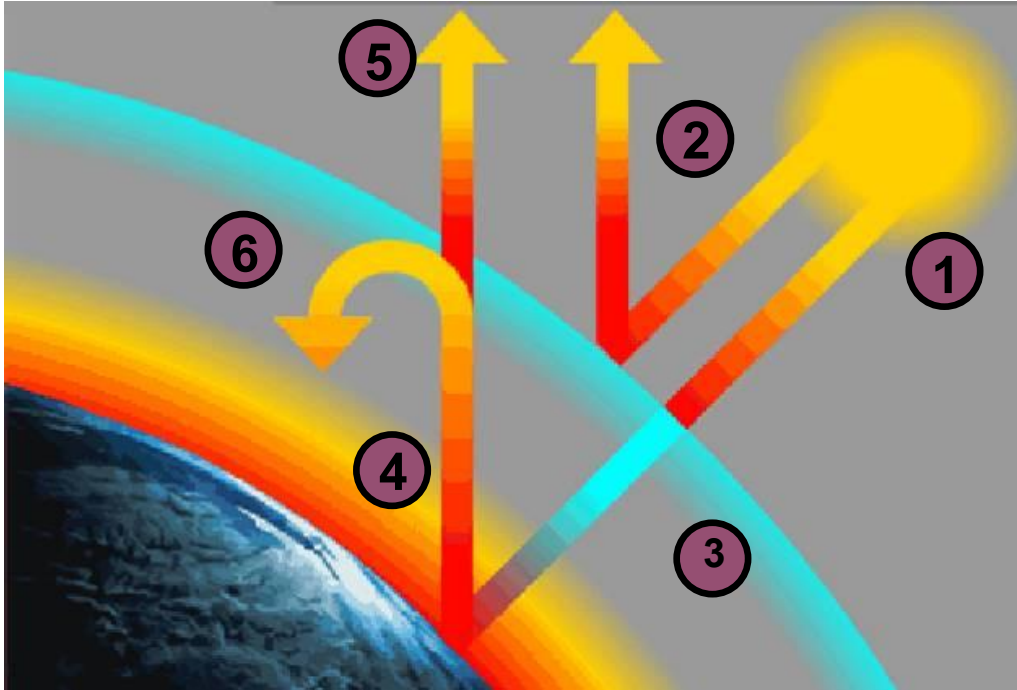


## SDG 8 (Decent Work and Economic Growth)

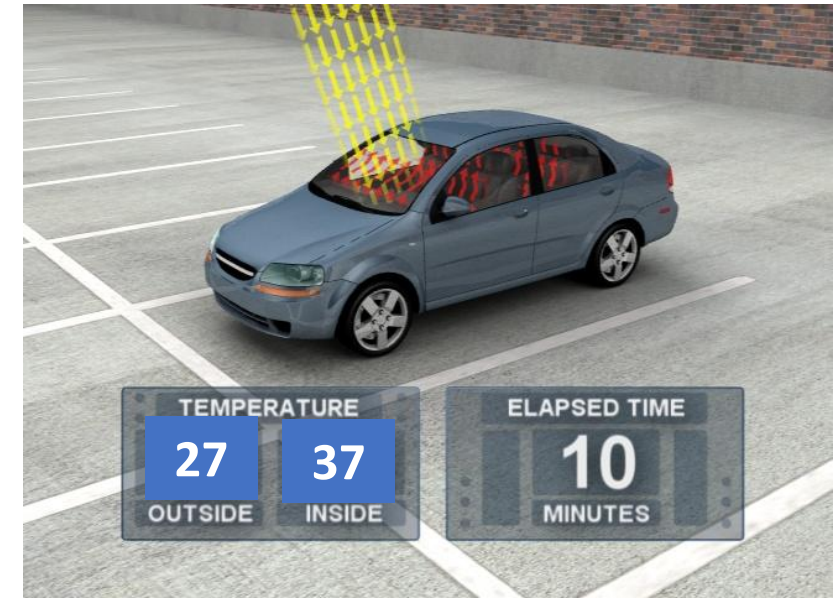
- Creates decent local jobs: Establishes employment in manufacturing, quality control, sales, and distribution—often in underserved areas.
- Builds skills and workforce capacity: Provides training in production techniques, business operations, and supply chain management, improving long-term employability.
- Provide safety work environment for workers
- Encourages inclusive and sustainable growth: Uses locally sourced materials and low-energy processes, helping develop resilient, community-based economies without heavy environmental impact.



# Greenhouse effect



- 1) Solar radiation
- 2) Reflection back into space
- 3) Absorbed by the atmosphere
- 4) Infrared radiation from the earth
- 5) Part of the radiation from the earth to space
- 6) Part of the radiation from the earth is absorbed and re-emitted by Greenhouse gas molecules.

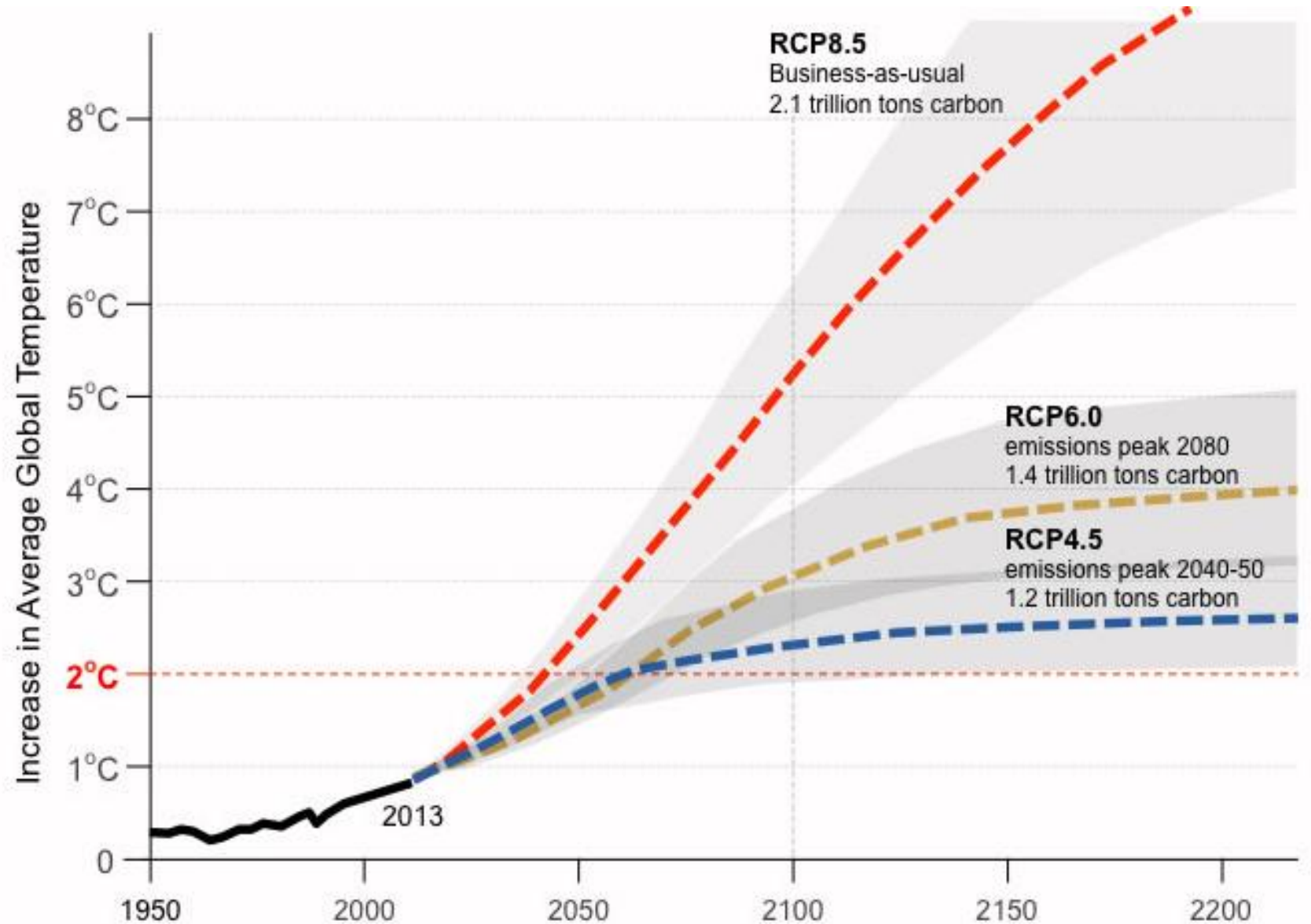


→ The effect which causes the increase of the earth's temperature

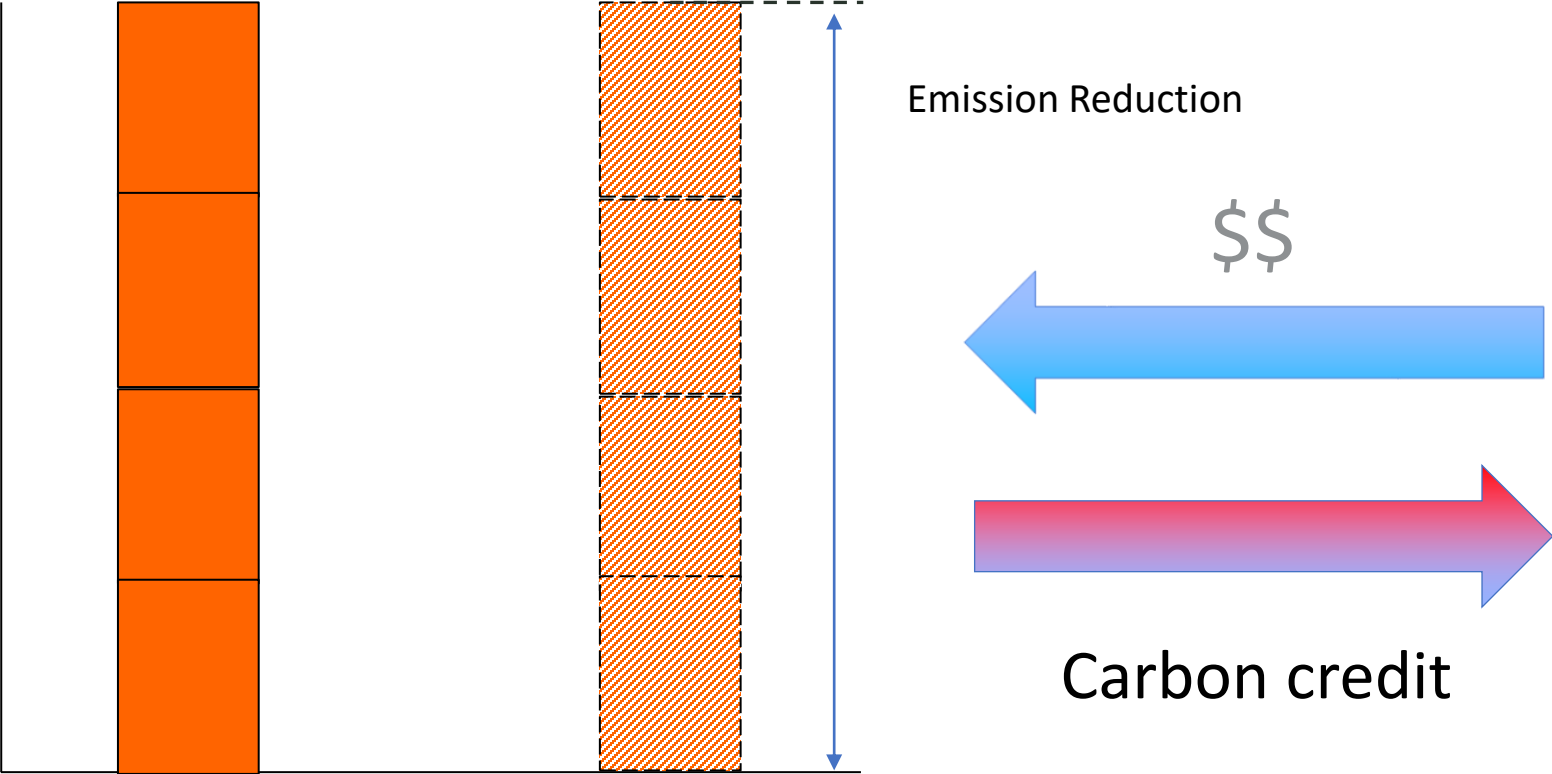
# Global warming scenarios

The earth's surface temperature could rise by 4°C by the end of the 21<sup>st</sup> century if there are no actions by nations, organisations and individuals.

Source: IPCC



# Carbon offset based on emission reduction projects



# Applied carbon methodology



## METHODOLOGY

### METHODOLOGY FOR EMISSION REDUCTIONS FROM SAFE DRINKING WATER SUPPLY

#### SDG 13

**Publication Date:** 03/05/2021

**Version:** 1.0

**Next Planned Update:** 03/05/2024

#### Contact details

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Geneva, Switzerland  
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## SUMMARY

Applicable to projects and programmes that seek to introduce zero or low GHG water purification systems to provide safe drinking water, this methodology quantifies GHG emissions reductions displaced through decentralised thermal energy technologies.

Used in conjunction with the GHG Emissions Reduction & Sequestration Product Requirements, projects and programmes applying this methodology may be issued with GSVERs.

**Baseline scenario:**  
Using firewood/charcoal  
for boiling water.



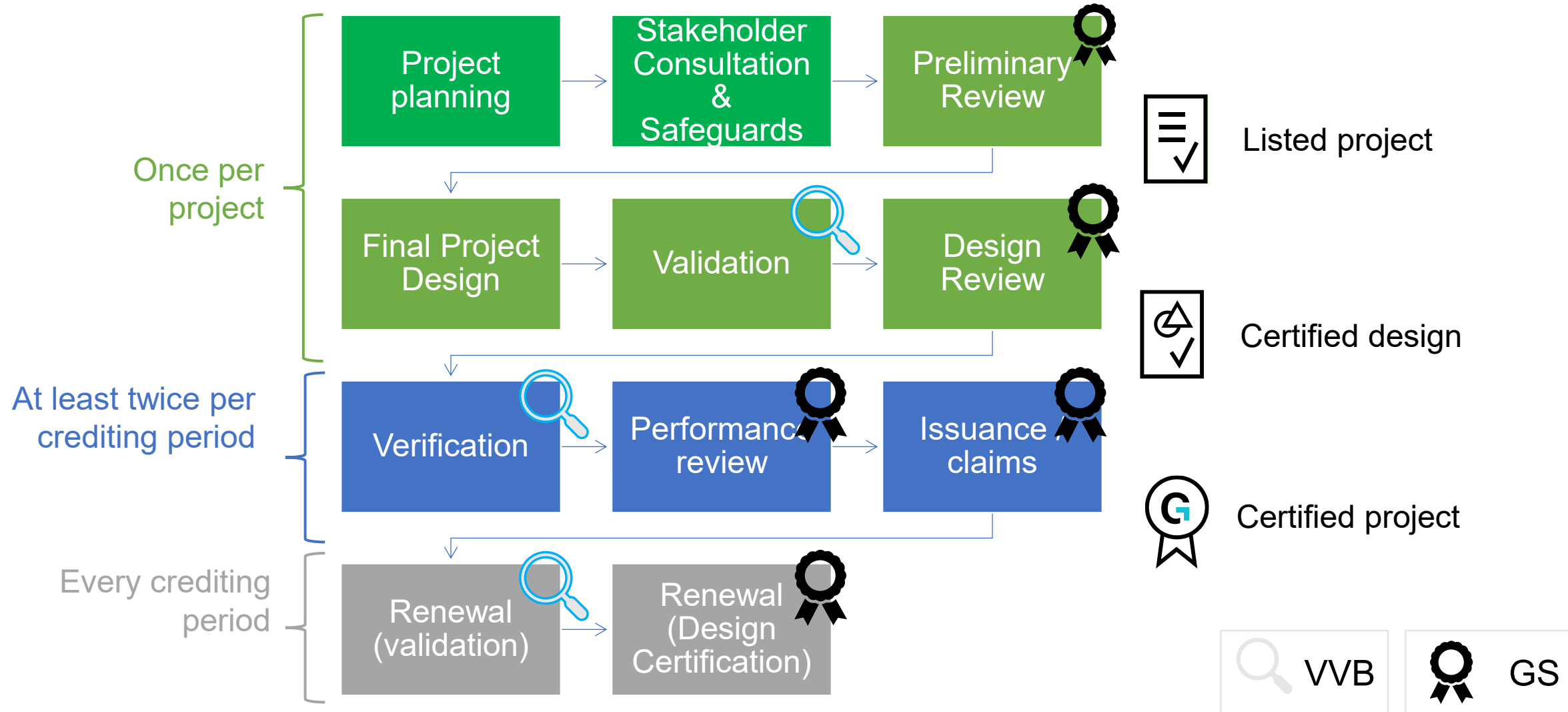
GHG emission  
reduction by reducing  
the fuel consumption.

**Project scenario:**  
Using water filter for  
water treatment

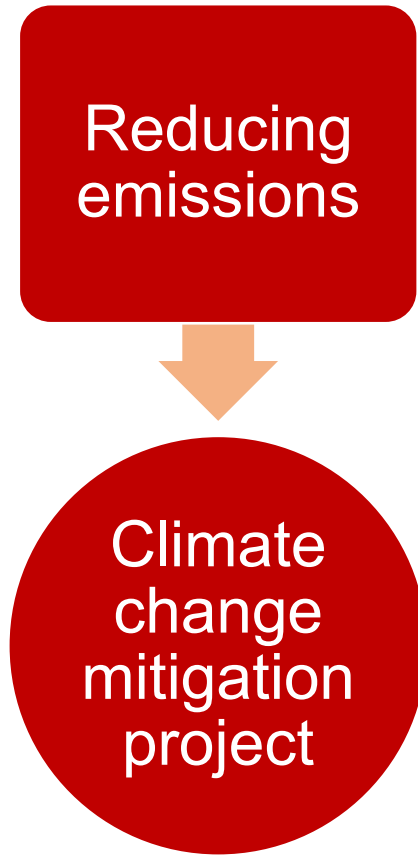


Each filter could reduce  
about 1.2  
tCO<sub>2</sub>e/household/year,

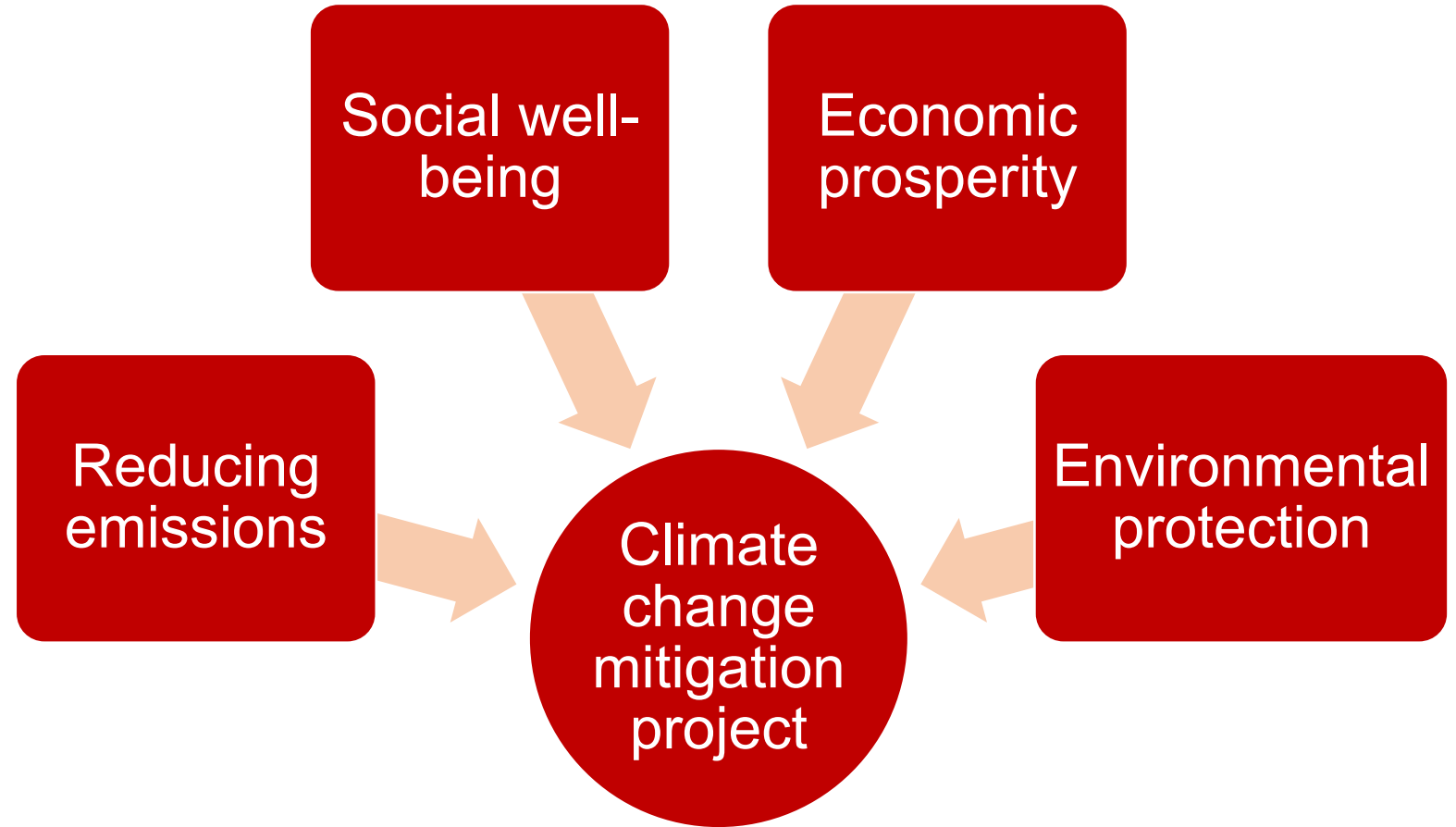
# The Gold Standard certification process



# A not so ideal and an ideal scenario



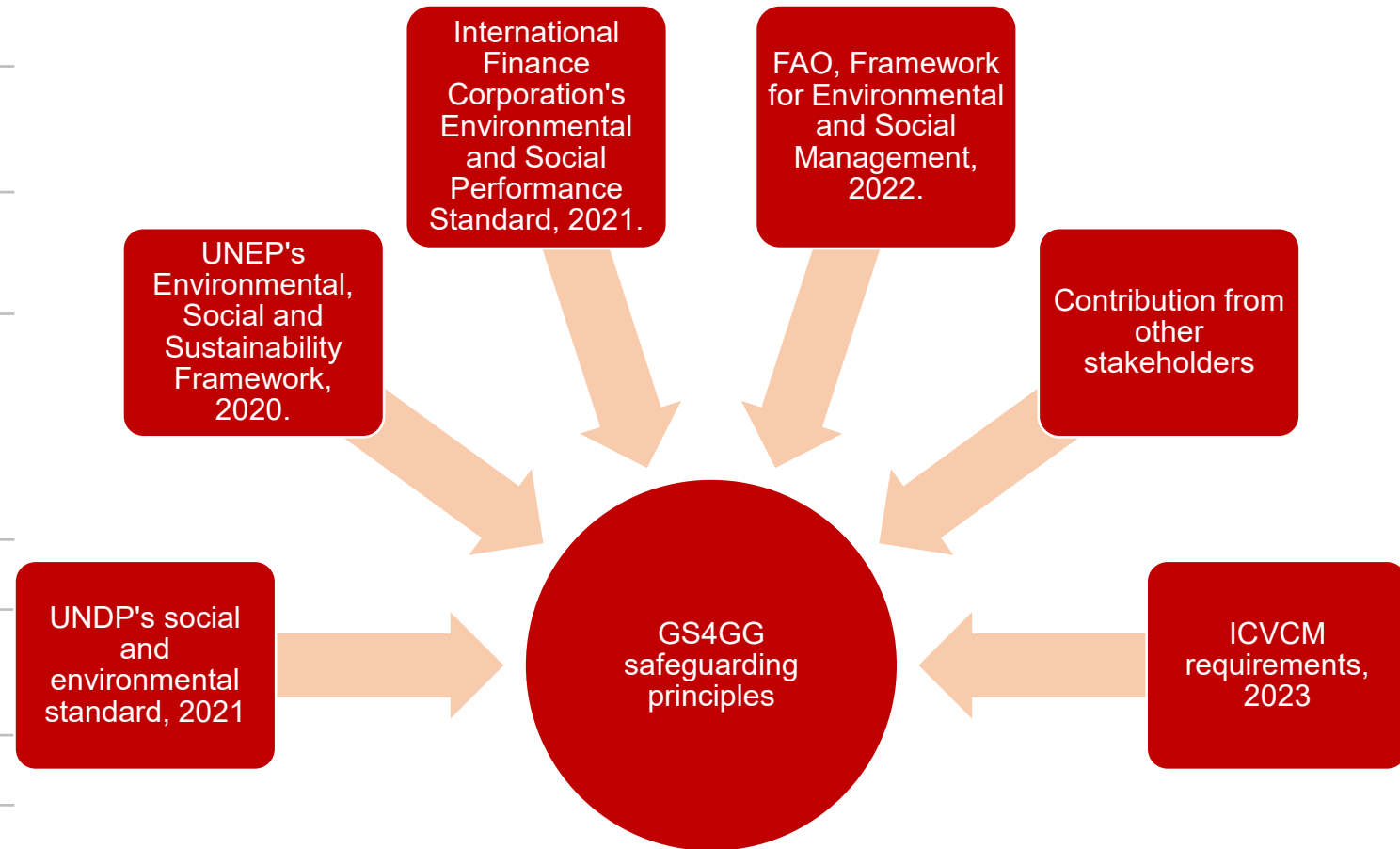
Not-so-ideal scenario



Ideal scenario

# GS4GG safeguarding principles (Gold Standard)

Social	Principle 1	Human rights
	Principle 2	Gender equality and women's empowerment
	Principle 3	Community health and safety
	Principle 4	Cultural heritage, indigenous peoples, displacement and resettlement
	Principle 5	Corruption
Economic	Principle 6	Economic impacts
Environmental and ecological	Principle 7	Climate and energy
	Principle 8	Water
	Principle 9	Environment, ecology and land use



- They apply to **all** project types of **all** scales.
- Safeguarding principles are an integral part of every GS4GG projects
- Its considerations are important at every step of certification cycle

# Self assessment of project compliance to GS safeguarding principles (1)

The project ensure compliance with 9 safeguarding principles to uphold human rights, environmental sustainability, and social equity.

#	Principle	Assessment
1	<b>Human Rights</b> <b>Requirements:</b> No violation of human rights (Universal Declaration); ensure stakeholders can claim rights; no adverse impacts on marginalized groups.	<b>Fully compliant.</b> <ul style="list-style-type: none"><li>• No human rights violations or abuses.</li><li>• Aligns with international standards (e.g., Universal Declaration of Human Rights, ICESCR).</li><li>• Local communities consulted via participatory planning</li></ul>
2	<b>Gender Equality &amp; Women's Empowerment</b> <b>Requirements:</b> No discrimination; equal participation opportunities; assess gender risks with national strategies	<b>Fully compliant.</b> <ul style="list-style-type: none"><li>• No discrimination; equal pay and opportunities for women.</li><li>• Aligns with Law by Laos Government.</li></ul>

# Self assessment of project compliance to GS safeguarding principles (2)

#	Principle	Assessment
3	<p><b>Community Health &amp; Safety</b></p> <p><b>Requirements:</b> No risks to community/worker health; manage pollution, hazards, and disease risks.</p>	<p><b>Fully compliant.</b></p> <ul style="list-style-type: none"><li>• No risks to health/safety during project lifecycle.</li><li>• Safety working environment to worker</li><li>• Waste discharge are managed in the factory</li></ul>
4	<p><b>Cultural Heritage &amp; Indigenous Rights</b></p> <p><b>Requirements:</b> No damage to cultural sites; no forced displacement; respect indigenous rights with FPIC.</p>	<p><b>Fully compliant.</b></p> <ul style="list-style-type: none"><li>• No cultural heritage sites or indigenous communities affected.</li><li>• No displacement or land tenure conflicts.</li></ul>

# Self assessment of project compliance to GS safeguarding principles (3)

#	Principle	Assessment
5	<p><b>Corruption</b></p> <p><b>Requirements:</b> No involvement in corruption, bribery, or unethical behavior.</p>	<p><b>Fully compliant.</b></p> <ul style="list-style-type: none"><li>•No corruption risks identified.</li><li>•Adheres to anti-corruption laws.</li></ul>
6	<p><b>Economic Impacts</b></p> <p><b>Requirements:</b> No forced/child labor; fair working conditions; no negative economic impacts on vulnerable groups.</p>	<p><b>Fully compliant.</b></p> <ul style="list-style-type: none"><li>• No forced labor; fair working conditions.</li><li>• Stable incomes for locals; no negative economic consequences.</li></ul>

# Self assessment of project compliance to GS safeguarding principles (4)

#	Principle	Assessment
7	<p><b>Climate &amp; Energy</b></p> <p><b>Requirements:</b> No increase in GHG emissions over baseline; no disruption to energy supply.</p>	<p><b>Fully compliant.</b></p> <ul style="list-style-type: none"><li>• No GHG emissions increase; project reduce GHG emission by displacing the fuel for water boiling.</li><li>• No energy supply disruptions.</li></ul>
8	<p><b>Water</b></p> <p><b>Requirements:</b> No disruption to natural water flows; no contamination; maintain environmental flows.</p>	<p><b>Fully compliant.</b></p> <ul style="list-style-type: none"><li>• No adverse impacts on watercourses or groundwater..</li></ul>

# Self assessment of project compliance to GS safeguarding principles (5)

#	Principle	Assessment
9	<p><b>Environment &amp; Land Use</b></p> <p><b>Requirements:</b> No soil degradation; sustainable resource management; protect biodiversity/HCV areas; no pollutants or invasive species.</p>	<p><b>Fully compliant.</b></p> <ul style="list-style-type: none"><li>• No soil degradation or GMOs used.</li><li>• No pollutants or invasive species</li></ul>

# Monitoring indicators (1)

Parameter	Frequency	Sampling method and survey method
Water quality test	Annual	Sample based testing, minimum sample size 30, third party laboratory
SDG1: <ul style="list-style-type: none"> <li>● % of households noted money saved after using the project technology</li> <li>● % of households noted time saved after using the project technology</li> </ul>	Annual	Project surveys with minimum samples size will be 100 samples following methodology requirement
SDG3: number of people who notice less smoke in kitchen after having water filter		
SDG8 The number of jobs with salaries paid are at par with wage laws in the host country created by the project with safe and healthy work environment	Annual	Checking company staff records

# Monitoring indicators (2)

Parameter	Frequency	Sampling method and survey method
Water hygiene education campaigns	Annual	Minimum samples size will be 100 samples following methodology requirement
Proportion of project end-users that boil safe (treated, or from safe supply) water after installation of project technology	Annual	Sample survey, in-person Minimum samples size will be 100 samples following methodology requirement
Volume of drinking water per person per day	Default or Once in two years if WCFT is conducted	Default value

# Monitoring indicators (3)

Parameter	Frequency	Sampling method and survey method
Number of individuals per households/ premises	Annual	<p>Depending on each verification, the project survey or Official data will be conducted/used:</p> <ul style="list-style-type: none"> <li>• Project surveys with minimum samples size will be 100 samples following methodology requirement Official government publications or statistic, Credible published literature for project region, or, Studies by academia, NGOs or multilateral institutions, source must be within 3 years old.</li> </ul>
Number of households with at least one HWT units	Annual update	Checking project database
Average number of individual project technologies in each project premises	Annual	Checking project database

# Monitoring indicators (4)

Parameter	Frequency	Sampling method and survey method
Usage rate of the project technology by premises	Annual	Minimum 30 per technology age group.
Usage time of the project technology by premises	Annual	Project survey. Minimum samples size will be 100 samples following methodology requirement.
Average days the project technology is present for end users in the premises	Annual	Estimated based on sales or distribution record.
Leakage	Once in two years	Apply default value of 5% for simplification.

# How to provide comments/grievance

- Through the grievance book: Any complaints, grievances, concerns or suggestions can be recorded directly in the grievance book located at the company office: **TerraClear Production, Km 10, Road 13 South Pakse Lomsakneua Village, Bachiang District, Champasak Province, Lao PDR**
- By email/website/telephone:
  - Email: [info@terraclear.org](mailto:info@terraclear.org)
  - Website: <https://www.terraclear.org/contact/>
  - Phone: +856 (0)20 5637 4888
- Send to the GS when the project document is published on the GS or project developer website
  - Gold Standard Website: [www.goldstandard.org](http://www.goldstandard.org)
  - Email : [info@goldstandard.org](mailto:info@goldstandard.org)