

FireDragon The SAFE project

Sustainable and Affordable Fuel for Energy

*Clean and green.
A powerful, eco friendly fuel
made from waste, which could
benefit 4 million people*



FIREDRAGON



The **Sustainable and Affordable Fuel for Energy (SAFE)** Project will:

- ✓ Distribute FireDragon, which is an eco, and safe solid cooking fuel, as a clean alternative for the 4 billion people who still use wood and charcoal as their primary fuel. **Work package 1 (WP1).**
- ✓ Finalise the enduring business model as a blueprint to produce and distribute FireDragon at scale in other African and S.E. Asian countries. **WP1.**
- ✓ Establish in country FireDragon production, to make it more affordable for low-income families. **WP2.**
- ✓ Produce in line liquified ethanol production plant using local waste vegetation, so helping farmers income. **WP 3.**
- ✓ Up-scale production and again reducing cost to use excessive Sargassum seaweed as our primary raw ingredient for our production plants. **WP4.**

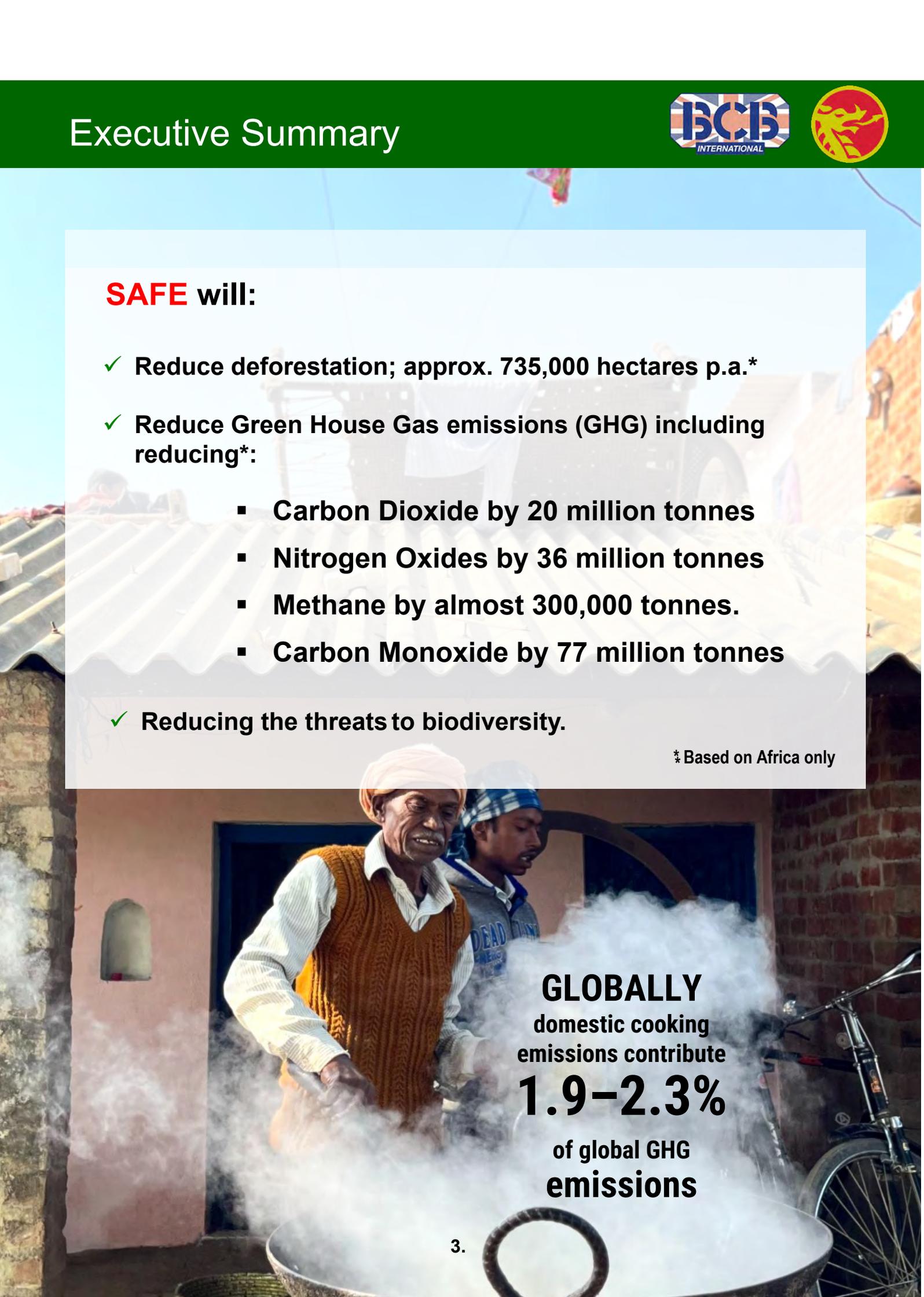
By-products of burning wood:



SAFE will:

- ✓ Reduce deforestation; approx. 735,000 hectares p.a.*
- ✓ Reduce Green House Gas emissions (GHG) including reducing*:
 - Carbon Dioxide by 20 million tonnes
 - Nitrogen Oxides by 36 million tonnes
 - Methane by almost 300,000 tonnes.
 - Carbon Monoxide by 77 million tonnes
- ✓ Reducing the threats to biodiversity.

‡ Based on Africa only



GLOBALLY
domestic cooking
emissions contribute
1.9–2.3%
of global GHG
emissions

Executive Summary



The **SAFE** Project will also:

- ✓ Create **sustainable economic benefit** and **export potential** for the country.
- ✓ **Improve gender equality.**
- ✓ Improve the **hand hygiene** of the users.
- ✓ Improve the **respiratory health** of users.
(Almost 5 million people die annually, from indoor air pollution)
- ✓ Speed up the cooking process; FireDragon has twice the energy density of hardwood. (see table below)
- ✓ Displace the polluting and illegal charcoal kilns.



3 stone fire



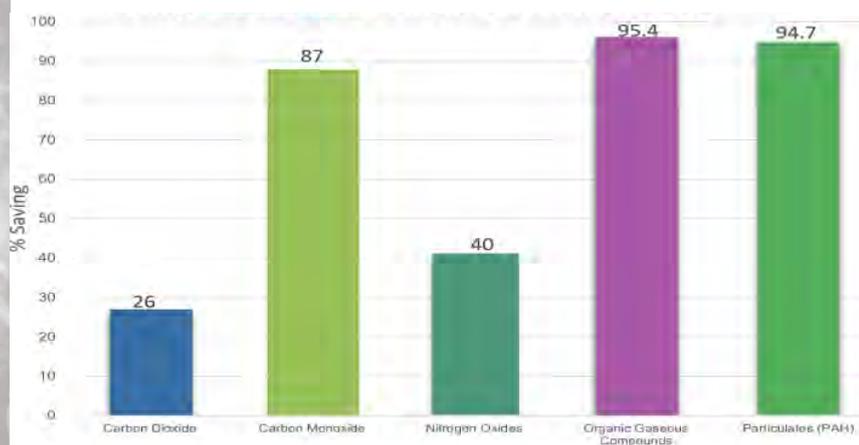
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Charcoal stove



Greenhouse Gas Emissions % of Savings of using FireDragon compared to Hardwood.



FireDragon can be used in most solid fuel stoves currently being used.

Therefore, FireDragon fuel is very low cost to introduce because new cookers are a large expense for low-income families.

Practical and safer for the user compared to liquid, gas or gel fuels.

ACTION IS NEEDED



NOT AT ALL

2/3 Living in
POVERTY

97%
RELY ON
charcoal/firewood
for all cooking

13,000 DEATHS
related to air pollution

REDUCTIONS

**If FireDragon
fuel is adopted
in AFRICA**

estimated

CO₂
20 million
tonnes

**Carbon
Monoxide**
77 million
tonnes

36,000 tonnes

METHANE

Scope and Goals



Malawi's Integrated Energy Plan has incorporated ethanol into their strategy to support **Sustainable Development Goal 7** and mitigate the environmental challenges associated with biomass reliance.

Solidified ethanol fills an important void in the Malawian market for an affordable off-grid cooking solution. *This project aims to accelerate access to a clean burning, sustainably produced and high-performing alternative to firewood and charcoal.*

Uptake of our solidified ethanol fuel for cooking will improve the health of charcoal/firewood users and reduce the negative social and environmental impacts of cooking-related deforestation in Malawi.

Compared to charcoal and firewood, ethanol is a very clean burning fuel, vastly reducing harmful emissions of FPM (fine particulate matter) and carbon monoxide.



Other solid fuel products for cooking found in European markets contain poisonous compounds like hexamine - unsuitable for the Malawian market, where cooking is usually done inside poorly ventilated houses, exacerbating these harmful effects.

Our successful feasibility study in Malawi in 2021 established user demand for our solidified ethanol product, FireDragon, and confirmed its' high performance in the field with the, widely used charcoal Jiko stove, in Africa. Although FireDragon was compatible with most biomass stoves (removing any upfront costs as a barrier for uptake), the study identified that, as an **imported** product, it was expensive compared with illegal charcoal.



In response, and working with the community, this project seeks to co-create a revised product and business model for its local distribution.

Local production will be achieved by constructing and testing a pilot plant which will lower the fuel's cost and create new economic opportunities in the bio-ethanol production and distribution sectors.

FireDragon TECHNOLOGY



After 10 years of research, BCB, along with Cardiff University, perfected and patented a method of solidifying ethanol. BCB now manufactures and distributes it Internationally for **CAMPING, SECURITY** and as a **DOMESTIC FUEL**

FireDragon is:

- ✓ Affordable
- ✓ High Performing
- ✓ Clean Burning
- ✓ Weatherproof; it can be lit when wet.
- ✓ Is a hand sanitizer (before burnt)
- ✓ Sustainably produced out of waste vegetation.
- ✓ Easy and practical to use.



TARGET USERS AND MAIN BENEFICIARIES



- Those in Africa that primarily cook with firewood or charcoal.
- **Women:** Women remain the primary cooks in Africa and are therefore the demographic who are most affected by toxic charcoal and firewood consumption.
- **Women + Children:** Both are primarily tasked with collecting firewood and charcoal. This proves dangerous due to the illegality of the industry and the increasingly scarce resources.

**1.5 hours
per day**

Less time spent cooking

100%

user

satisfaction:

2021 Malawi study

Challenge 1

CLIMATE AND ENVIRONMENT



In rural Kenya, firewood is used for cooking and heating by 9 out of every 10 households.

Firewood remains the main source of energy even when multiple fuels are used (“fuel stacking”). Collecting firewood from forests limits women’s earning potential and has a negative impact on their well-being.

Science Direct 2021.

High gas prices meant that domestic wood burning increased between 2015 and 2020 by 90% in Tanzania.

As a result of this, the country

lost almost 470,000 hectares

(1.16 million acres) of forest a year.

Source; UN Food and Agriculture Organization.

“The forest is being cut down at an alarming rate to meet the growing demand for charcoal in the nearby city of Dares Salaam.”

Science Direct 2021.



Cleared forest on the edge of Ruhoi reserve in eastern Tanzania.

Illegal loggers depend on the trade to live, hampering conservation efforts.

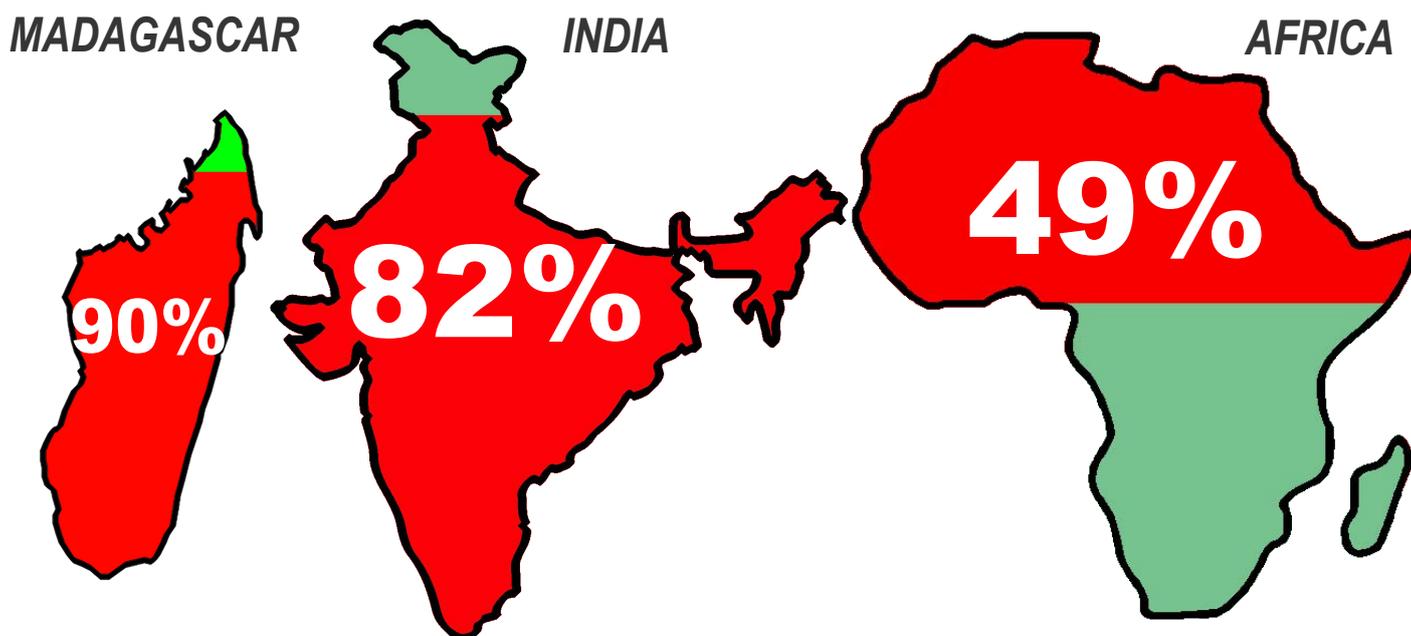
Photograph: Imani Nsamila/The Guardian

Challenge 1

CLIMATE AND ENVIRONMENT



IMPACT OF CHARCOAL & WOOD BURNING ON DEFORESTATION



Households currently use charcoal or firewood to cook, which is leading to rapid deforestation across the country.

In Madagascar, more than **90% of the energy for cooking comes from local wood.**

The same problem is mirrored in India, the country uses the greatest amount of fuel wood of any country in the world and almost **82% of households depend on wood** for cooking.

Climate Impact Partner, 2023.

"The situation mirrors what is happening across much of Africa, where wood collection and charcoal production account for nearly **half of the continent's forest degradation.**"

Caroline Kimeu; The Guardian.

Charcoal production is mainly from illegal producers. Charcoal costs have been rising rapidly, due primarily to increased demand and reduction of wood availability due to deforestation.

BCB's Feasibility Study (2021) found that charcoal prices have tripled in 5 years.

Challenge 2

GREEN ENERGY: access for billions



The SAFE project initially aims to introduce FireDragon to vulnerable, low-income households in Africa and South East Asia.



Overwhelming reliance of charcoal and firewood to meet energy needs:

An estimated 1 billion people in Africa cook with firewood or charcoal. The WHO estimated that IAP caused by cooking indoors causes 3.2 million deaths a year.



High deforestation rates: In Malawi for example, The Ministry of Natural Resources Energy and Mining estimate that demand for charcoal and firewood will outgrow supply by 2030.



Natural Disasters: In 2023 Malawi experienced Cyclone Freddy, this affected more than half a million people and an Earthquake in Morocco displaced an estimated 500,000 people. The affected are forced to cook with wood and charcoal which prove inefficient when wet.



Time and Energy burden of charcoal: Collecting wood and charcoal is often carried out by women and children. Scarcer resources make this process dangerous.



Economic cost of charcoal reliance: A high proportion of the charcoal trade is unlicensed, this is resulting in tax losses for the government.

Challenge 3

“NEW” SARGASSUM SEAWEED (WP4)

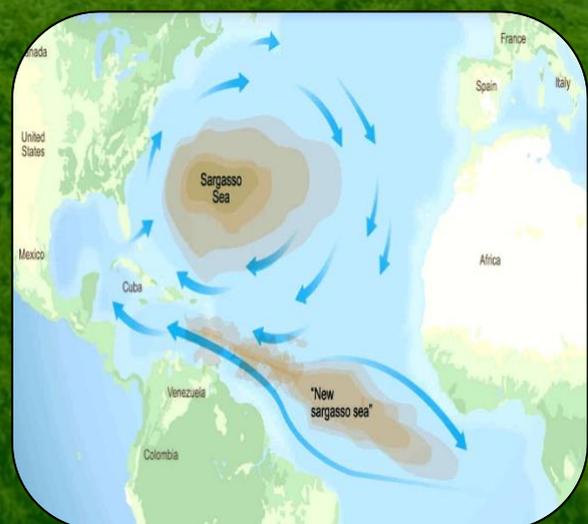


New Sargassum is a floating seaweed that clusters into long algal mats that drift on the ocean surface and move along with ocean currents. It should not be confused with the Sargassum Sea.

Increasing quantities of “new” Sargassum seaweed can be attributed to the growing number of nutrients being flushed into the ocean and probably rising seawater temperatures.

Increasing quantities wash onto beaches around the world, which have created the following economic, environmental, and social challenges:

- The contamination of beaches, it is estimated that around 20 million metric tons of floating Sargassum is found on beaches in The Caribbean, Central + South America, (Frontiers, 2021).
- Beached sargassum (in the process of decomposition) emits toxic liquids that emit foul smelling toxins, this negatively impacts the tourist trade. It also has high levels of arsenic.
- Sargassum releases hydrogen sulphide, this causes respiratory, skin and neurocognitive symptoms.



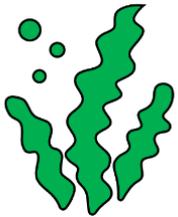
Solution – BCB will look to use Sargassum Seaweed to produce liquified bioethanol locally, to convert into an affordable eco fuel, FireDragon.

Challenge 3

BENEFITS OF ETHANOL PRODUCTION FROM SARGASSUM SEAWEED (WP4)



Conversion of Sargassum seaweed into liquified ethanol will bring many benefits to the country of implementation:



Using Sargassum seaweed is beneficial in many areas:

As ethanol is produced from plants such as sugar cane, it means that **crops and farming land is being utilised** and produced, **increasing deforestation**, to keep up with the demand for both fuel and food.

By developing a means of using Sargassum, which is seen as a hindrance economically and socially; **deforestation, economy and tourism can be preserved.**

The production of bioethanol helps in **preserving the planet.**



Excess ethanol could be exported, boosting exporting capabilities.



The establishment of Sargassum production will allow the country of implementation to produce a carbon neutral fuel.

Thus, **improving the environmental capabilities of the country of implementation.**



Excess liquified ethanol will allow the country of implementation to utilise the fuel for energy and cooking needs. This in turn will **reduce reliance on importing fossil fuels, promote energy security.**

Challenge 4

GENDER EQUALITY & SOCIAL INCLUSION



According to a WHO report, **4.2 million people die from exposure to outdoor air pollution**, in addition to the 3.8 million whose deaths are linked to household smoke produced by dirty stoves and fuels. **Energy poverty will be reduced by this SAFE Project.**

“I have been cooking with firewood for over 20 years every day. I started cooking with firewood when I was young. Cooking with firewood is tedious, the smoke affects my eyes; it makes me cough and I think the smoke is the cause of my chest pain. I wish I had another alternative way to cook, but other means are expensive.”



35-year-old housewife Mrs Asia Abdulkarim, in Northern Nigeria. Source; WHO 2022

Women and girls are disproportionately affected by the lack of access to clean and safe energy, due to the culture that it is primarily women who cook and women and children who gather wood.

This results in time poverty and is a security risk.

Unfortunately, many clean cooking projects primarily focus on addressing the social and cultural drivers of gender norms, neglecting inclusive business models that could drive gender-equitable transformative change.

This project intends to adopt a gender-sensitive approach to deliver an inclusive innovative business model.

Rather than essentialising women and those with disabilities, we will embed a feminist ethic of care and intersectional lens approach that supports them to become advocates and promoters of clean cooking solutions.

We will also look to engage with the current charcoal vendors, for the local distribution of FireDragon to the end users.

Challenge 5

HUMANITARIAN



Worldwide over 130 million people need humanitarian assistance, and more than 70 million people have been displaced from their homes due to conflict, or natural disaster.



FireDragon is half the weight (per energy density) of wood and performs better in wet conditions.



LPG is a fossil fuel, explosive, uses expensive stoves and has poor carbon footprint as it is normally imported.

FireDragon is safer to transport and store, therefore cheaper and will be made locally.

FEASIBILITY STUDY

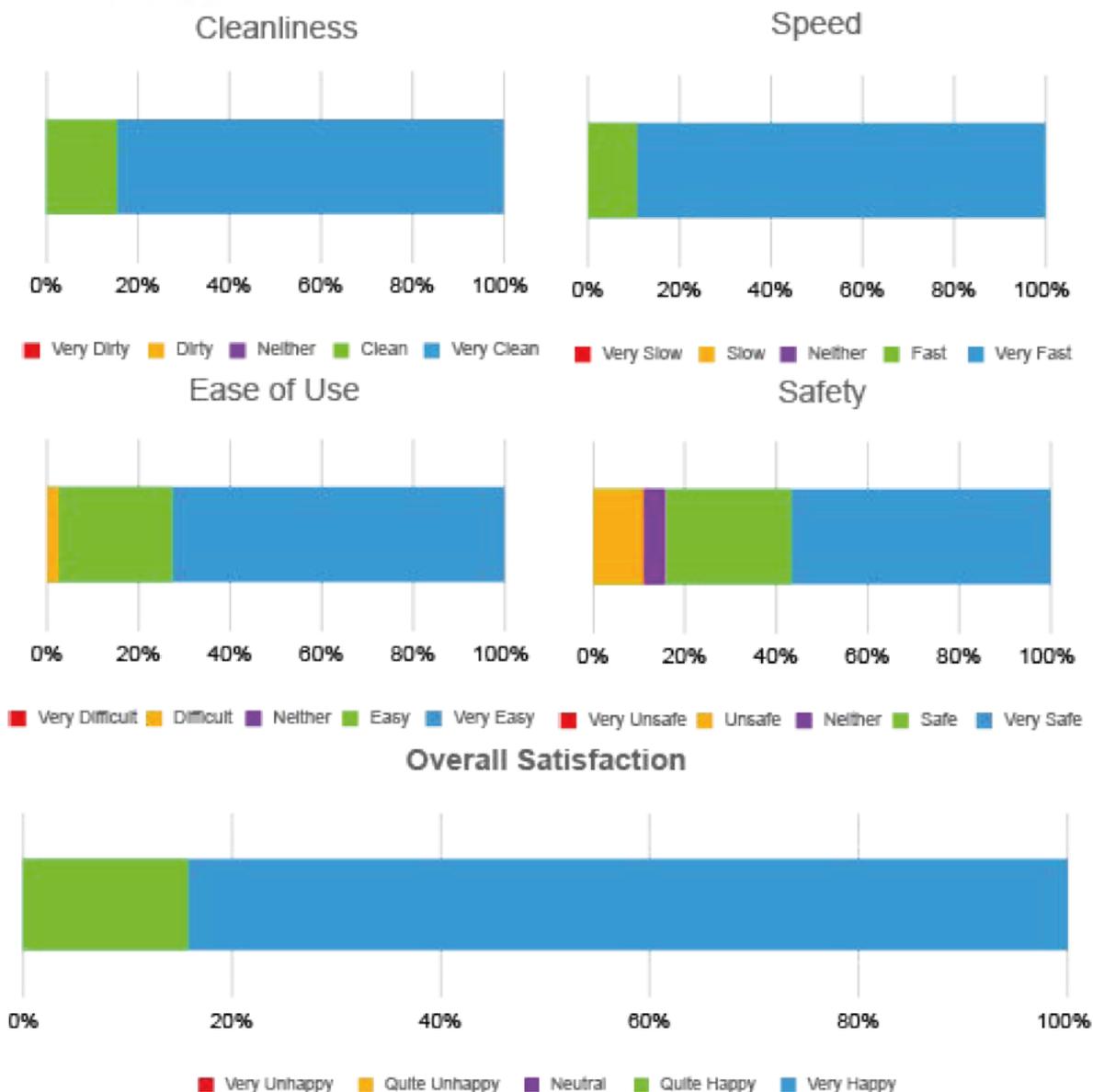


In 2021, BCB carried out a feasibility study to investigate the cooking market in Malawi.

Based on initial use, the vast majority of participants were happy with FireDragon's speed of cooking, and ease of use.

87%  OF PARTICIPANTS SAID THEY WERE VERY HAPPY WITH FIREDRAGON FUEL

All liked the cleanliness of FireDragon and were happy to use it.



HIGH PERFORMANCE FUEL
- AVAILABLE NOW

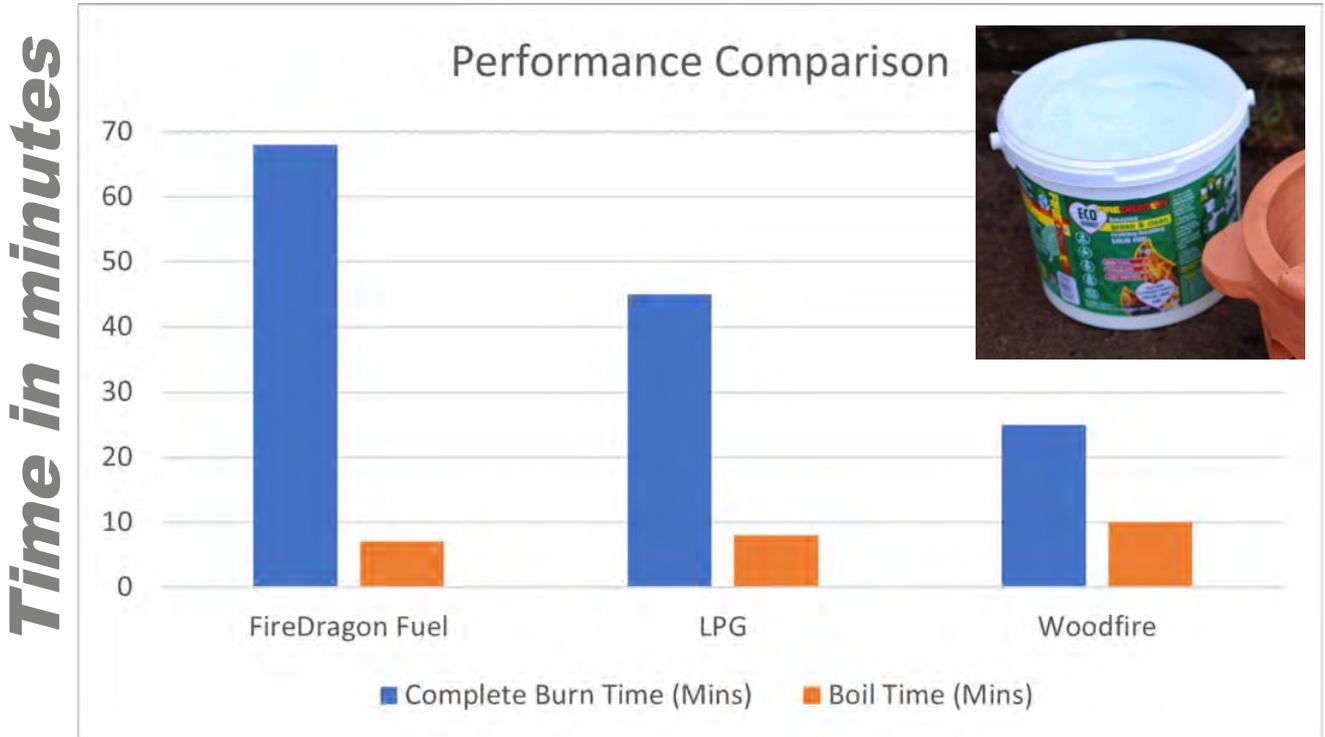


**A UNIVERSAL
FUEL SOLUTION
THAT WORKS WITH
TRADITIONAL COOKING POTS**

FIREDRAGON = 60% Energy Transfer Efficiency.

LPG i = 60%

Charcoal = 20-30%, depending on the stove used.

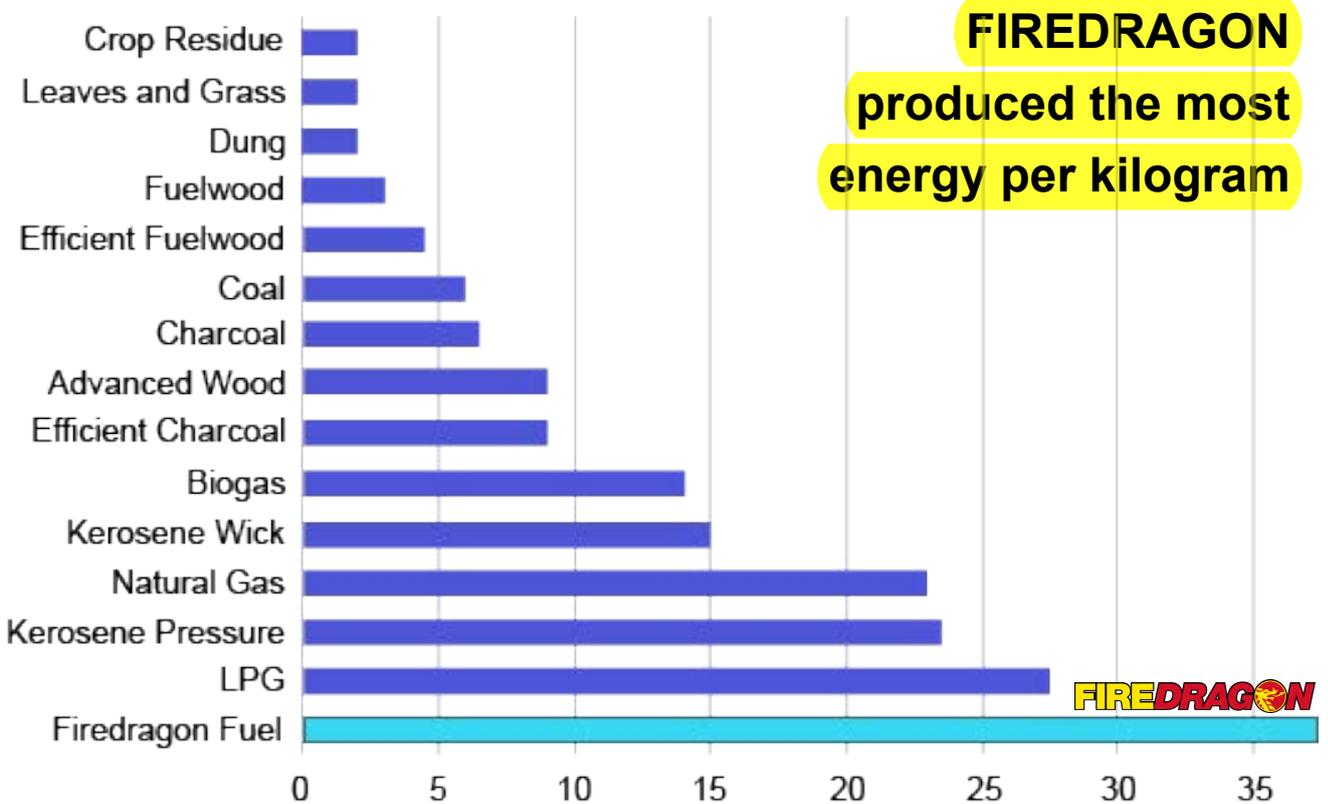




Comparison of Energy produced by various fuels

When tested and compared with 14 other fuel options, (including gases, charcoal, coal and wood)

TYPES OF FUEL TESTED



FIREDRAGON produced the most energy per kilogram

FIREDRAGON

Megajoules per Kilogram (MJ/Kg)

Calculated fuel energy used based on www.forestresearch.gov.uk energy values.

Specific energy is energy per unit mass, used to describe the chemical energy content of a fuel, expressed in SI units as joule per kilogram (J/kg) or Megajoules per kilogram (MJ/Kg)



COMPETITIVE ANALYSIS

**TEST:
BOILING WATER
& HEATING FOOD (1kg)**

**Comparison of properties
using 4 fuel types:**

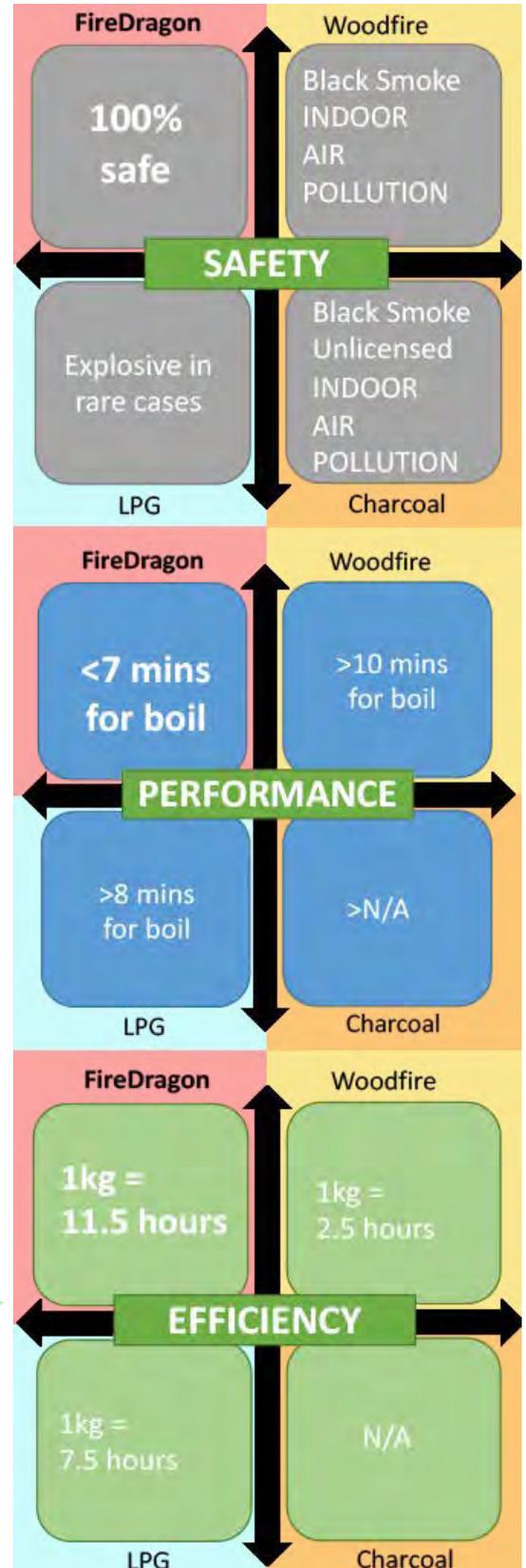
FireDragon	WoodFire
LPG	Charcoal

SAFETY

PERFORMANCE

**US\$ 0.10 cost
to adapt
stove**

EFFICIENCY



Sources: wlpqa.org
(Cooking With Gas – LPG Study) Energy.gov.za

Malawi Case Study



Following our 2021 Study in Malawi, we found that the vast majority of Malawian households rely on illegal charcoal and/or firewood for cooking and many people's livelihoods depend on these highly polluting fuels.

Malawi's amended Forestry Act 2020 now prohibits the production, transportation and sale of unsustainable charcoal. Prosecution carries a maximum sentence of 20 years in prison, along with hefty fines and seizure of trucks and other assets.

There is, therefore, an urgent need to provide communities with an alternative fuel to address this worsening energy and environmental crisis, which is undermining the economic development of a country where two-thirds of the population live in extreme poverty.



The 2021 study also confirmed that FireDragon had excellent performance in popular African cook stoves. Moreover, customers did not have to purchase a new stove or change their dominant cooking culture.

Malawi is one of the least economically developed countries in the world with

approximately **97%** of the population relying on charcoal and firewood for cooking.



This reliance on biomass has caused mass deforestation and results in more than 13,000 deaths, annually, due to indoor air pollution.

Current projections estimate that there will not be enough biomass left in Malawi to meet the country's demand for firewood and charcoal by 2030.

There is, therefore, an urgent need to provide Malawian communities with clean, sustainable and affordable alternative fuels for cooking.

THE SAFE PROJECT



The SAFE project is looking for investment to help replace wood and charcoal as the primary domestic fuel in Africa and S.E. Asia, with this new eco fuel technology, which is already well proven in Europe.

- Firedragon can be used with 3-stone fires and almost all solid improved cooking stoves in use. So saving the relatively “high” capital cost of new stoves and making it easier and practical for the users to use Firedragon.
- For example, KOKO ethanol distributes liquified ethanol cooking stoves at \$40-\$50 per unit.
- Our fuel is a universalised fuel stove solution, and this removes installation costs as a barrier to consumption.



The SAFE Project will utilize investment to make the fuel assessable and affordable by:



Localising production

– Creates jobs, training expertise and a growth industry in Africa.



Replace illegal charcoal trade

– The SAFE project will employ ex and current charcoal vendors, providing them with licensed and secure employment.



The project aims to manufacture liquified ethanol from Sargassum seaweed (WP4) to further protect the environment, and the oceans.

4 billion people still use wood or charcoal as their primary fuel source

THE SAFE PROJECT BENEFITS



A successful SAFE project will bring the following environmental, social, and economic benefits to low-income countries.



We estimate that if just 1% of those who primarily cook with charcoal/firewood adopted FireDragon, it would **slow deforestation** by 7,250 HA.



Save the estimated 3.2 million users who die from IAP caused by toxic biomass emissions (WHO,2021).



Create licensed employment for vulnerable households in DC's.



Protect beaches from being contaminated by sargassum seaweed. And the marine ecosystem.



We estimate that if just 1% of those who primarily cook with charcoal or firewood cooked with FireDragon it would **reduce CO2 emissions** by 69,8706 tonnes.



Educate users about the environmental and health consequences of cooking with charcoal or firewood.

Environmental metrics of the **SAFE** project

Results	Africa (reduction in tonnes)	Global (reduction in tonnes)
CO ₂ (Carbon Dioxide)	20 Million	83.4 Million
CO (Carbon Monoxide)	77 Million	308.2 Million
NO _x (nitrogen oxides)	36 Thousand	145 Thousand
CH ₄ (methane)	292 Thousand	1 Million
PM (particulate matter)	7 Thousand	29 Thousand
CO ₂ e direct emissions	70 Million	279 Million
Deforestation (Reduction in Hectares)	735 Thousand	2.9 Million
CO ₂ e direct + indirectemissions	621 Million	2.48 Billion

FIREDRAGON MEETS MOST OF THE SUSTAINABLE DEVELOPMENT GOALS



FIREDRAGON FUEL

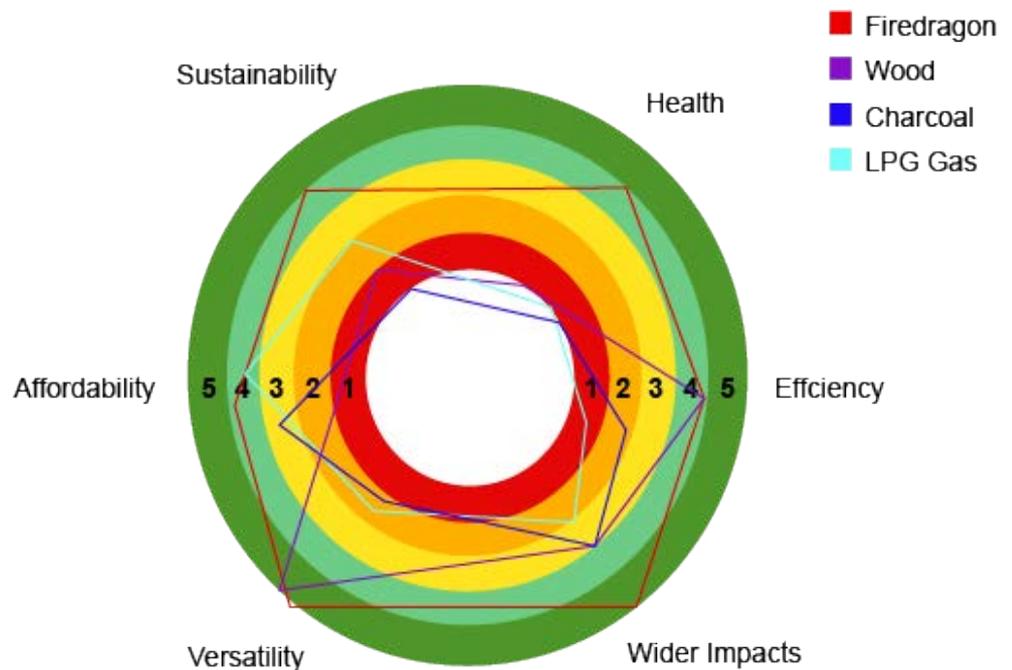
- | | | | |
|---|--|--|--|
| <ul style="list-style-type: none"> • NO Poverty | | | <ul style="list-style-type: none"> • Decent Work & Economic Growth |
| <ul style="list-style-type: none"> • Zero Hunger | | | <ul style="list-style-type: none"> • Reduced Inequalities |
| <ul style="list-style-type: none"> • Good Health and well being | | | <ul style="list-style-type: none"> • Sustainable Cities and Communities |
| <ul style="list-style-type: none"> • Quality Education | | | <ul style="list-style-type: none"> • Climate Action |
| <ul style="list-style-type: none"> • Gender Equality | | | <ul style="list-style-type: none"> • Life on Land |
| <ul style="list-style-type: none"> • Clean Water and Sanitation | | | <ul style="list-style-type: none"> • Peace, Justice and Strong Institutions |
| <ul style="list-style-type: none"> • Affordable and clean Energy | | | <ul style="list-style-type: none"> • Partnerships for The Goal |

MECS MATRIC: FUEL PERFORMANCE COMPARISON



The Modern Energy Cooking (MEC) Matrix is a measurement of household cooking standards.

It is a tiered system and considers the impact of the fuel on the user and the environment.



This methodology visually confirms FireDragon's superior performance over other cooking fuels.

The MECS methodology

measures performance based on the following:

Versatility: Analyses how easily the fuel is consumed and performance in extreme conditions.

Efficiency: Measures the performance of the fuel. This is quantified by considering the burn time and the calorific value of the fuel.

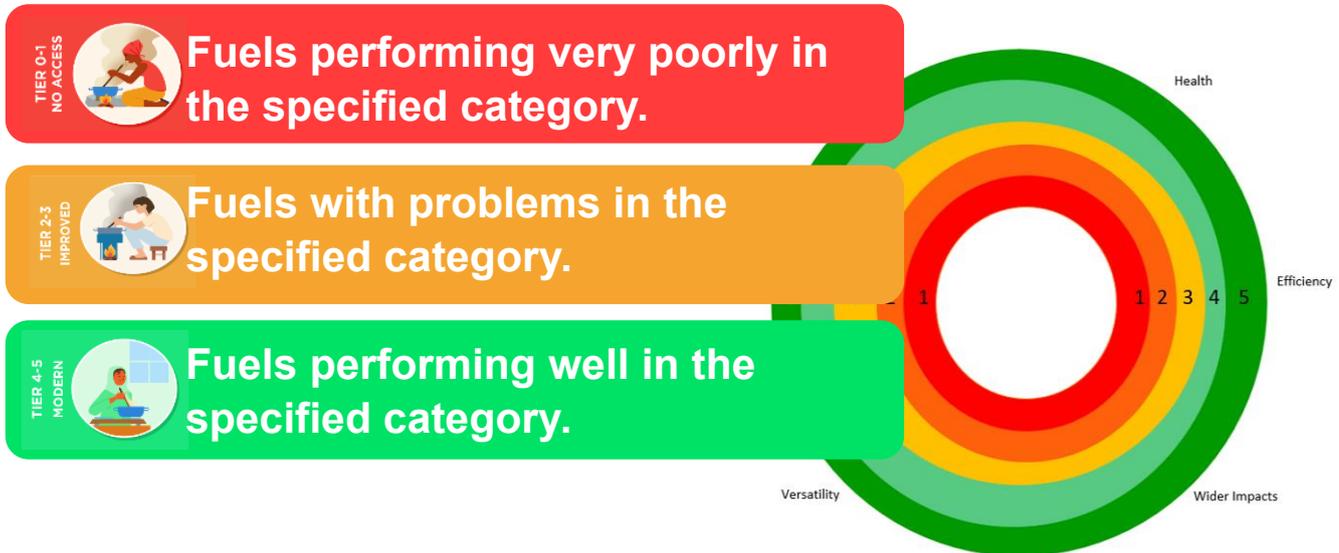
Wider Impacts: Considers the wider benefits (social and economic) to the country where the fuel is consumed.

Health: Measures the toxicity of the fuel and other dangers.

Affordability: Compares the costs of the different fuels. Low scores indicate high cost and low chance of adoption.

Sustainability: Considers the environmental impact of the fuel. Both in the production process and the emissions from the fuel.

MECS MATRIC: FUEL PERFORMANCE COMPARISON



Detailed Results of FireDragon performance

Versatility (5)

Is Easily consumed (with easy modifications) with an array of charcoal ovens such as the Kenyan Ceramic Jiko and performs well in a variety of settings.

Efficiency (4)

Good calorific value (29,00 KJ/KG) and a good burn time (5 Litres burns for 34 hours).

Wider Impacts (5)

Good social impact as adoption will prevent hazardous and time-consuming wood/charcoal collection. Plans to employ local charcoal distributors and establish production will create economic opportunity.

Health (5)

Good score as ethanol burns cleanly and there are very few other dangers to users.

Affordability (4)

Higher than solid fuels but the fuel is compatible with popular charcoal stoves, this removes installation costs as a potential barrier to market.

Sustainability (5)

Good score as ethanol is sustainably produced and burns cleanly.

PROJECT PLAN (WP1 & WP2)



Work Package	Work Package 1 Distribution of FD to Africa	Work Package 2 Construction of FireDragon production plant
Action	<ul style="list-style-type: none"> • FireDragon to be exported from BCB International to Africa • This fuel to be distributed to vulnerable households to allow market research to occur. • Produce a detailed blueprint to roll out the SAFE projects throughout Africa, S.E Asia. So, producing at scale. 	<ul style="list-style-type: none"> • Establish a FireDragon production plant in Africa to lower the cost of the product • Locally produced liquified ethanol and raw materials will feed the solidifying plant. • Provide income to local farmers + reduce scrub burning.
Benefits	<div data-bbox="424 1424 603 1525"> </div> <p>Provide legal employment for charcoal distributors.</p> <div data-bbox="419 1576 608 1682"> </div> <p>Reduce the number of people dying from Indoor Air Pollution.</p> <div data-bbox="419 1727 614 1836"> </div> <p>Inform future African clean cooking policy</p>	<div data-bbox="948 1424 1126 1536"> </div> <p>In country production will make our fuel affordable.</p> <div data-bbox="948 1570 1118 1686"> </div> <p>Create licensed employment and expertise in the production sectors.</p> <div data-bbox="995 1727 1098 1821"> </div> <p>Encourage a saturated clean cooking market.</p>

PROJECT PLAN (WP3 & WP4)



Work Package 3

Ethanol production from Waste Vegetation

- BCB International have long term plans to establish liquified ethanol production.
- This phase aims to use local waste vegetation as the raw material to manufacture liquified ethanol.



Boost Africa's exporting capabilities, as excess ethanol will be distributed to neighbouring countries.



Phase 3 will economize food waste by making it a central raw material in the production process.



Reduce the amount of food that ends up in landfill

Work Package 4

Ethanol production from Sargassum Seaweed

- BCB International will produce ethanol from Sargassum seaweed. This will occur in a sustainable and cost-effective method, converting sargassum seaweed into bio-ethanol through a saccharification process
- Will create a market for sargassum seaweed to be collected from beaches reducing pollution.



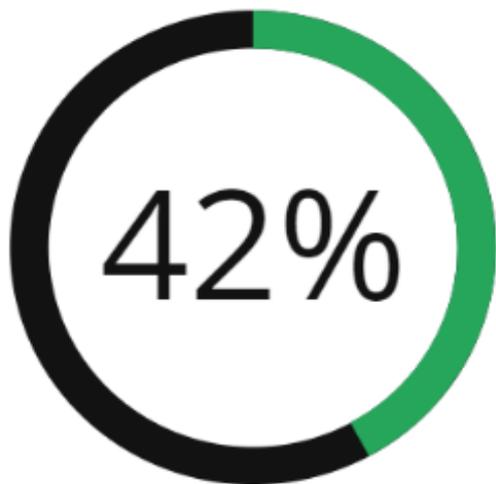
Economise excess sargassum that finds itself on beaches in the Caribbean.



Protect the damaged tourism trade in the Caribbean, Africa, Central America +Florida



Create a market which is a sustainable and efficient method of converting sargassum into bioethanol.



Reduction in unit cost
from establishing WP2

FIREDRAGON

The establishment of in-country production will lower the Retail price of FireDragon by

an estimated **42%**

BCB will locate a factory unit with outside secure storage space.

The site itself will have:

- A shaded outside area of bunded concrete to support the storage tank, (with cover to provide shade, if needed).
- A suitable power source.
- A back-up power source.
- A small crane or large fork lift truck will be hired to offload and help install the machinery and storage tank.
- A lorry capable of transporting our solidified ethanol

Production Capacity

- Tank capabilities:

3 mixes each 500kg per tank a day = 1500kg per tank

- We estimate that 150 kwh of electricity per day is required to power the factory.

Mixing tanks



**2 tanks
produce
3,000
Kg
per day**

Liquified Ethanol Storage tank



ETHANOL PRODUCTION FROM SARGASSUM (WP4)



Preliminary Research tells us the
conversion and production process
is as follows:



Harvesting: Sargassum is collected from the ocean before it is washed up on beaches.



Preparation: The harvested Sargassum is cleaned to remove impurities such as sand, salt, and debris, and is then dried.



Saccharification: Saccharification breaks down the seaweed's complex carbohydrates, this allows the seaweed to be fermented.



Fermentation: The sugars obtained from saccharification are fermented by microorganisms to convert seaweed into ethanol.



Distillation and Purification: The ethanol produced through fermentation is distilled and purified to obtain the final ethanol product.



FEASIBILITY STUDY

Initially, locally produced liquified ethanol, will feed our solidifying plant.

Long term aspirations include the establishment of liquified ethanol production from waste vegetation and sargassum seaweed.

The SAFE Team is sourcing funding to carry out a feasibility study that aims to research the following:

- ✓ Research methods of **cost affectively** converting both waste vegetation and sargassum seaweed into high quality liquified bioethanol.
- ✓ **Evaluation** of the technology and the equipment needed for bioethanol conversion and production.
- ✓ Calculation of the **initial investment required** for setting up production facilities that process waste vegetation and sargassum seaweed.
- ✓ The feasibility study aims to investigate the **operational costs**, including required labour, the cost of processing raw materials, energy, and maintenance costs.
- ✓ Methodise a way of **ensuring profitability** from the production

FIREDRAGON

2 x the burn performance of
dried hardwood.

REDUCES

Gases

- Carbon Dioxide - by **26%**
- Methane - by **100%**
- Particulate Matter - by **95.1%**
- Carbon Monoxide - by **84.5**

Deforestation

- by 700,000+ hectares in Africa alone

Cooking time - by 50%

1.6 x more effective than
charcoal

Meets 14
Sustainable Development Goals

Improves energy security

Tel: +44 (0)2920433700
Email: Info@bcbin.com
www.bcbin.com
www.firedragonfuel.com

