

STOP THE SMOKE

An environmental initiative in Pai to create a carbon negative, sustainable, circular economy.

Reducing smoke pollution, sequestering carbon, generating carbon offset credits and creating a new premium agro product.

task



Biochar Trust



OPEN FIELD BURNING

THE PROBLEM

400

AVERAGE PM2.5 POLLUTION LEVELS
IN PAI DURING AGRICULTURAL
BURNING CAN CLIMB AS HIGH AS
400 MG/M3.

- EVERY YEAR NORTHERN THAILAND SUFFOCATES BECAUSE OF THE UNCONTROLLED OPEN FIELD BURNING OF BIOMASS
- AVERAGE PM2.5 POLLUTION LEVELS IN PAI DURING AGRICULTURAL BURNING CAN CLIMB AS HIGH AS **400 MG/M3**. **3-16 TIMES** MORE THAN THE RECOMMENDED **SAFE LIMITS**
- IT HAS A SIGNIFICANT IMPACT ON THE **ENVIRONMENT**, **PUBLIC HEALTH** AND **ECONOMY**
- IT ALSO CAUSES MASSIVE **LOSS OF SOIL FERTILITY** AND NATURAL HABITAT.

BIOCHAR

THE SOLUTION

WHAT IS BIOCHAR?

BIOCHAR IS CHARCOAL THAT IS PRODUCED BY PYROLYSIS OF BIOMASS IN THE ABSENCE OF OXYGEN

IS AN EASY WAY TO **BURN** BIOMASS **WITHOUT SMOKE** IN ORDER TO STORE THE CARBON IN THE SOIL.

HOW IT IS MADE?

IT BEGINS AS BIOMASS (WOOD CHIPS, SAW DUST, FOREST SLASH OR CROP WASTE) IS **HEATED VERY HOT IN THE NEAR ABSENCE OF OXYGEN.**

IT CAN USUALLY BE MADE USING “TECHNOLOGY” AS SIMPLE AS A **TRENCH IN THE GROUND,**

WHY BIOCHAR?

CROP WASTE BURNING BY SMALLHOLDER FARMERS GENERATE ~500 GHG EACH YEAR

MAKING BIOCHAR REDUCES THAT AT THE RATE OF 2 TONNES OF CO₂ REMOVED FOR EVERY TONNE OF BIOCHAR PRODUCED

AGRICULTURAL AND INDUSTRIAL CHEMICAL RESIDUES AND HEAVY METAL POLLUTES LARGE AREA OF THE DEVELOPING WORLD

BIOCHAR IN THE SOIL LOCKS THESE UP, KEEPING THEM OUT OF THE WATER AND FOOD CHAIN

BILLIONS OF SMALL FARMERS DISPROPORTIONATELY WOMEN, LIVE IN RURAL AREA

MAKING BIOCHAR OFFERS THEM JOBS AND NEW INCOME

PARTICULATE MATTER 2.5,(PM_{2.5}) THE KILLER PARTICULATE IN THE SMOKE GENERATED BY OPEN BURNING KILLS MILLIONS ANNUALLY

MAKING BIOCHAR IS ALMOST COMPLETELY SMOKELESS

THE CARBON OFFSET MARKET IS HUGE AND GROWING

MAKING AND USING BIOCHAR YIELDS CO₂ REMOVAL CREDITS THAT ARE PURCHASED BY CORPORATIONS

A background image of a dense forest of tall, thin evergreen trees, possibly spruce or fir, under a thick layer of mist or fog. The trees are dark green and stand against a light, hazy sky. The overall atmosphere is serene and somewhat mysterious.

NEXT FEW SLIDES EXPLAIN **BIOCHAR PROCESS IN
DETAILS....**

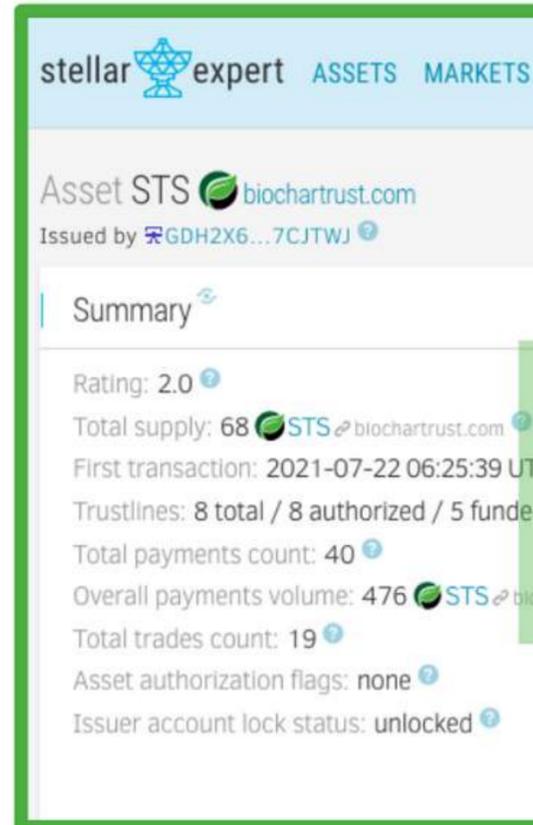
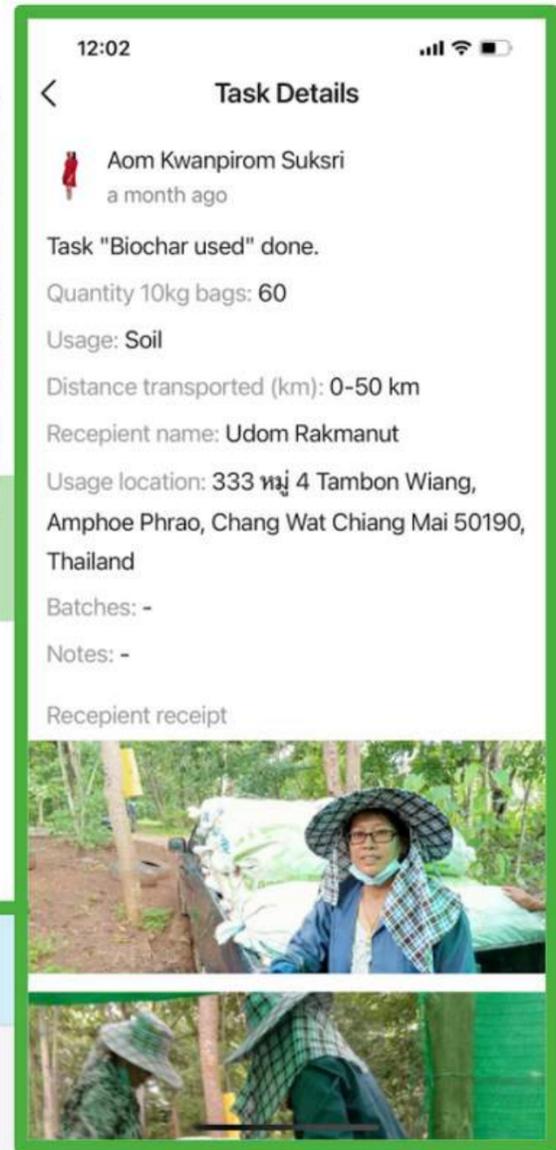
Solution: low tech, low cost CO2 removal with biochar



Farmer training



Homemade equipment



Mobile app and blockchain enabled ledger for tracking



Improved soil health and delicious food!



A solution that scales and helps the disadvantaged



Growth built with world-class partners

Ithaka Institute

European Biochar Certification (“EBC”), carbon-sink standard for tropical farmers.

Task.io

Blockchain enabled tracking platform and mobile app solution.

Global Network Partners

Access to vast smallholder farmer base, on-the-ground training, ensuring proper production and usage of biochar, capturing of required data and pictures.

Warm Heart

Certified agent of EBC to ensure tropical farmer c-sink standards, perform random audits, create training materials, field testing, R&D of equipment & digital solution and accrediting others.

Biochar Trust

Train the trainers of network partners, certifies the production and usage of biochar, issues and sells the CO2 removal credits to customers.



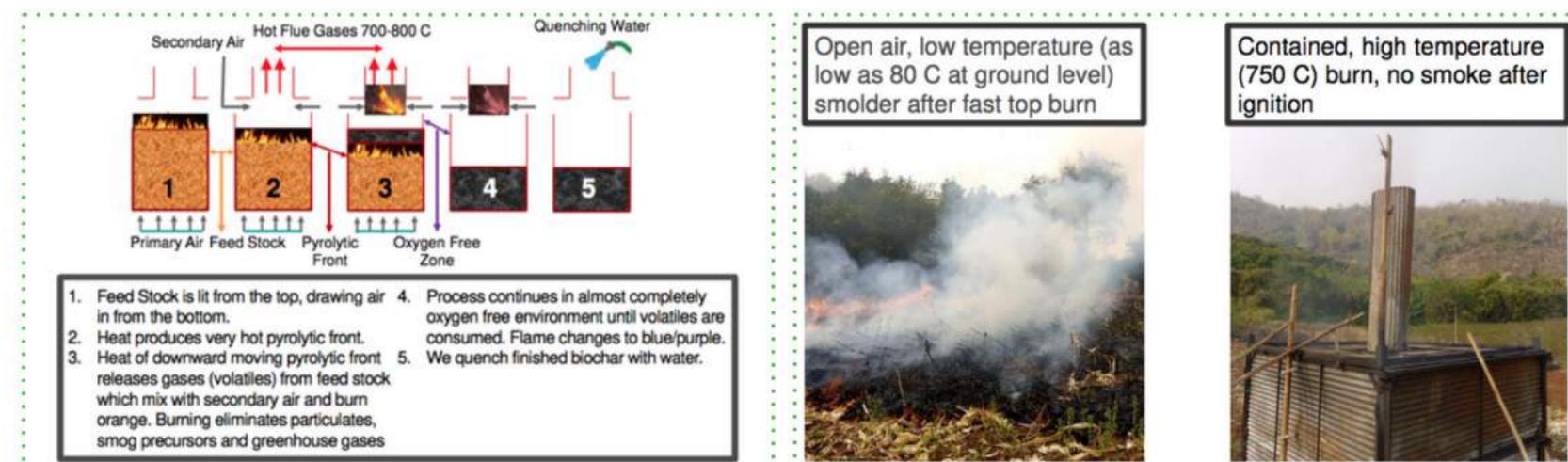
Properties and advantages of biochar...

Biochar is a super charcoal, created smokelessly, at high temperature and containing none of the tars or noxious gases of common charcoal.

To make biochar, heat any carbon containing biomass – in our case, crop waste – without oxygen.

Regarding climate change, biochar consists largely of inert carbon equal to 40 percent of the carbon removed from the air by photosynthesis. **Biochar removes CO₂ from the atmosphere at rate of 2-2.8kgs of CO₂/1kg of Biochar.**

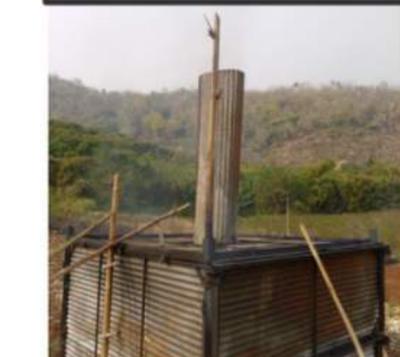
Once the biochar is created, it can be used for a variety of applications such as soil amendment, water decontaminant or livestock feed as well as consumer-related products (e.g., air fresheners).



Open air, low temperature (as low as 80 C at ground level) smolder after fast top burn



Contained, high temperature (750 C) burn, no smoke after ignition



Without biochar



With biochar

Making a pyrolyzer

TLUD

- Materials from recycling: barrel, 2 sheets of roofing metal, 2 m rebar
- Materials from the store: 12 self-tapping screws, 1/2"
- Assembly time: 2 hours
- Cycle time: 1 hour



Trench

- Materials from recycling: barrel, 1 sheet of roofing metal (optional)
- Materials from the store: None
- Assembly time: 10 minutes
- Cycle time: 30 minutes



Yield depends on feedstock. Example in Malawi, an average farmer with 1.2 ha growing corn produces 600 kg of biochar per harvest.

A landscape photograph featuring a green field in the foreground, a concrete fence with barbed wire, and a utility pole with power lines. In the background, there are rolling green hills and mountains under a cloudy sky. The text "THE PAI OPERATION" is overlaid in the center in a bold, yellow, sans-serif font.

THE PAI OPERATION

THE PAI OPERATION

WHAT IS THE OPERATION?

WE ARE LOOKING TO LAUNCH A PILOT PROGRAM IN PAI TO ACT AS A PROOF OF CONCEPT MODEL TO ENABLE US TO GATHER DATA AND OPERATIONAL EXPERIENCE WE NEED TO ATTRACT LARGE SCALE AND LONG TERM SUPPORT TO FUND CARBON OFFSETTING IN PAI, MAE HONG SON, AND BEYOND.

ASIDE FROM OFFERING AN IMMEDIATE TANGIBLE WAY TO BOTH COMBAT CLIMATE CHANGE, REDUCE SMOKE POLLUTION, AND SUPPORT LOCAL FARMS. WE MUST COLLECT HARD DATA TO ENABLE OUR FUNDING PARTNERS TO START SUPPORTING THIS PROGRAM AND HELP US SCALE IT UP.

WHO IS BEHIND THIS OPERATION?

THIS PROJECT IS A RESULT OF MULTIPLE, COMPANIES, NGO'S AND CO-OPERATIVES BANDING TOGETHER TO MAKE A MEANINGFUL IMPACT IN THE FIGHT TO REDUCE THE BURNING IN THE NORTH OF THAILAND.

BUILDING ON THE WORK OF THE WARM HEARTS FOUNDATION, THE BIOCHAR TRUST AND TASK.IO, WE IDENTIFIED AN OPPORTUNITY TO CREATE A SUSTAINABLE, CIRCULAR CARBON NEGATIVE ECONOMY IN PAI.

THE ECOSYSTEM OF ACTORS

Biochar Trust



OPERATE AS
THE LOCAL
PLATFORM

TRAINING,
CERTIFICATION,
ACCESS TO
CARBON OFFSET
MARKETPLACES



TRAINING
TECHNICAL
SUPPORT
MONITORING
FINANCING

BIOCHAR
PRODUCTION
CONSOLIDATION
COMMUNITY
OUTREACH



LOCAL FARMERS

VISION

LONG TERM: 5-10 YEARS

STOP THE BURNING OF AGRICULTURAL BIOMASS IN THE WHOLE VALLEY,
FINANCED BY SELLING CARBON OFFSETS AND CREATING AN ECONOMY OF
ORGANIC LOCAL PRODUCERS.

MIDDLE TERM: 2-5 YEARS

CREATE A NETWORK OF NO-BURNS FARMS AND MONITOR THE INCREASE IN YIELD
AND QUALITY TO FEED AN ORGANIC MARKET IN PAI.

BENEFITS

LESS SMOKE

IMPROVE SOIL FERTILITY IN SUPPORT OF LOCAL FOOD (ORGANIC) PRODUCTION
CREATE EXTRA MONEY STREAM FOR PRODUCERS THROUGH BLOCKCHAIN TECHNOLOGY.

VISION

SHORT TERM OBJECTIVES : 2022 PILOT PROJECT

HIRE AND TRAIN 1 THAI OPERATIONAL MANAGER FOR OUTREACH
AND LOCAL TRAINING

WORK WITH AT LEAST 10 LOCAL FARMERS TO EDUCATE, TRAIN,
SUPPORT BIOCHAR PRODUCTION

MONITOR THE BENEFITS OF USING BIOCHAR OVER 1 YEAR
CREATE AN OPERATIONAL MODEL THAT CAN BE UPSCALED NEXT
YEAR.

DEVELOP OPPORTUNITIES FOR LEARNING

BUDGET

EXPENSES

THB/YEAR

OPERATIONAL MANAGER 20K/MONTH

240K

PICK UP TRUCK FOR SUPPORT MAT

150K

TOOLS AND MATERIAL

10K

TRAINING

20K

TECH DEVELOPMENT

60K

OPERATIONAL EXPENSES

80K

TOTAL

560K

BUDGET

OUR PLAN...

WE NEED A BUDGET TO HIRE FULL-TIME THAI STAFF TO TRAIN FARMERS AND SUPPORT STAFF, PAY FOR BIOCHAR OVEN CONSTRUCTION AND ENABLE US A BIT OF INITIAL UPFRONT CASH TO PAY FARMERS FOR THEIR ORGANIC WASTE MATERIAL.

WE ARE SEEKING 20K USD TO SUPPORT THIS PROJECT THROUGH 2022 AS A PILOT FEASIBILITY PROGRAM TO SCALE UP THE PROGRAM.

WE HAVE PARTNERS SEEKING TO USE THIS MECHANISM AS BOTH A POTENTIAL SOURCE OF CARBON OFFSETTING CREDITS FOR HOLLYWOOD PRODUCTIONS AND THE CREATION OF A NEW AGRO PRODUCT DERIVED FROM THE RESULTING BIOCHAR OUTPUT.

BOTH PROJECTS REQUIRE US TO COMPLETE A FEASIBILITY STUDY TO ENSURE WE ARE ABLE TO SCALE AND FOLLOW THROUGH ON BOTH OUR ABILITY TO SEQUESTER CARBON AND CREATE THE PRODUCT AT THE QUALITY MARKS REQUIRED BY OUR POTENTIAL CLIENTS.

DONATIONS

FOLLOW AND SUPPORT OUR
FUNDRAISING CAMPAIGN
HERE.

