



Universidad
Europea

LAUREATE INTERNATIONAL UNIVERSITIES

AN THE
CB METROPOLITAN
LABORATORY

Escuela de Arquitectura

University Design Studio

April 2014

Berlin urban agriculture sites

TEMPELHOFER FELD

SEASONAL

FESTIVAL

17TH

APRIL
AUGUST
DECEMBER

IN THE PARK TEMPELHOF



**Universidad
Europea**
LAUREATE INTERNATIONAL UNIVERSITIES

**AN
CB** THE
METROPOLITAN
LABORATORY

Escuela de Arquitectura

In the city of Berlin

Within the citizen participative process aiming to decide the future of the former
Tempelhof Airport

In the scheme of actions devised by Tempelhofer Freiheit

And as a result of the **University Design Studio** held at **AEDES Metropolitan
Laboratory** from April 03 to 12, 2014

The participating collective of the **Universidad Europea de Madrid**, presents the
results of their work, with the following proposal:

SEASONAL FESTIVAL IN THE PARK TEMPELHOF

WITH THE FOLLOWING EVENTS

—

"GUERRILLA_GREEN FESTIVAL"

Soil regeneration through seeded fireworks

—

"ARTIFICIAL GREEN LUNG SYSTEM"

Recycled air-purifying devices

—

"GOODBYE GROUND"

Flying gardens on algae kites

&

"JOIN US?"

Garden / graffiti ad campaign on asphalt

—

THE 1ST EDITION OF THE FESTIVAL WILL TAKE PLACE IN SPRING OF 2014

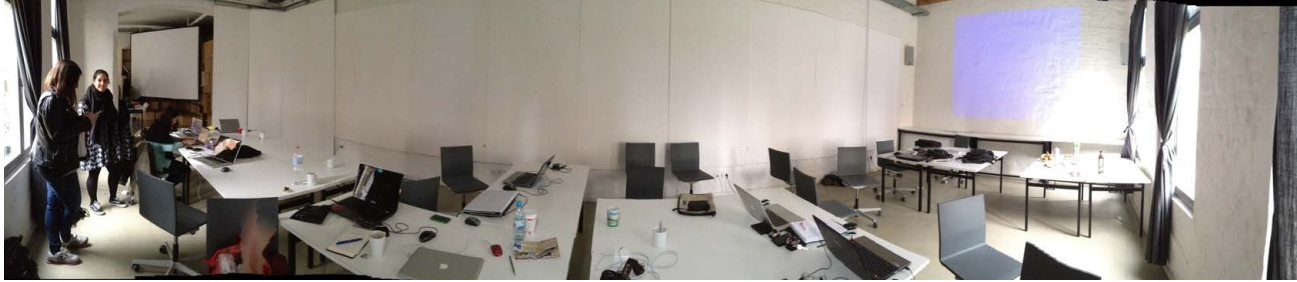
FREE ASSISTANCE / CITIZEN PARTICIPATION IS NECESSARY FOR THE CELEBRATION OF
THE FESTIVAL



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Escuela de Arquitectura

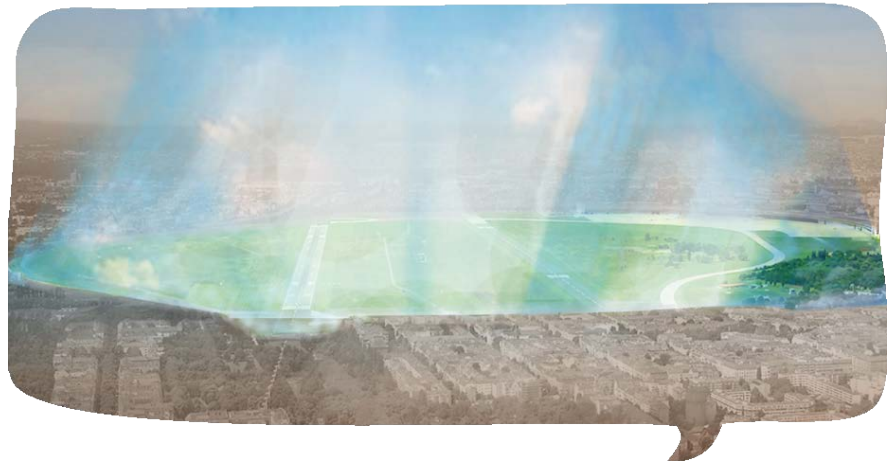


SEASONAL FESTIVAL

APRIL
AUGUST
DECEMBER
17TH

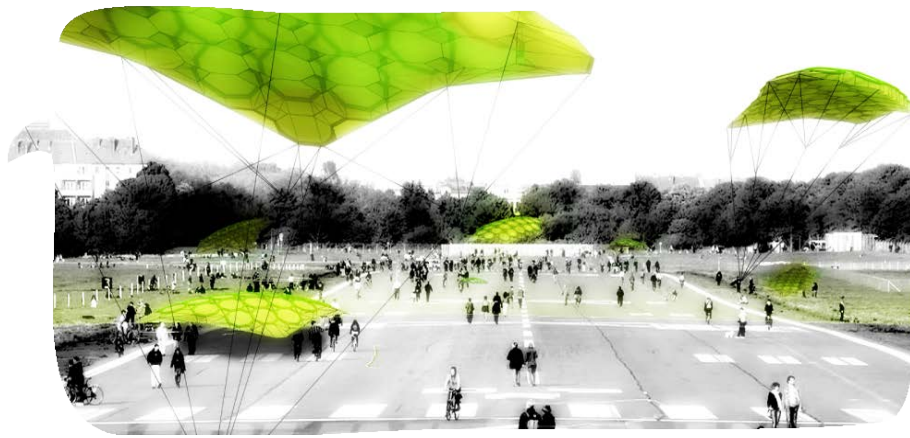
IN THE PARK TEMPELHOF

EVENT 1 GUERRILLA GREEN FESTIVAL



EVENT 2 ARTIFICIAL GREEN LUNG SYSTEM

EVENT 3 GOODBYE GROUND



EVENT 4 JOIN US?



EVENT 1 **GUERRILLA GREEN FESTIVAL**



GUERRILLA

GREEN

FESTIVAL

2014



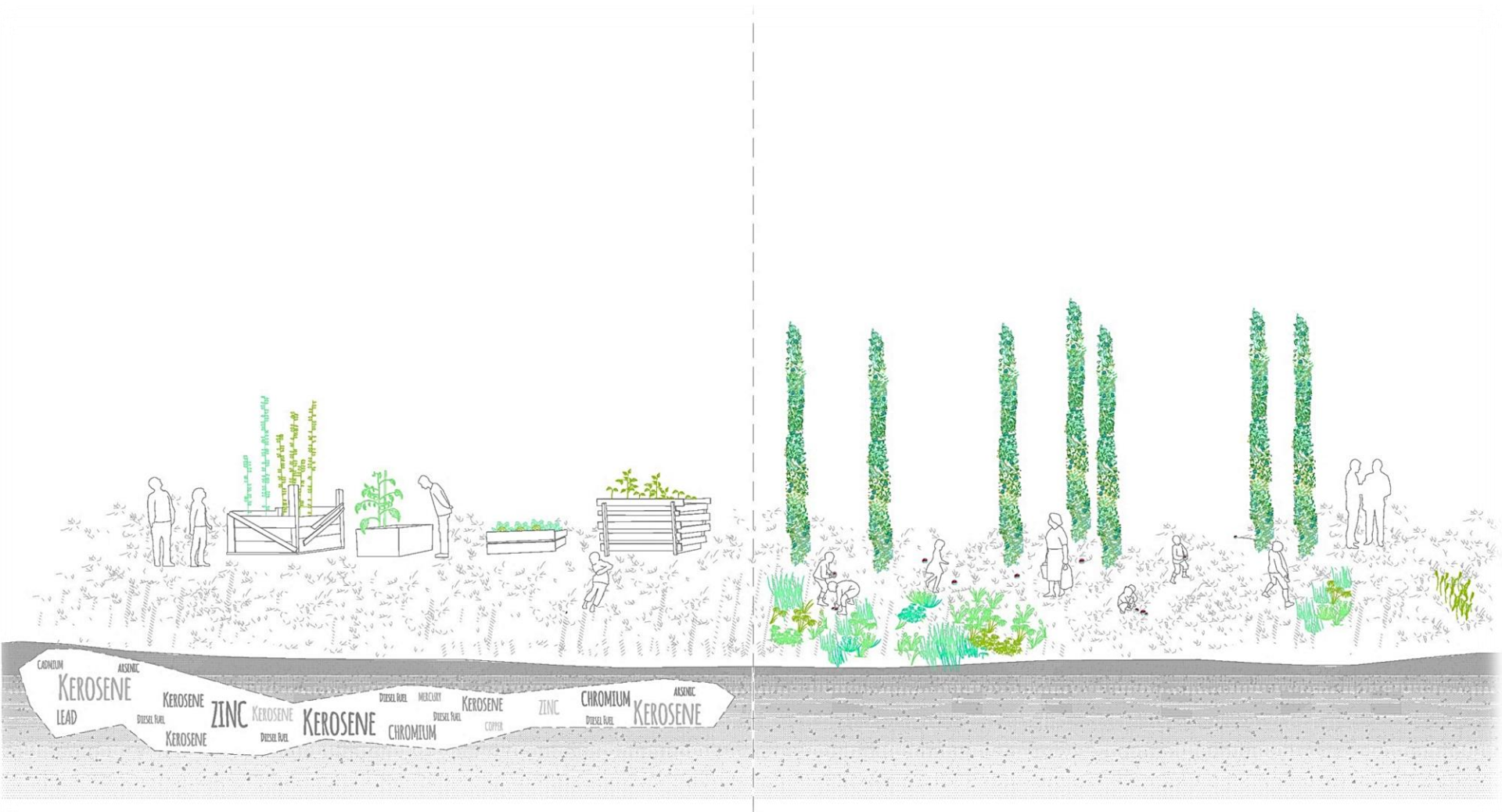
TEMPELHOF AIRPORT'S SOIL CONTAMINATED



TEMPELHOF'S SOIL REGENERATION DESCONTAMINATION



GARDENING GREEN GUERRILLA



NEW AGRICULTURAL URBAN TACTICAL

GUERRILLA GREEN FESTIVAL 2014

STAGE 1

THE Clobbering Time GUERRILLA BOMB SEEDS



ALFALFA	DANDELION	EYE
CLOVER	CRANESBILL	BARLEY
WHITE WILLOW	SUNFLOWER	RAPESEED
BLACK POPLAR	HORSERADISH	STINGING NETTLE



GREEN UP CLOUDCATCHER TEMPELHOF PARTISANS

STAGE 2

ANIMAL MUCK	PLANT DISCARDS	ORGANIC WASTE
-------------	----------------	---------------

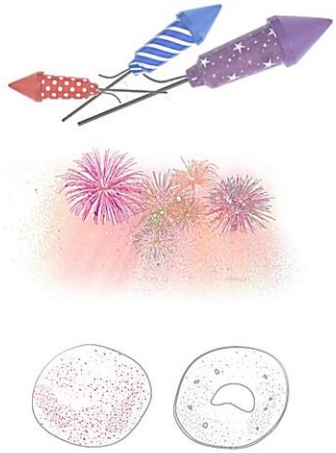
DIGESTOR PILE THE COMPOST PROJECT

STAGE 3

GUERRILLA FESTIVAL

IN OLD TEMPELHOF AIRPORT 17TH APRIL-AUGUST-DECEMBER

STAGE 1



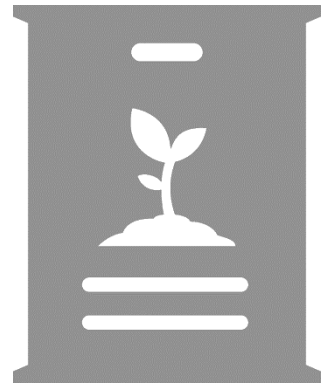
**GUERRILLA
BOMB SEEDS**

STAGE 2



CLOUDCATCHER

STAGE 3



DIGESTOR PILE

STAGE 1

THE CLOBBERING TIME

GUERRILLA BOMB SEEDS

ALFALFA

DANDELION

RYE

CLOVER

CRANESBILL

BARLEY

WHITE WILLOW

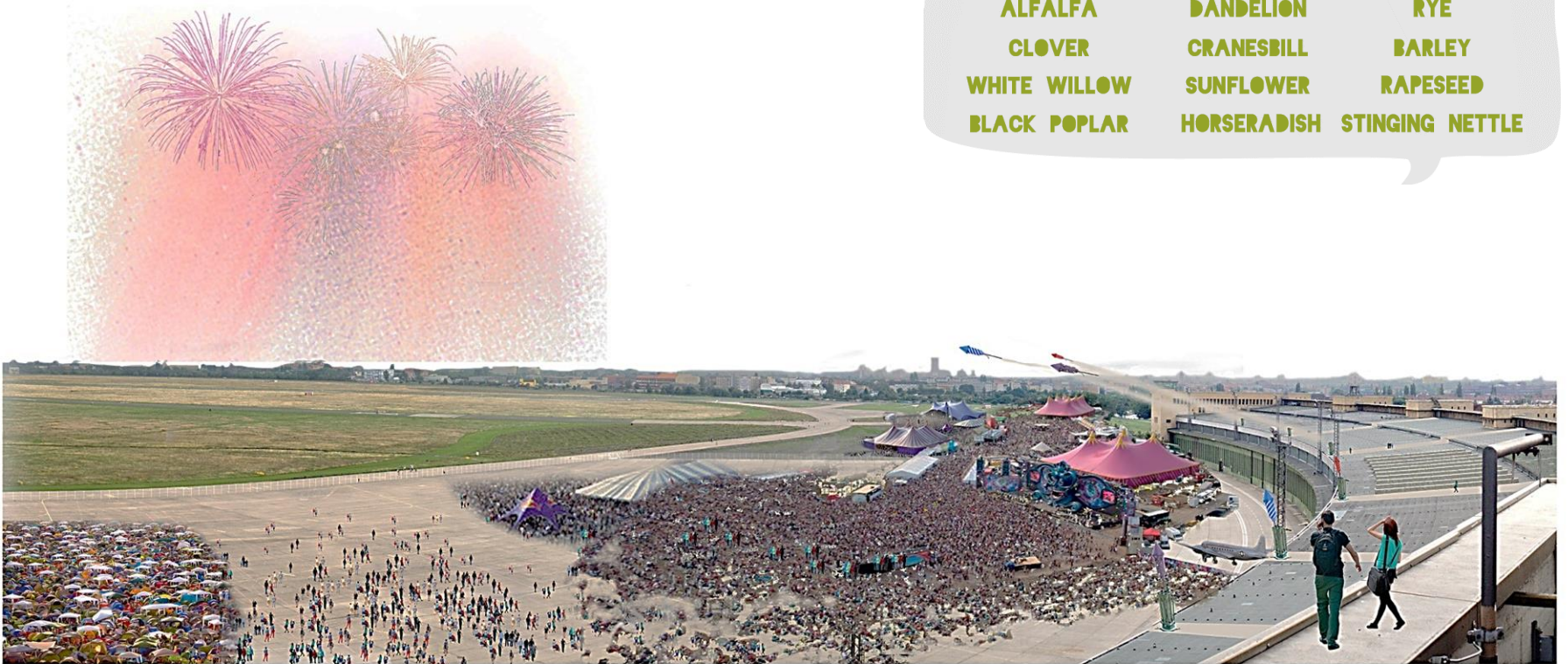
SUNFLOWER

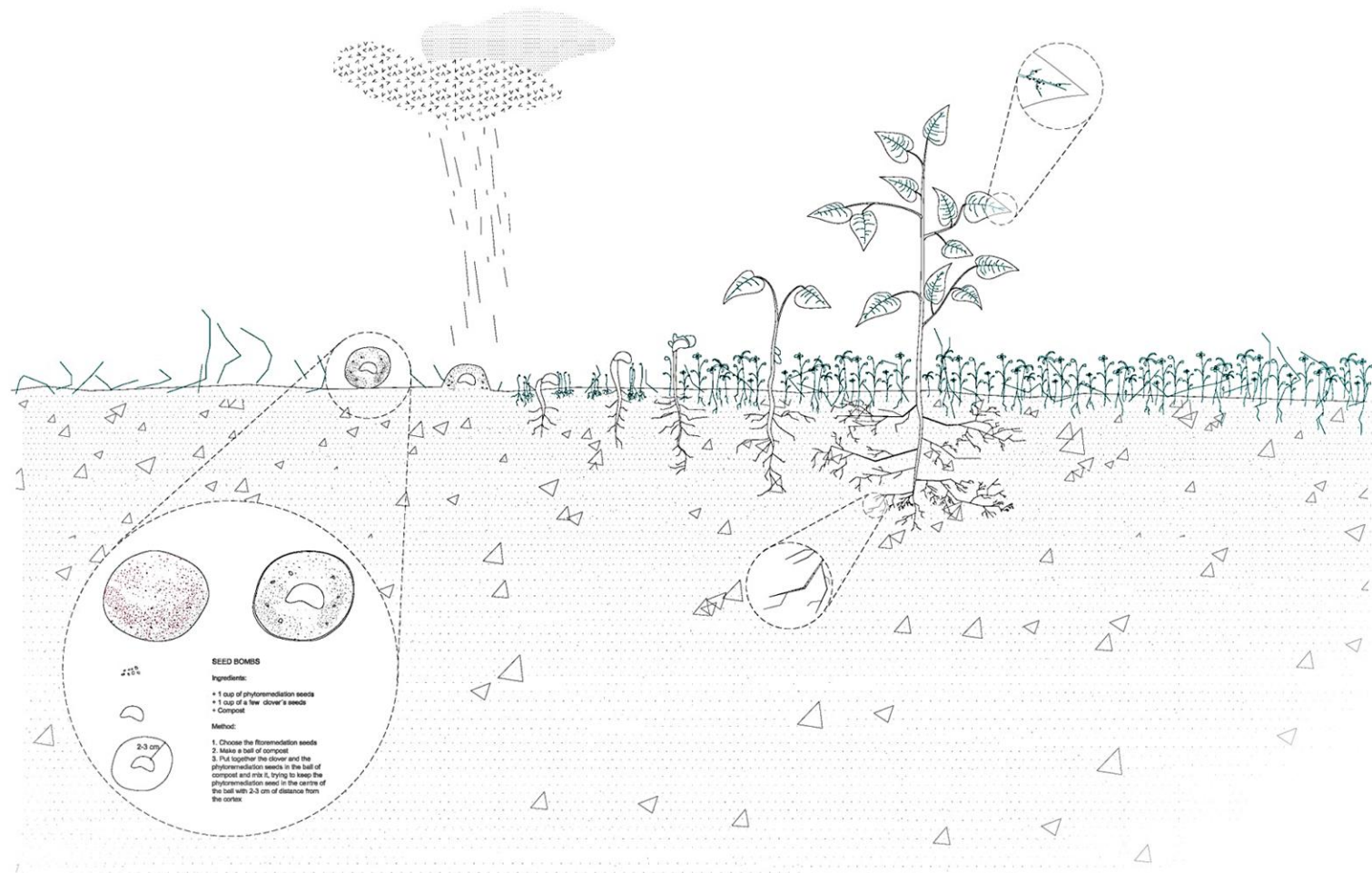
RAPESEED

BLACK POPLAR

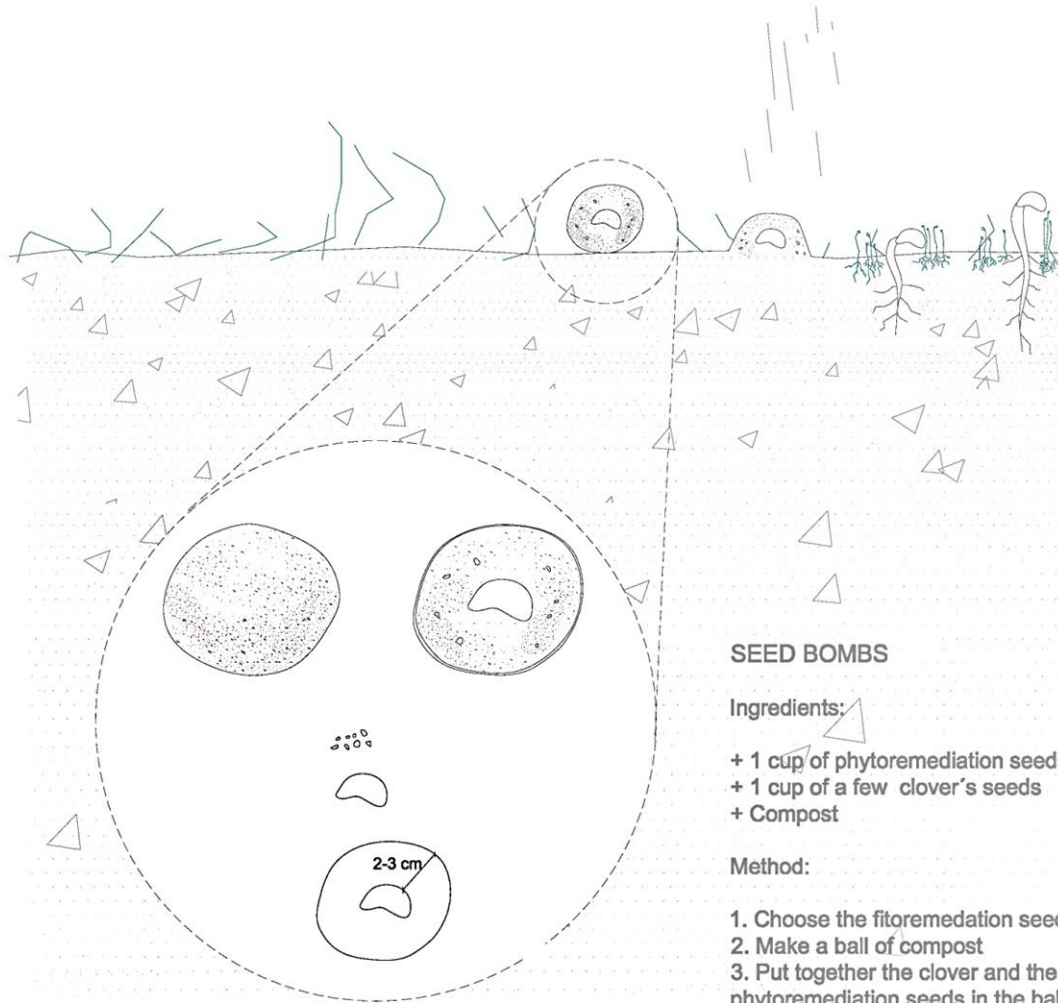
HORSERADISH

STINGING NETTLE





WHAT'S ABOUT...



SEED BOMBS

Ingredients:

- + 1 cup of phytoremediation seeds
- + 1 cup of a few clover's seeds
- + Compost

Method:

1. Choose the fitoremediation seeds
2. Make a ball of compost
3. Put together the clover and the phytoremediation seeds in the ball of compost and mix it, trying to keep the phytoremediation seed in the centre of the ball with 2-3 cm of distance from the cortex

HOW ARE MADE...



PHYTOREMEDIATION SEEDS CATALOGUE

HOW TO ENJOY...

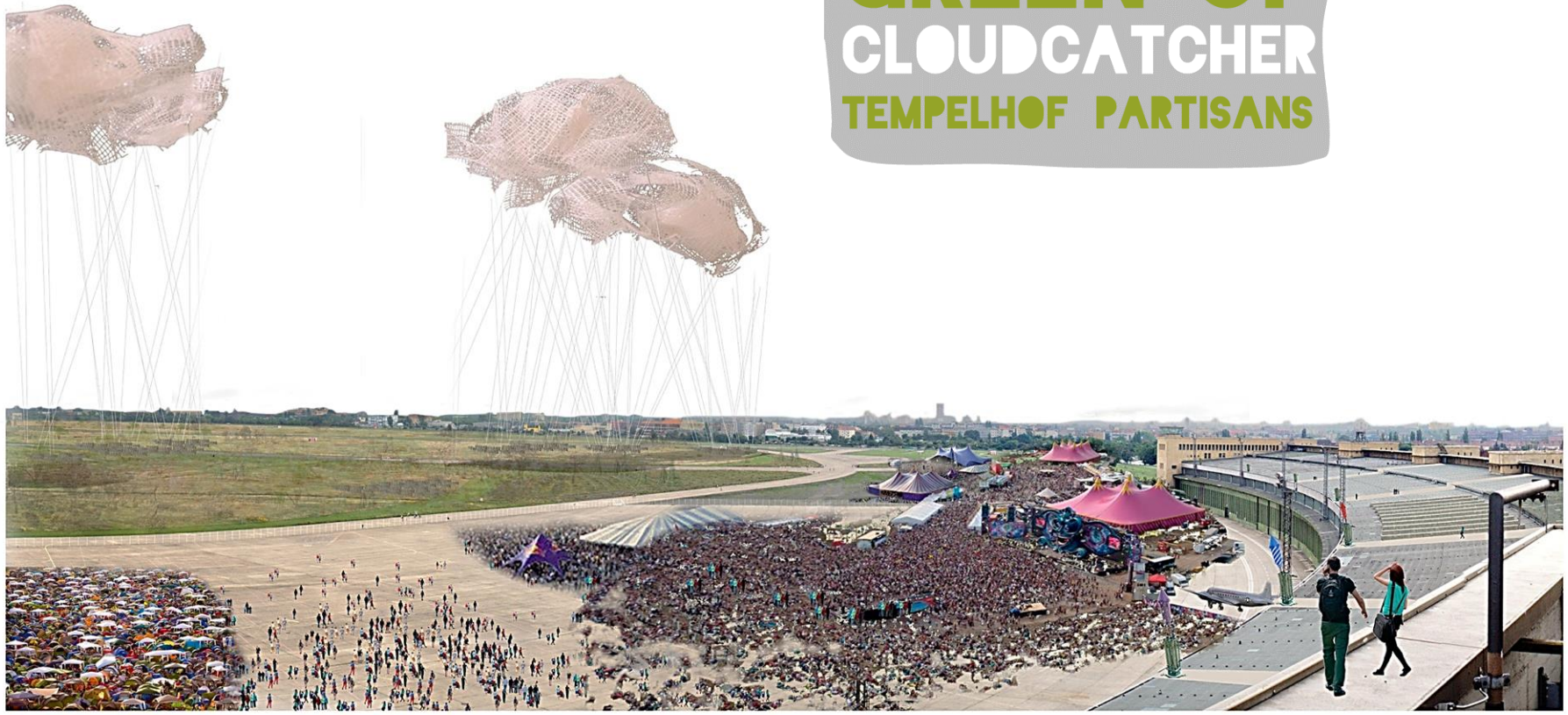


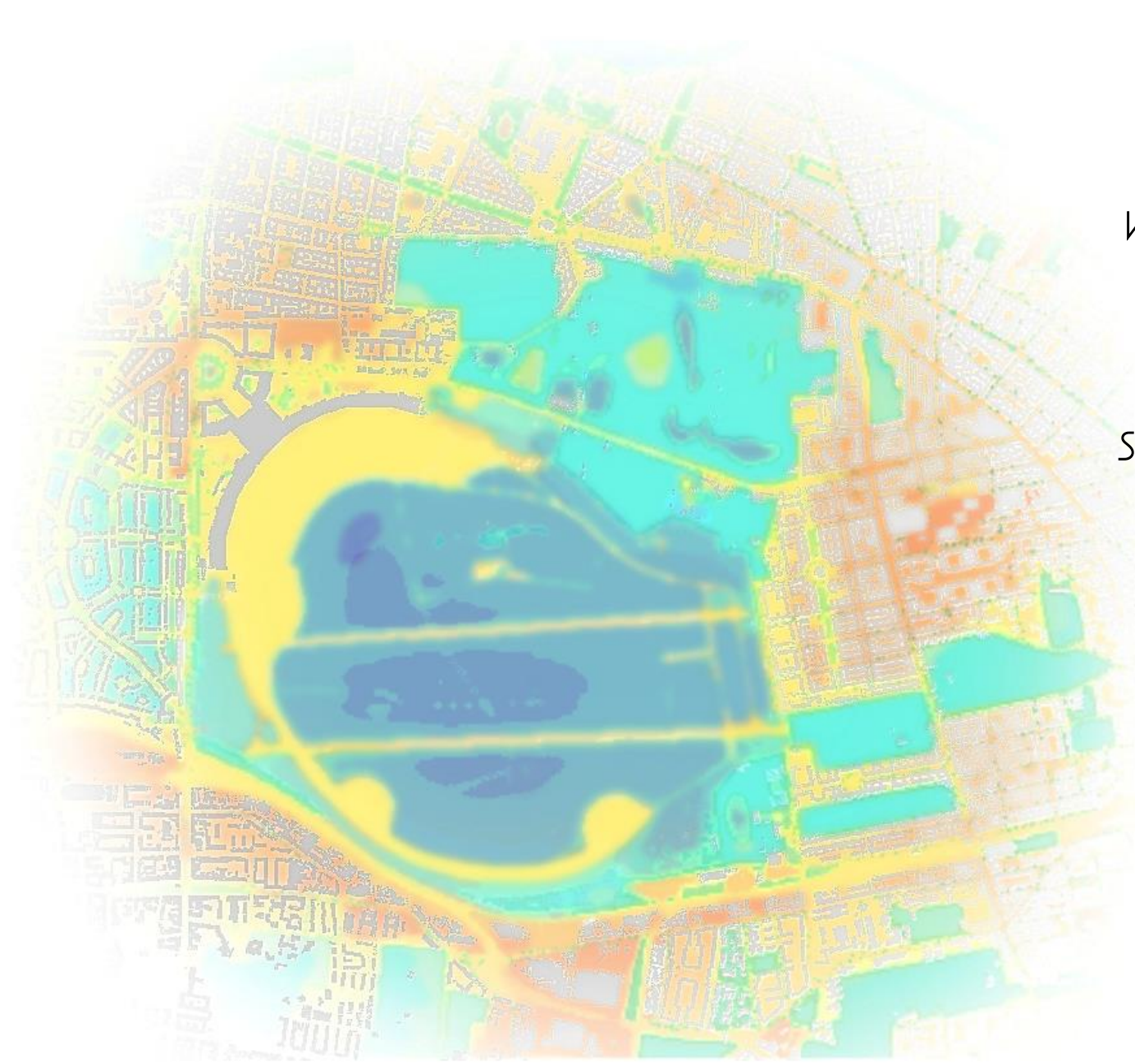


HOW TO ENJOY...

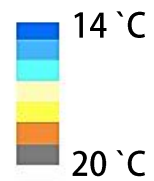
GREEN UP
CLOUDCATCHER
TEMPELHOF PARTISANS

STAGE 2

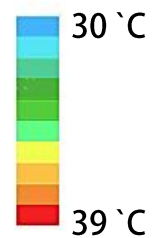




WINTER TEMPERATURES

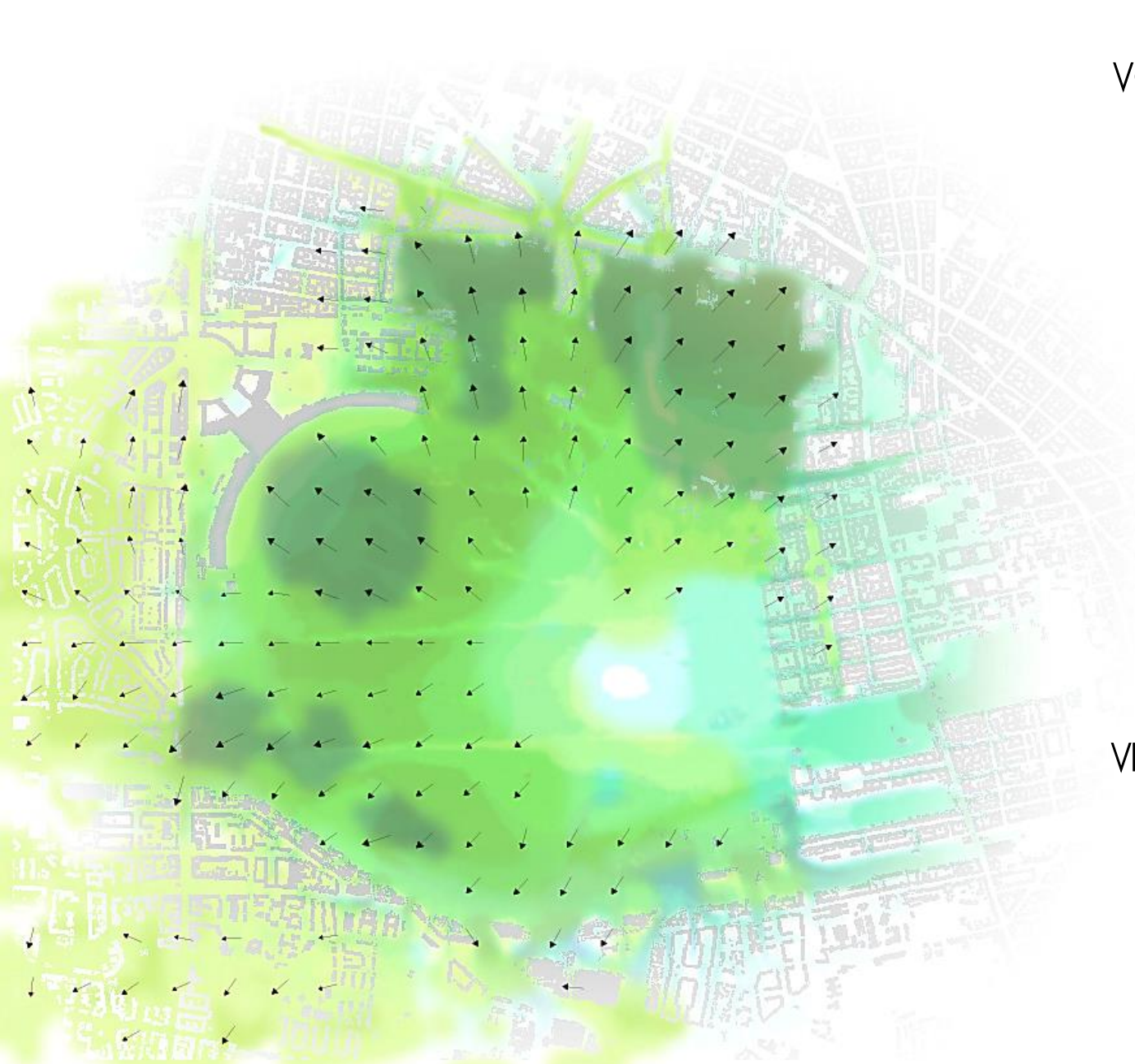
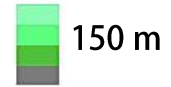


SUMMER TEMPERATURES



HOW TO ENJOY...

VOLUME OF AIR MOVED



VELOCITY OF AIR MOVED



HOW TO ENJOY...



1.KITE SYSTEM

HOW ARE MADE...



1.KITE SYSTEM



**2.CARBON FIBER
STRUCTURE**

HOW ARE MADE...



1, KITE SYSTEM



**2, CARBON FIBER
STRUCTURE**



3, NYLON CLOUD PATTERN

HOW ARE MADE...



1, KITE SYSTEM



**2, CARBON FIBER
STRUCTURE**



3, NYLON CLOUD PATTERN



**4, ENCLOSURE
LAYER**

HOW ARE MADE...



1, KITE SYSTEM



**2, CARBON FIBER
STRUCTURE**



3, NYLON CLOUD PATTERN



**4, ENCLOSURE
LAYER**



HOW ARE MADE...



HOW TO ENJOY...

ANIMAL
MUCK

PLANT
DISCARDS

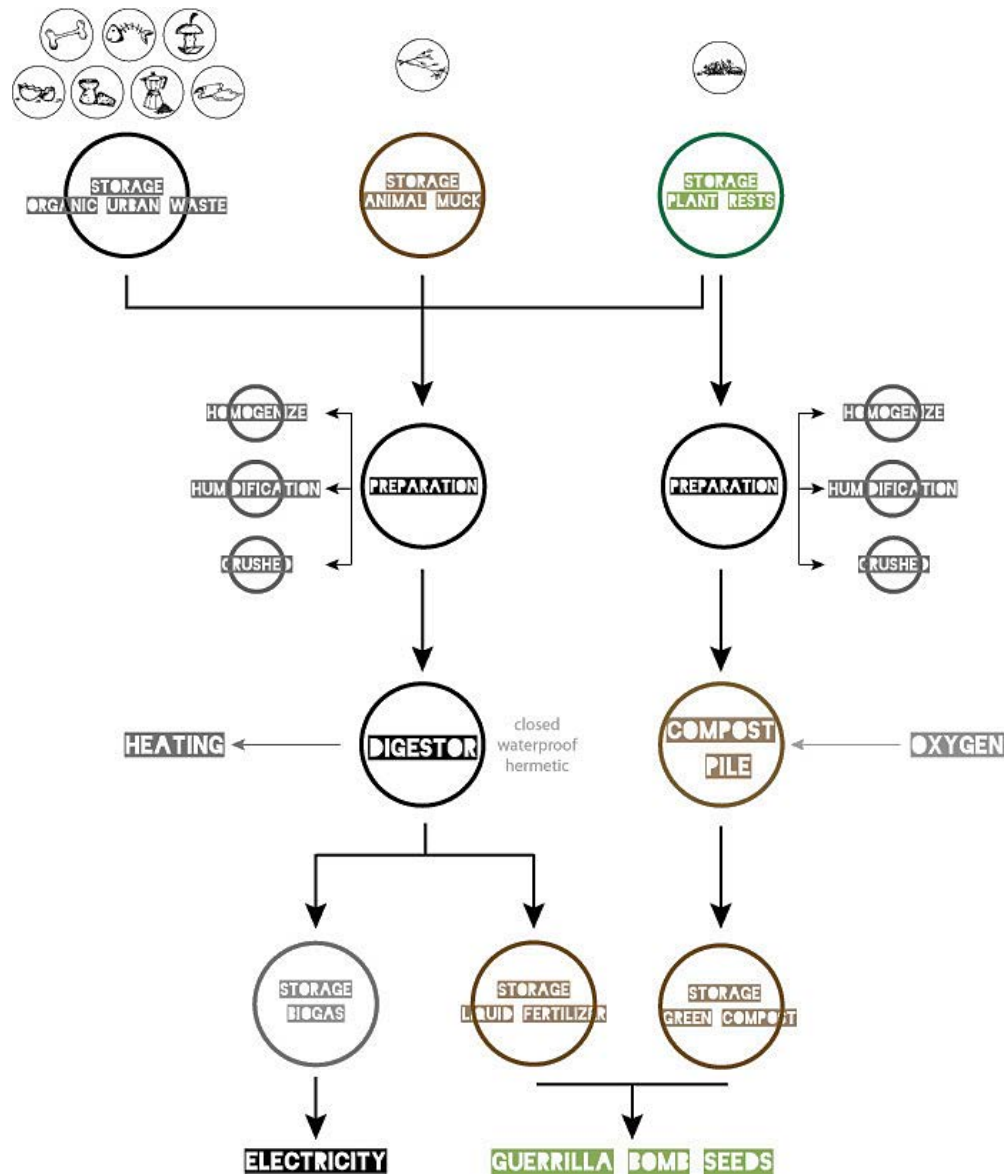
ORGANIC
WASTE

STAGE 3

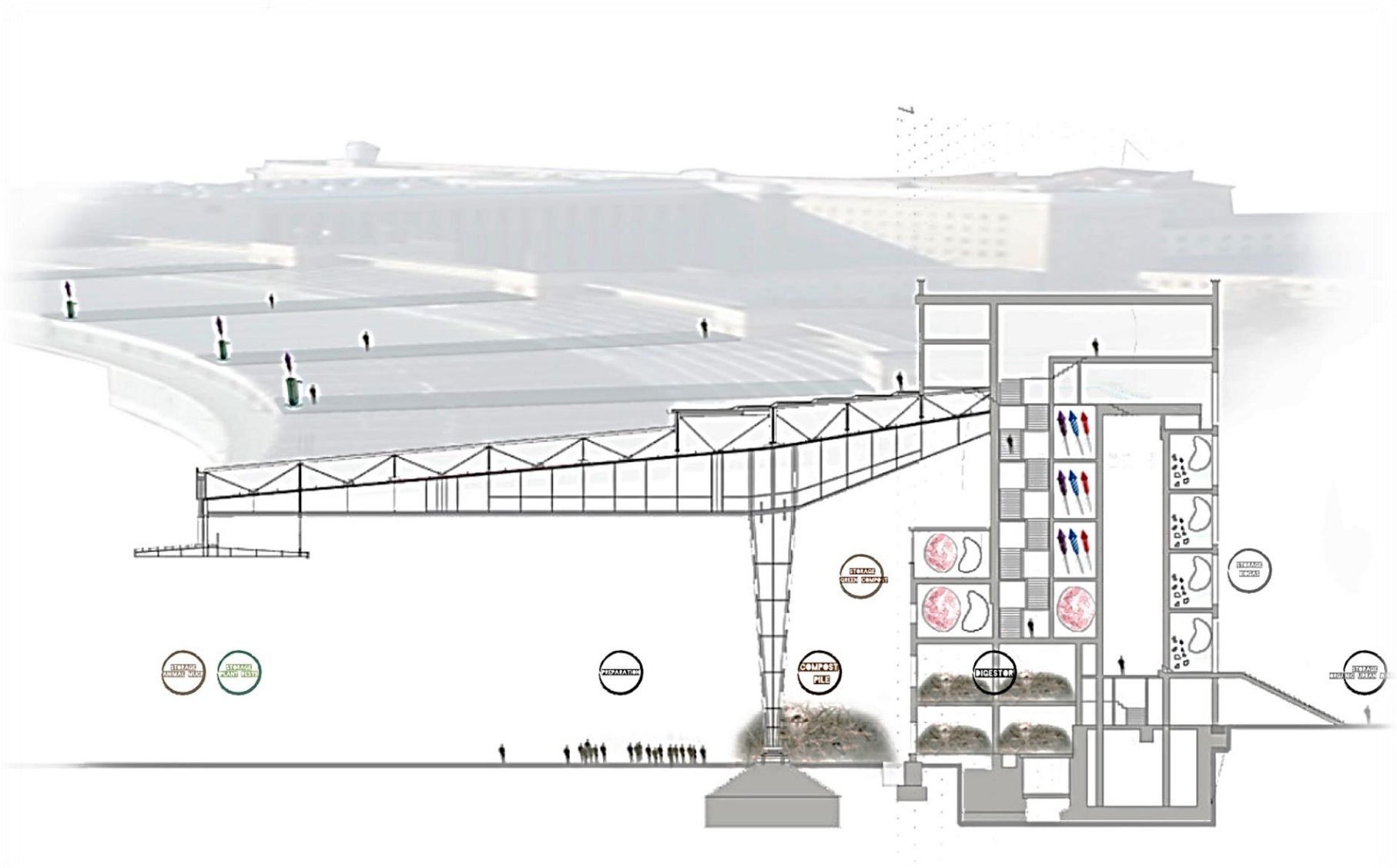
DIGESTOR PILE

THE COMPOST PROJECT

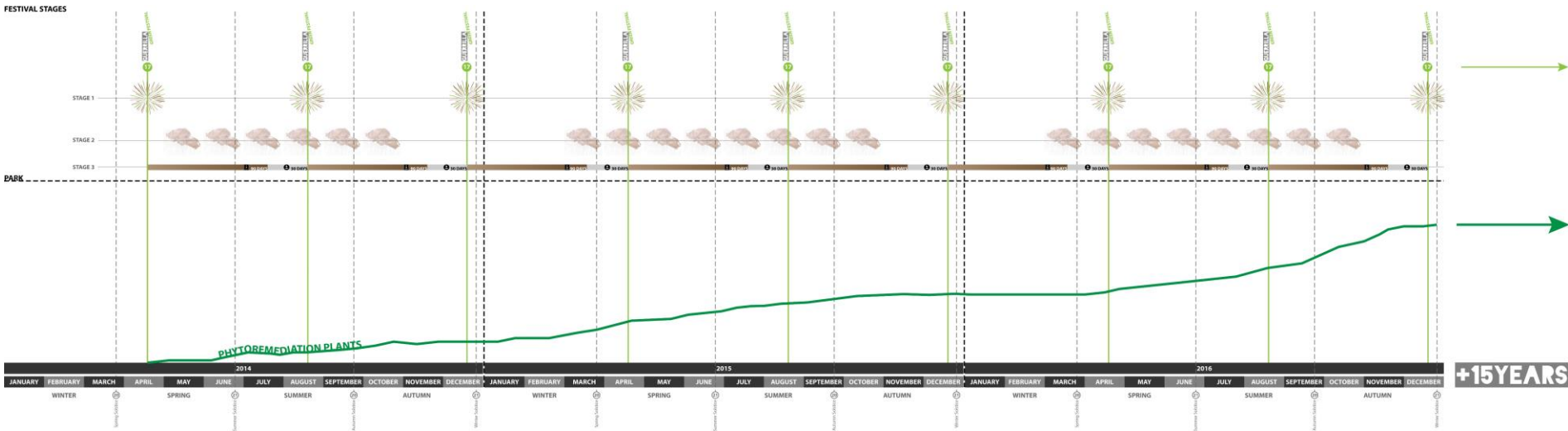




DIGESTOR BUILDING...



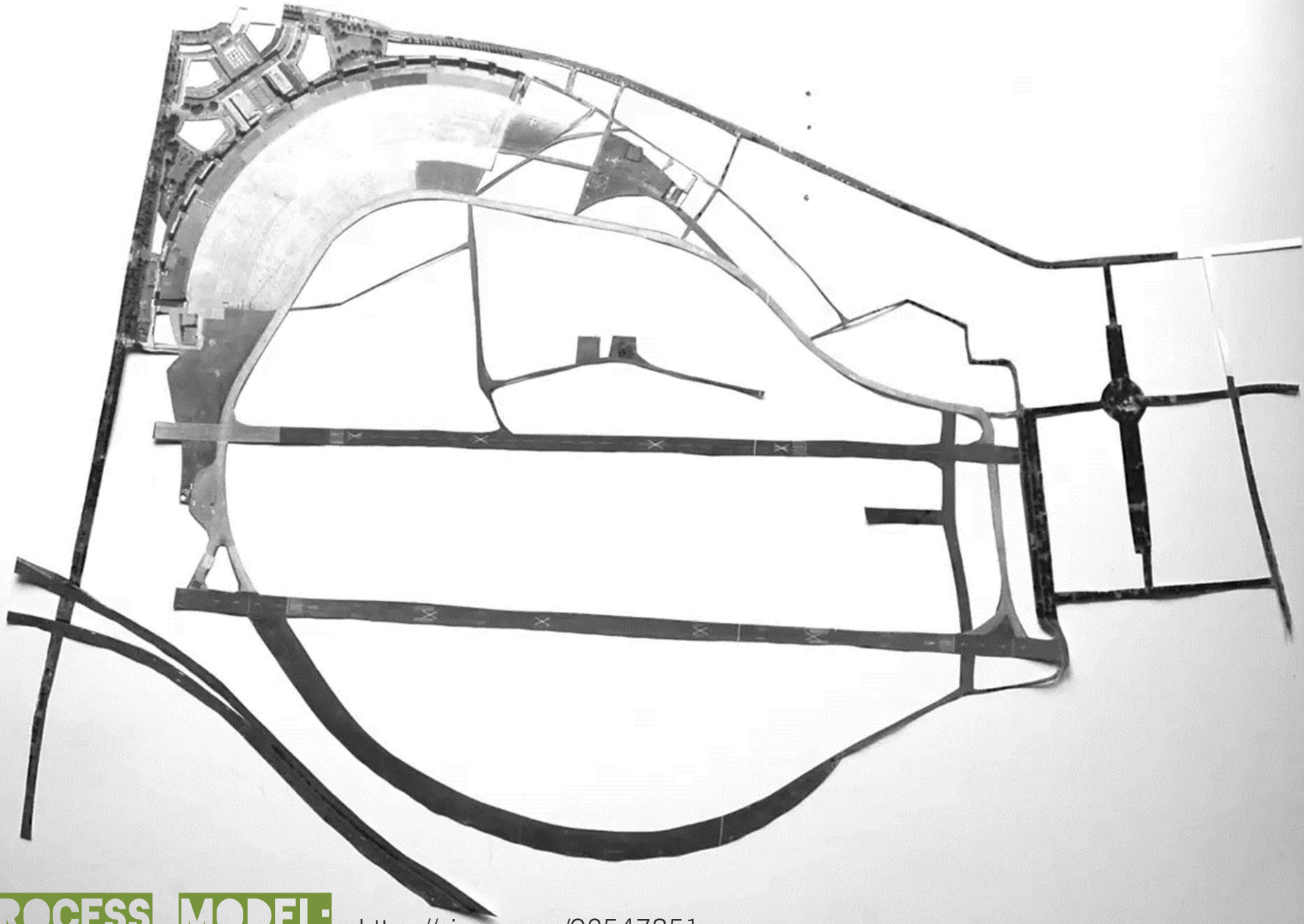
DIGESTOR BUILDING...



FESTIVAL TIMELINE



MISSION COMPLETED



PROCESS

MODEL:

<https://vimeo.com/92547851>

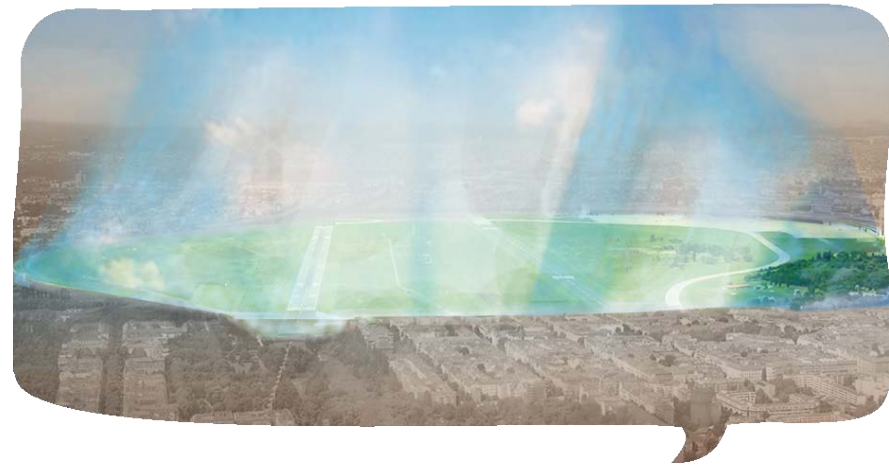


<https://vimeo.com/92547851>

SILVIA RIVELA

JESSICA CARREIRA

ALVARO CEREZO



EVENT 2 ARTIFICIAL GREEN LUNG SYSTEM



ARTIFICIAL GREEN LUNG SYSTEM



GREEN LUNG OF A CITY VS. ARTIFICIAL GREEN LUNG



EXISTING: 75% AIR QUALITY RATE



PROPOSAL: 99,95% AIR QUALITY RATE

WE WANT TO IMPROVE THE POSITIVE ASPECT ALREDY EXISTING IN THE CITY





SOCIAL ENVIRONMENTAL AND RECYCLING CONSCIENCE





RESULT OF APROPATION OF URBAN VOIDS





RECYCLING MATERIALS TO GIVE (THEM) A NEW USE

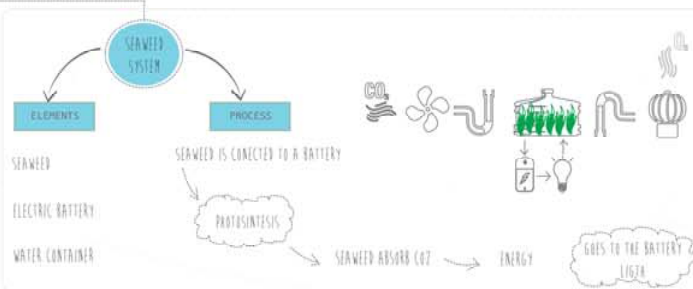
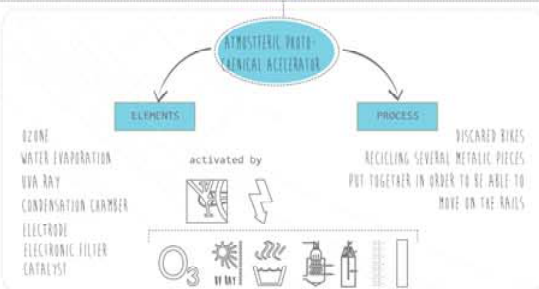
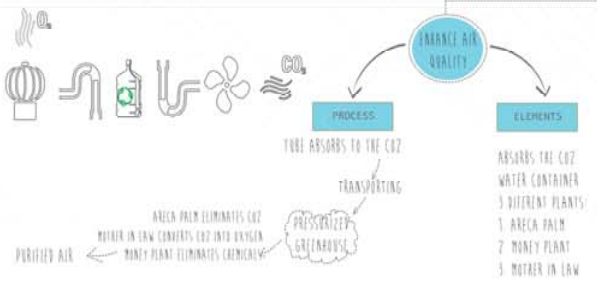
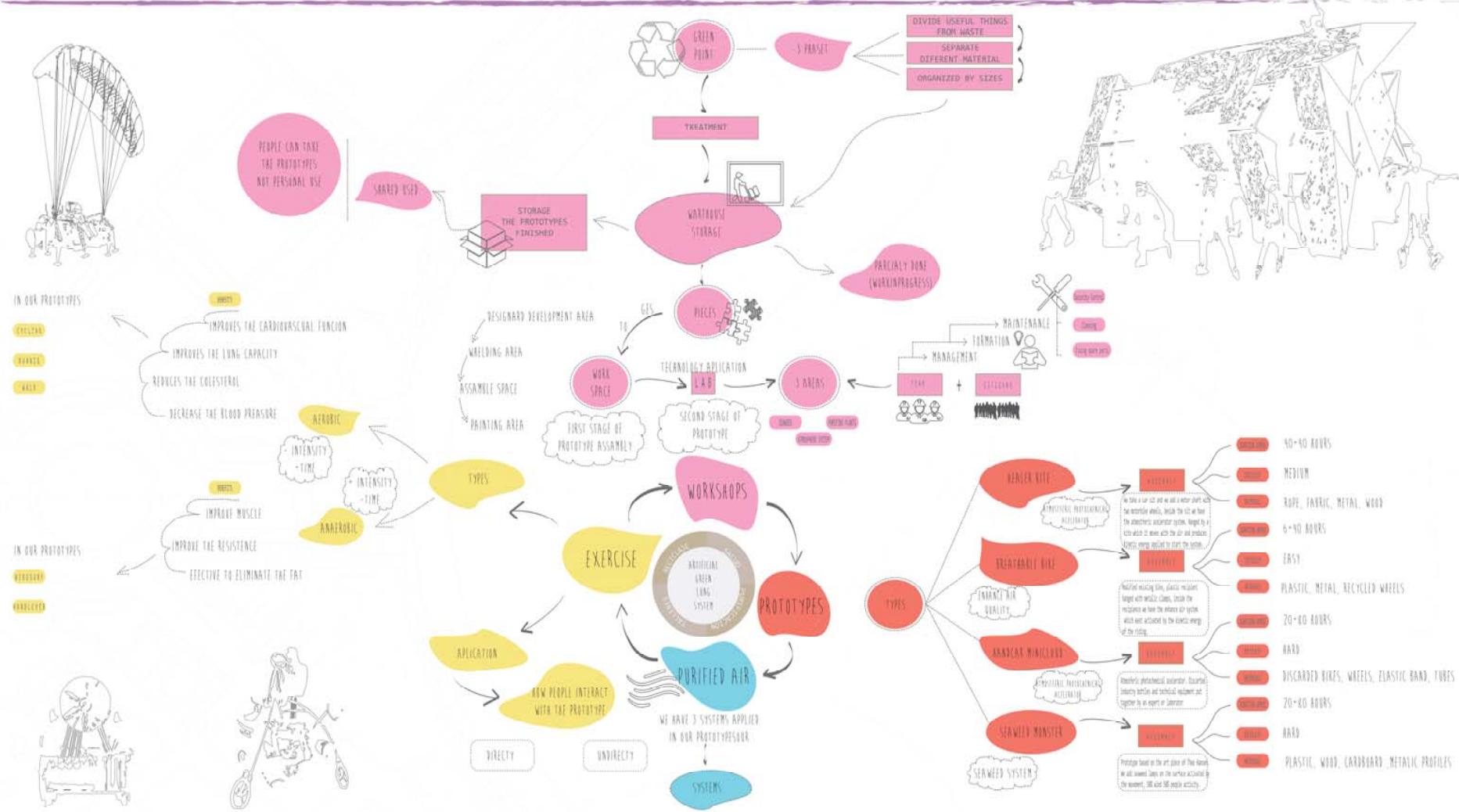


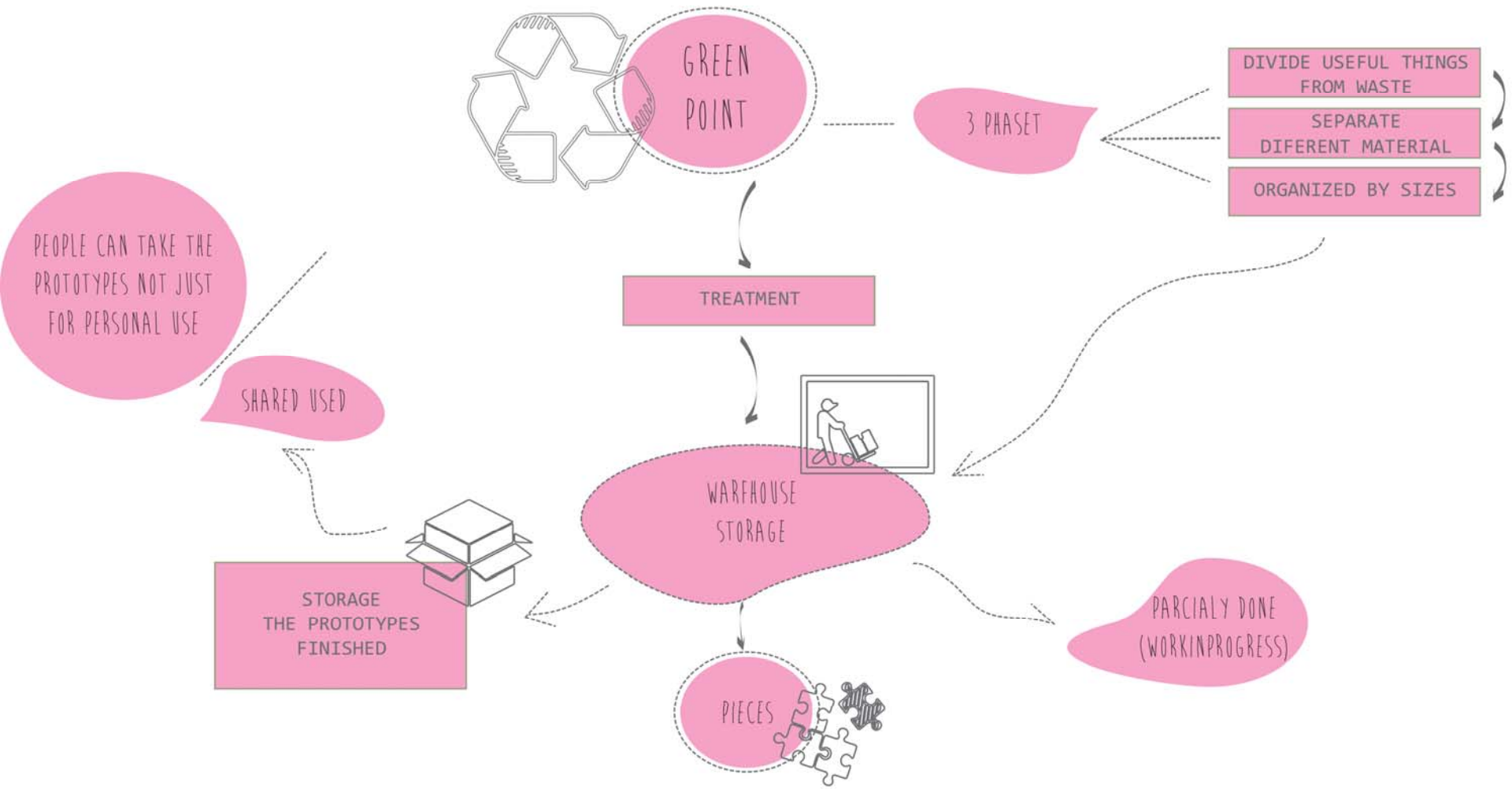
WE PROPOSE AN EXPERIMENTAL PROJECT IN TEMPELHOF WITH TWO GOALS.

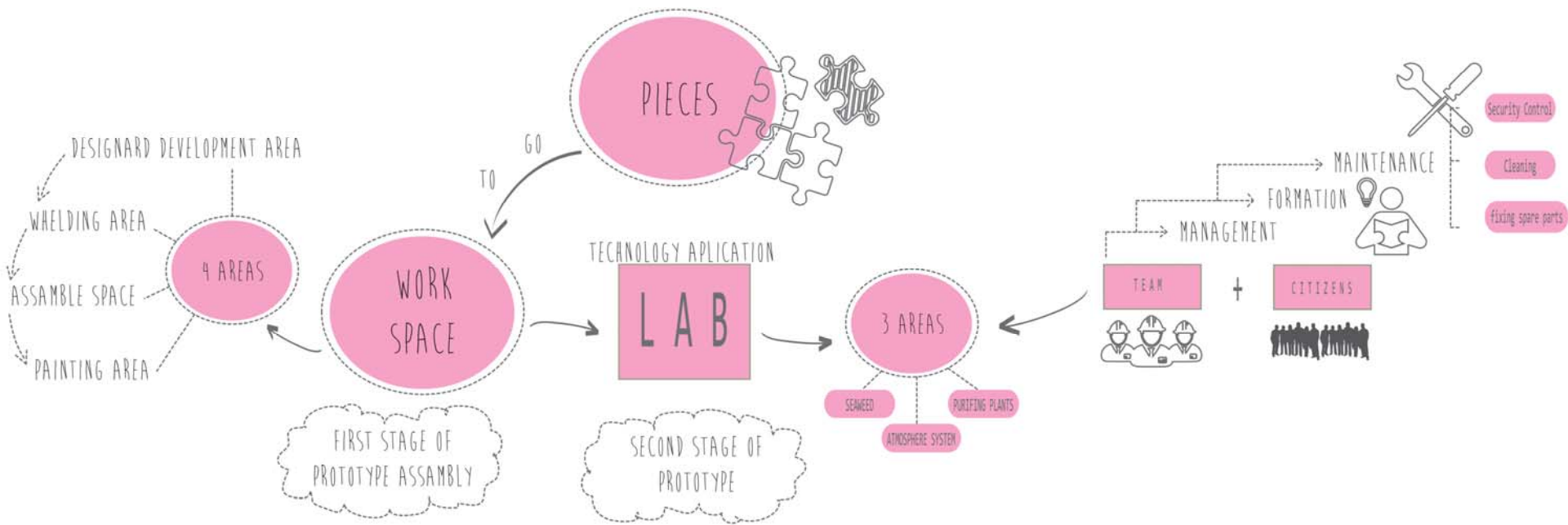
1. LABORATORY TO STUDY THE INFLUENCE AND BENEFITS OF A NEW EXTRAORDINARY AIR QUALITY
2. CREATE NEW PROTOTYPES FOR PURIFYING THE AIR AND EXTEND TO ANOTHER CITIES.



ARTIFICIAL GREEN LUNG SYSTEM. TEMPELAOF, BERLIN









PURIFIED AIR

WE HAVE 3 SYSTEMS APPLIED
IN OUR PROTOTYPES

SYSTEMS

ENHANCE AIR
QUALITY

PROCESS

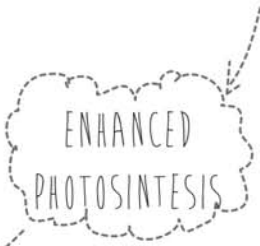
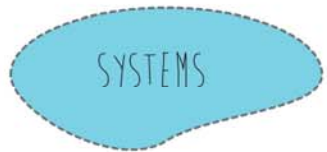
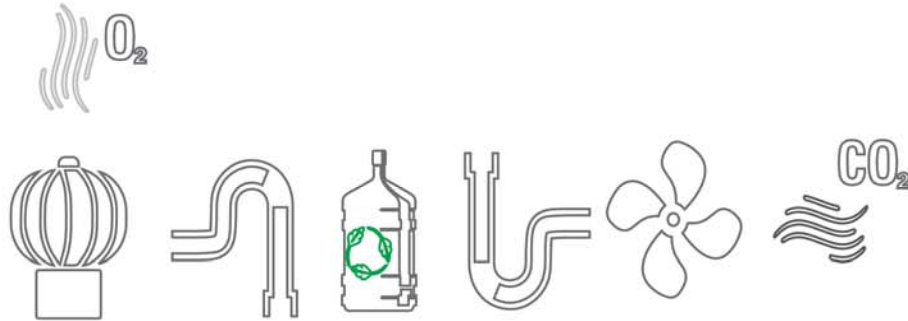
ELEMENTS

SEAWEED IS CONNECTED TO A BATTERY

ENHANCED
PHOTOSYNTHESIS

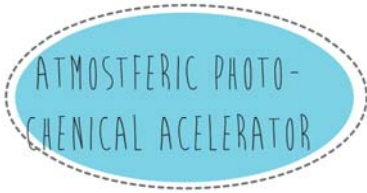
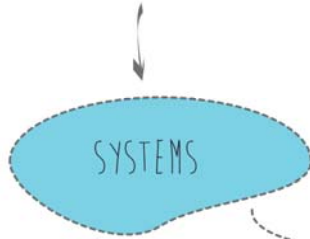
PURIFIED AIR ← PLANTS ABSORB CO₂

ABSORBS THE CO₂
WATER CONTAINER
3 DIFFERENT PLANTS:
1. ARECA PALM
2. MONEY PLANT
3. MOTHER IN LAW





WE HAVE 3 SYSTEMS APPLIED
IN OUR PROTOTYPES



OZONE
VAPOR WATER
UVA RAY
CONDENSATION CHAMBER
ELECTRODE
ELECTRONIC FILTER
CATALYST

activated by



DISCARDED BIKES
RECYCLING SEVERAL METALIC PIECES
PUT TOGETHER IN ORDER TO BE ABLE TO
MOVE ON THE RAILS



PURIFIED AIR

WE HAVE 3 SYSTEMS APPLIED
IN OUR PROTOTYPES

SYSTEMS

SEAWEED
SYSTEM

ELEMENTS

PROCESS

SEAWEED

ELECTRIC BATTERY

WATER CONTAINER

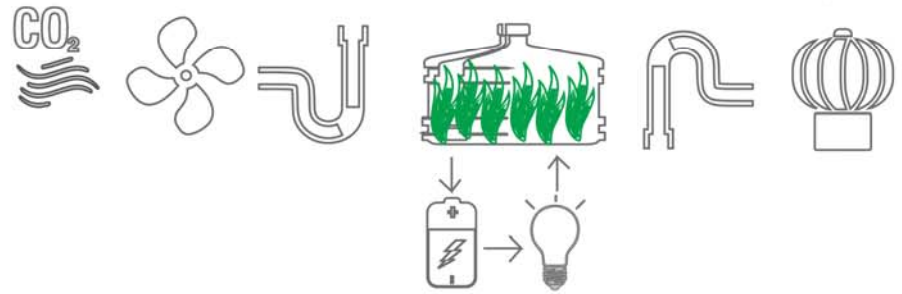
SEAWEED IS CONNECTED TO A BATTERY

PHOTOSYNTHESIS

SEAWEED ABSORB CO₂

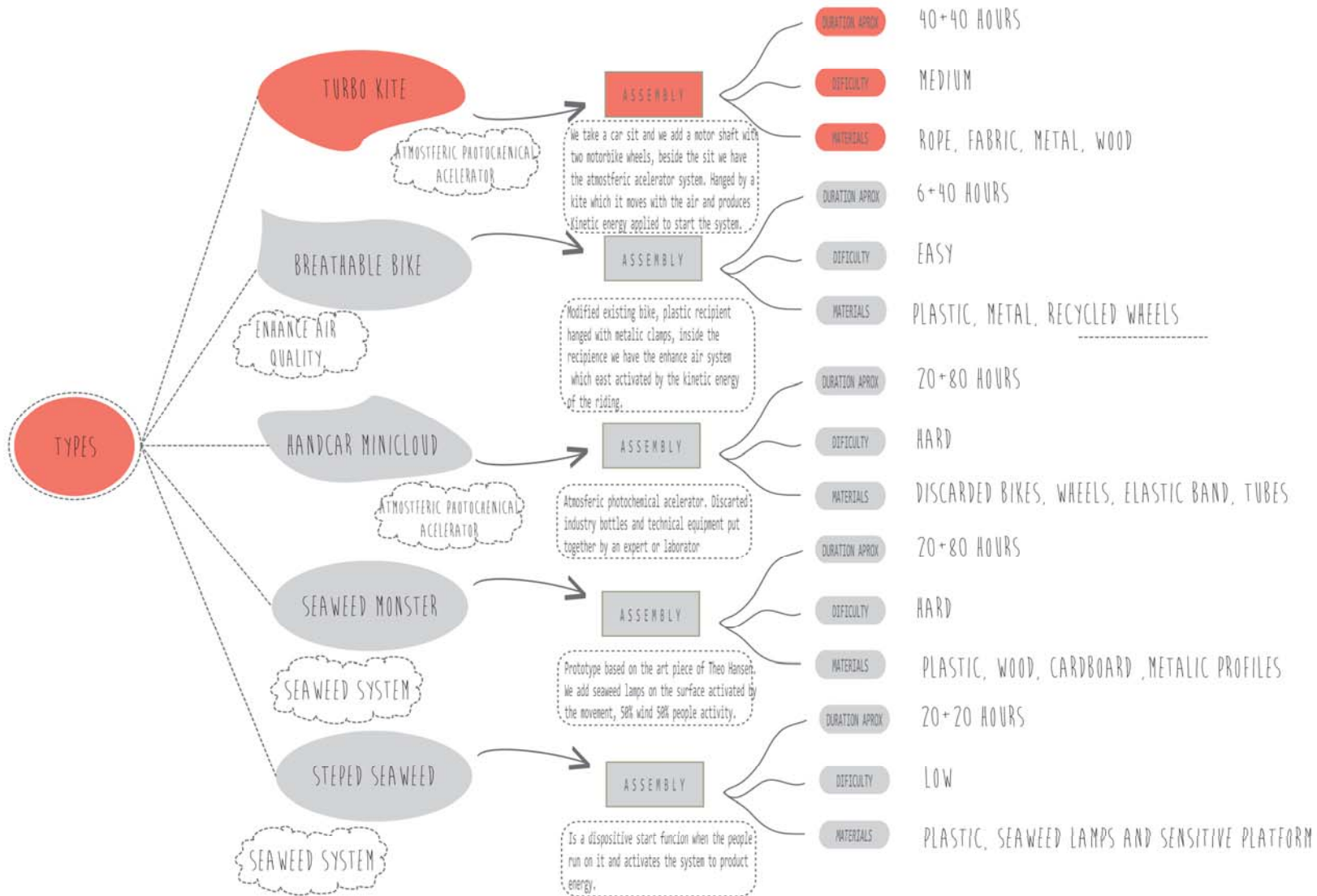
ENERGY

GOES TO THE BATTERY
LIGHT





PROTOTYPES



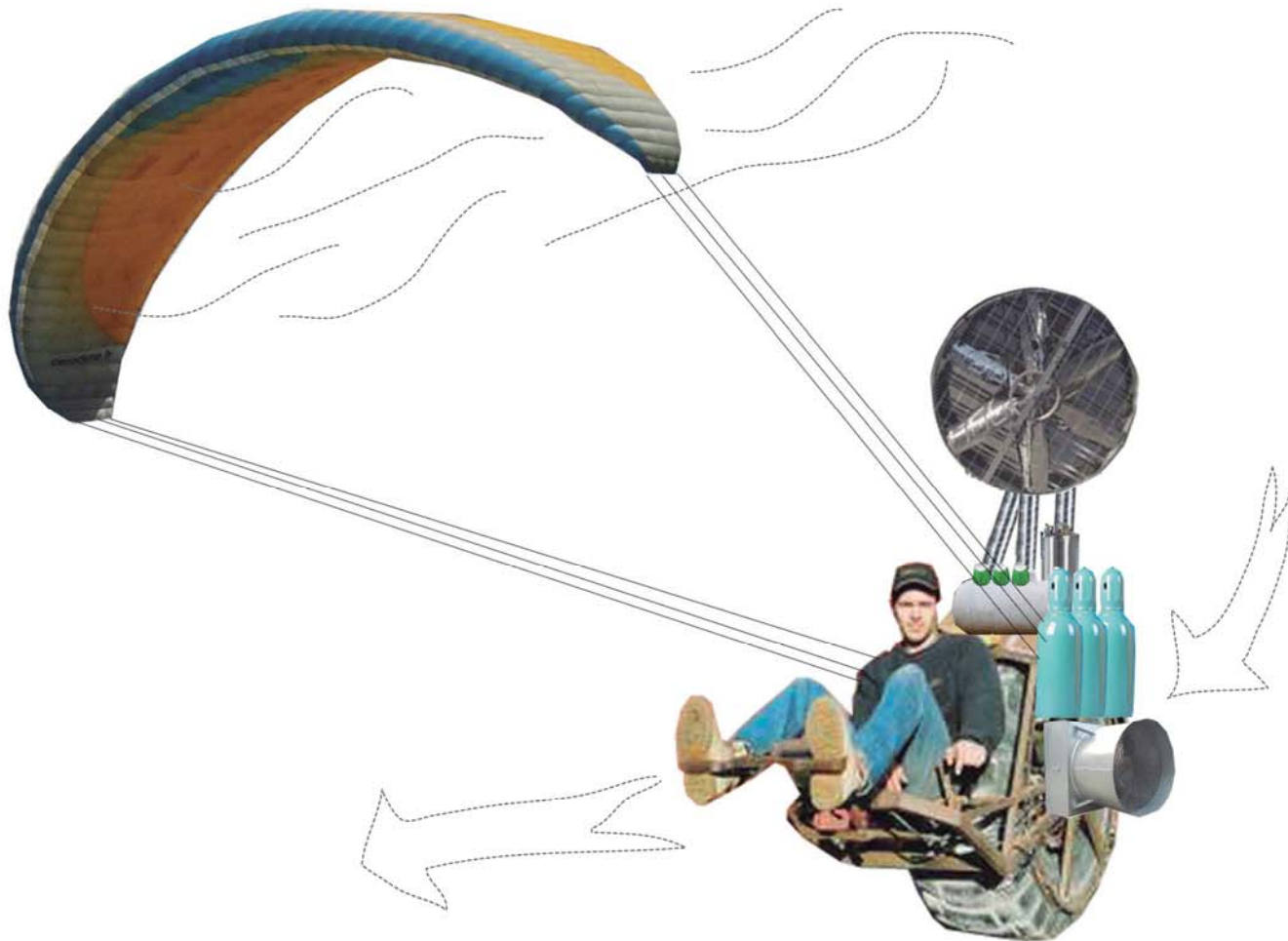


TURBO KITE

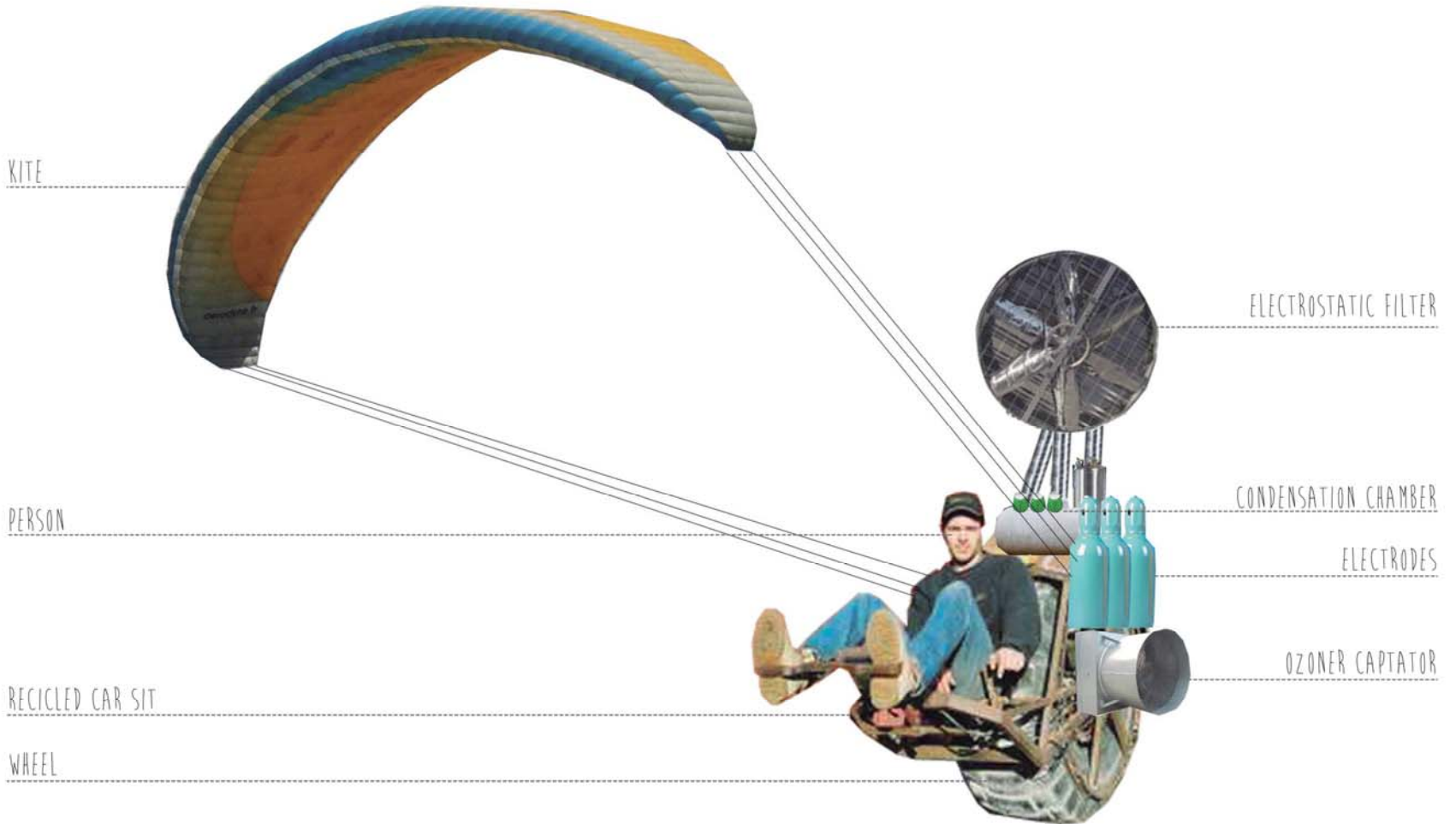


THE MOVEMENT PRODUCED BY THE WIND AND THE RIDING GENERATES ENERGY THAT ACTIVATES THE ATMOSPHERIC PHOTOCHEMICAL ACCELERATOR

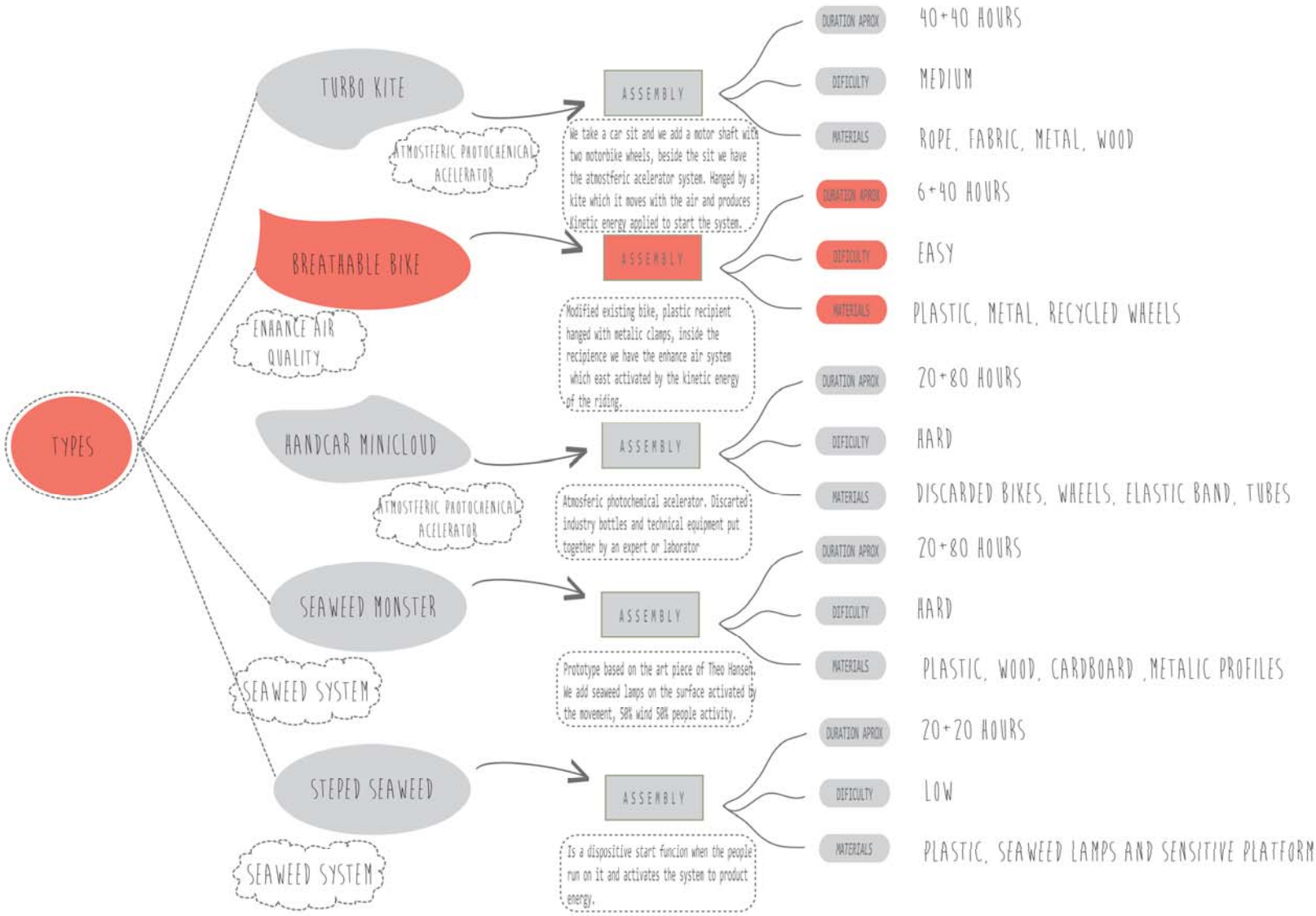
ACTIVATION



PIECES



PROTOTYPES





BREATHABLE BIKE



ACTIVATION

THE ENHANCE AIR WORKS BY THE ENERGY STORED IN A BATTERY CHARGED BY THE KINETIC ENERGY PRODUCED RIDING THE BIKE



PIECES

PERSON

RECYCLED CAR SIT

RECYCLED TRUCK

PLANTS

BATTERY

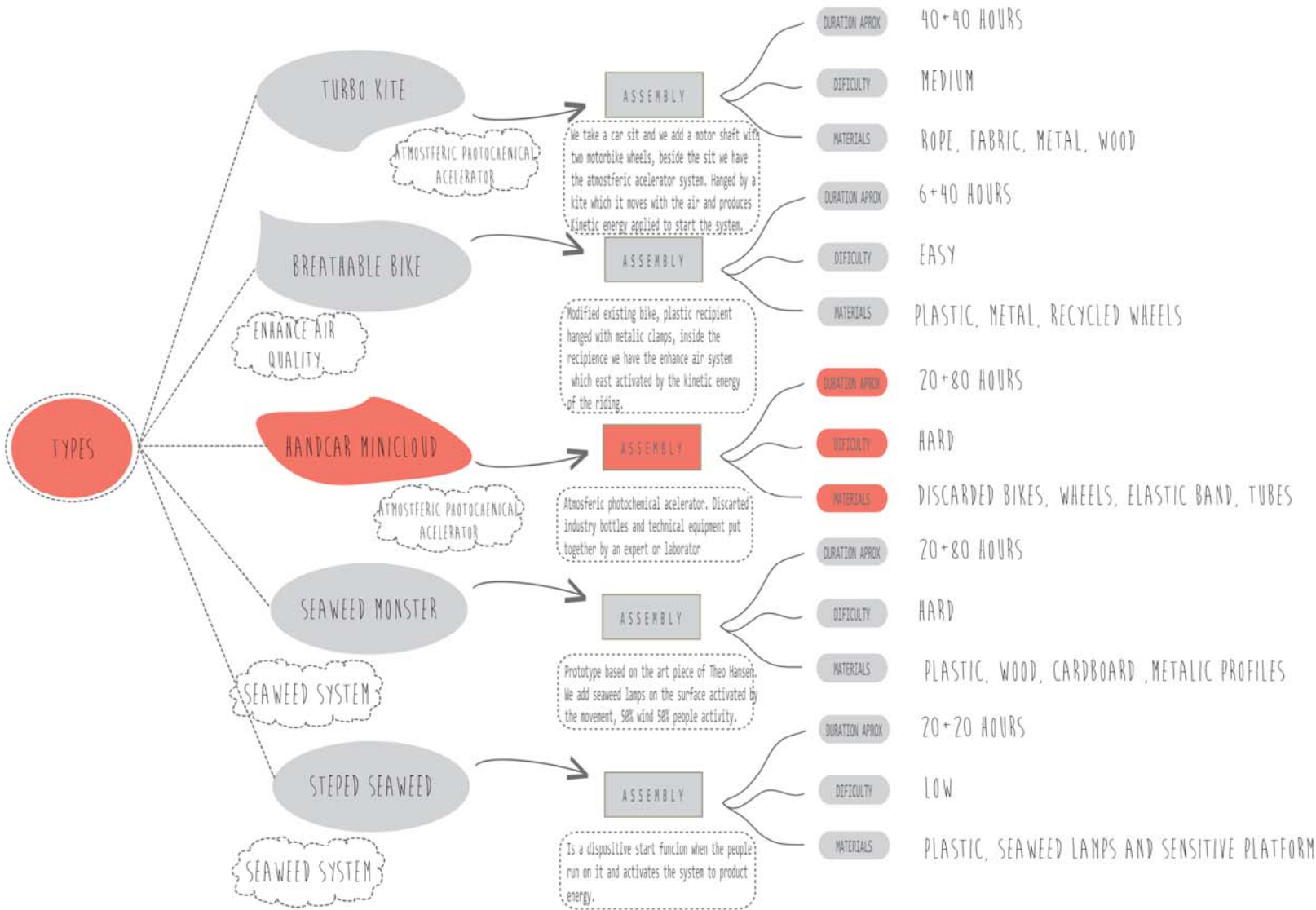
GREENHOUSE

CO2 ABSORBER

WHEEL



PROTOTYPES





HANDCAR MINICLOUD



THE KINETIC ENERGY PRODUCED TRANSFORMED TO ELECTRIC ENERGY ACTIVATE THE PROCESS OF THE ATMOSPHERIC PHOTOCHEMICAL ACCELERATOR SYSTEM

ACTIVATION



PIECES



PURE AIR EXHAUST

HAPPY COUPLE

HAND-LEVER

BAR SIT

CATALYST

ELECTRONIC FILTER

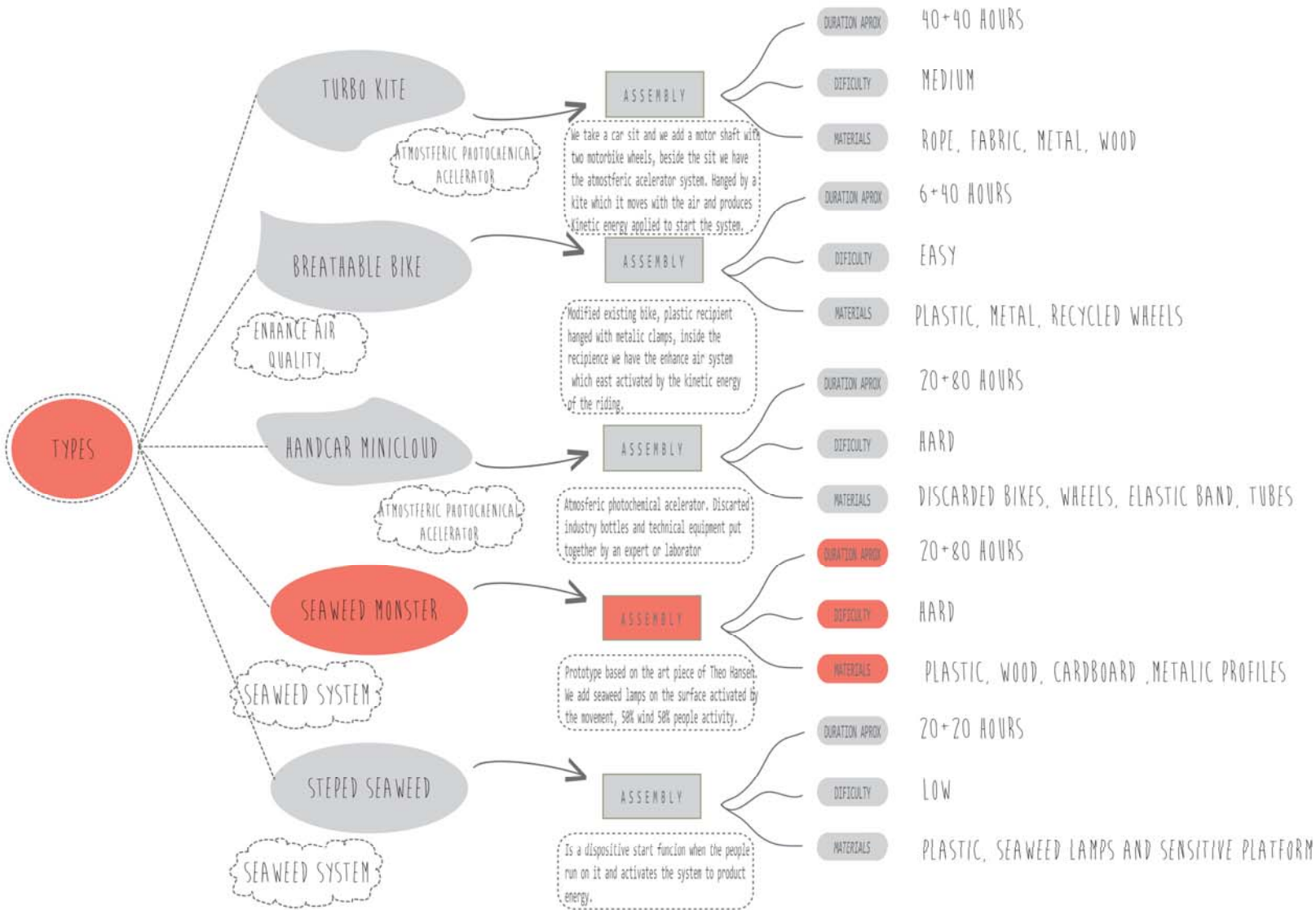
PLATFORM

OZONE

CONDENSATION CHAMBER

RAILS

PROTOTYPES



TYPES

TURBO KITE

ATMOSPHERIC PHOTOCHEMICAL ACCELERATOR

ASSEMBLY

We take a car sit and we add a motor shaft with two motorbike wheels, beside the sit we have the atmospheric acelerator system. Hanged by a kite which it moves with the air and produces kinetic energy applied to start the system.

DURATION APPROX

40+40 HOURS

DIFFICULTY

MEDIUM

MATERIALS

ROPE, FABRIC, METAL, WOOD

DURATION APPROX

6+40 HOURS

DIFFICULTY

EASY

MATERIALS

PLASTIC, METAL, RECYCLED WHEELS

BREATHABLE BIKE

ENHANCE AIR QUALITY

ASSEMBLY

Modified existing bike, plastic recipient hanged with metallic clamps, inside the recipient we have the enhance air system which east activated by the kinetic energy of the riding.

DURATION APPROX

20+80 HOURS

DIFFICULTY

HARD

MATERIALS

DISCARDED BIKES, WHEELS, ELASTIC BAND, TUBES

HANDCAR MINICLOUD

ATMOSPHERIC PHOTOCHEMICAL ACCELERATOR

ASSEMBLY

Atmospheric photochemical acelerator. Discarted industry bottles and technical equipment put together by an expert or laborator

DURATION APPROX

20+80 HOURS

DIFFICULTY

HARD

MATERIALS

PLASTIC, WOOD, CARDBOARD, METALIC PROFILES

SEAWEED MONSTER

SEAWEED SYSTEM

ASSEMBLY

Prototype based on the art piece of Theo Hansen. We add seaweed lamps on the surface activated by the movement, 50% wind 50% people activity.

DURATION APPROX

20+20 HOURS

DIFFICULTY

LOW

MATERIALS

PLASTIC, SEAWEED LAMPS AND SENSITIVE PLATFORM

STEPED SEAWEED

SEAWEED SYSTEM

ASSEMBLY

Is a dispositive start funcion when the people run on it and activates the system to product energy.



SEAWEED MONSTER



PROTOTYPE BASED ON THEO HANSEN

THE MOVEMENT PRODUCED BY THE PEOPLE ACCELERATES THE PHOTOSYNTHESIS PROCESS

ACTIVATION



WIND 50%

EXERCISE 50%

PROTOTYPE BASED ON THEO HANSEN

PIECES

SEAWEED

HINGE

PEOPLE

CARDBOARD

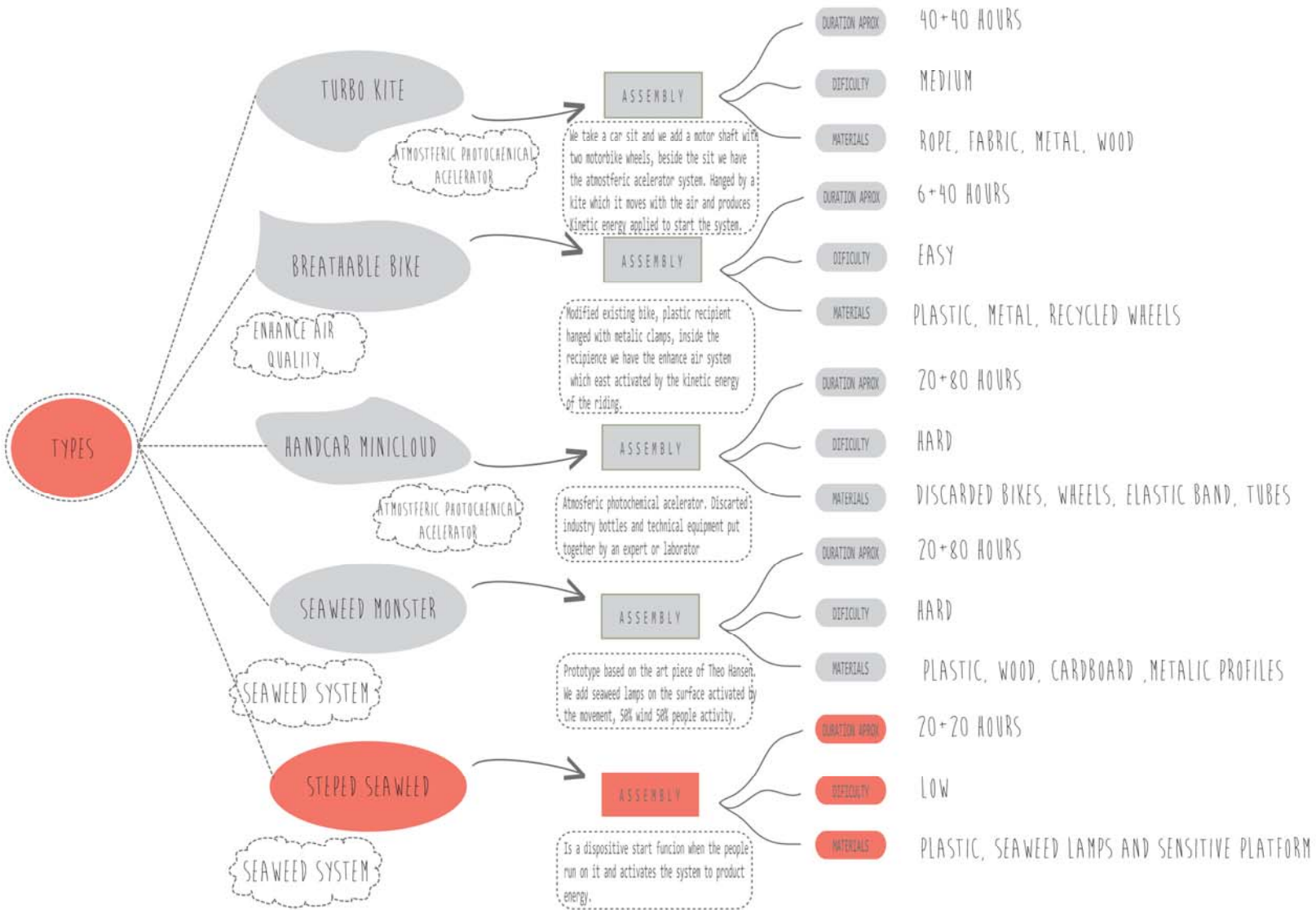
HANDLE

WHEEL



PROTOTYPE BASED ON THEO HANSEN

PROTOTYPES





STEPED SEAWEED



ACTIVATION

THE PROTOTYPE IT'S ACTIVATED WHEN THE PEOPLE WALK OR RUN INTO THE PLATFORM OF IT.



PIECES



RUNNER

SENSITIVE PLATFORM

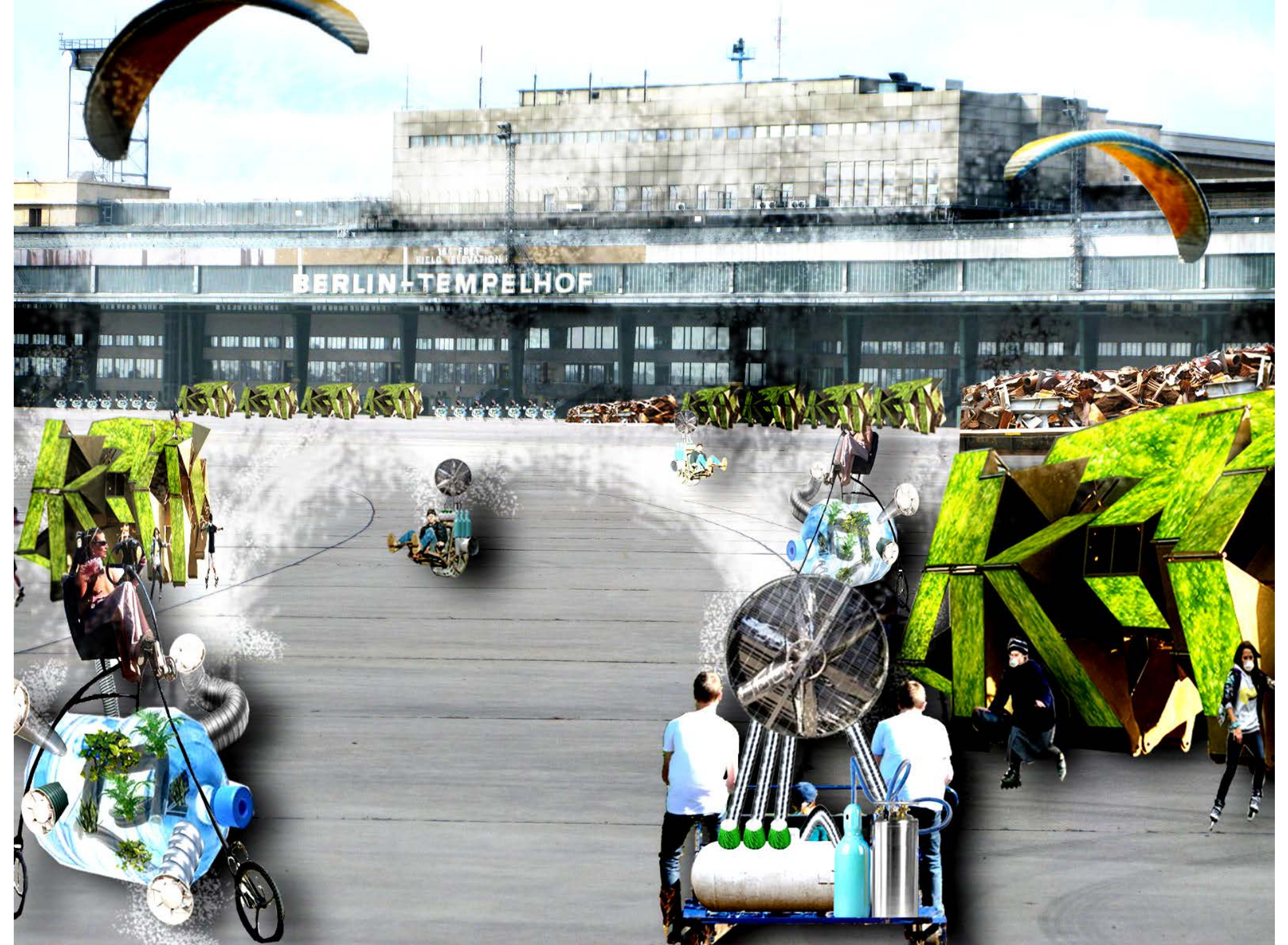
PURE AIR EXHAUST

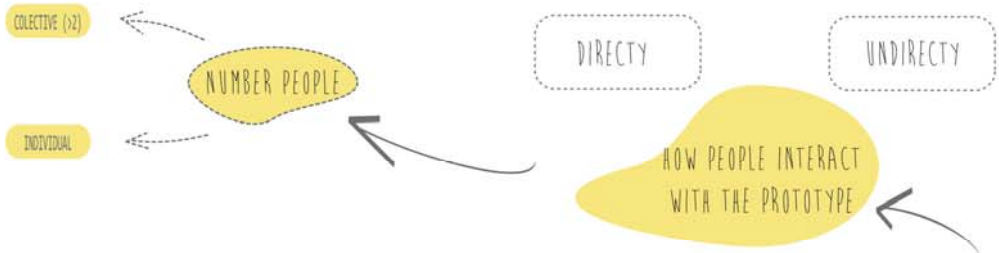
EXHAUST

WATER CONTAINER

SEAWEEDS

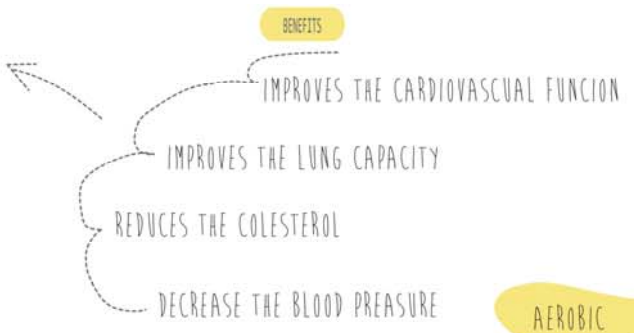
CO2 ABSORBER





IN OUR PROTOTYPES

- CYCLING
- RUNNIG
- WALK



EXERCISE

IN OUR PROTOTYPES

- WIRDSURF
- HANDLEVER





EXERSICE -> TYPE: ANAEROBIC -> APLICATION: DIRECTLY -> USE: COLECTIVE



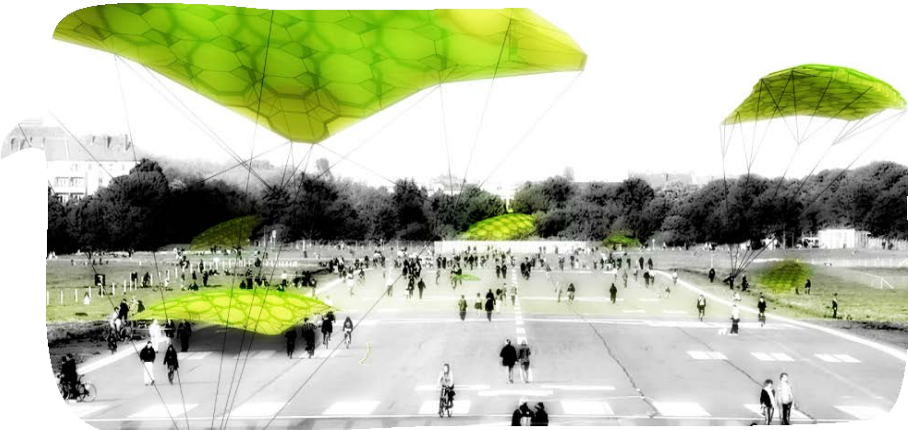
PAULA SABARIEGO

BORJA DE SANTIAGO

DANNY MOUTINHO

ANGEL BARRON

EVENT 3
GOODBYE GROUND





GOODBYE GROUND!









ACTIVE PARTICIPATION
COMMUNITIES
MEETING POINTS

SHADED SPACES
SUMMER

FLOATING GARDENS
NEW TOPOGRAPHIES
SENSORY SPACES

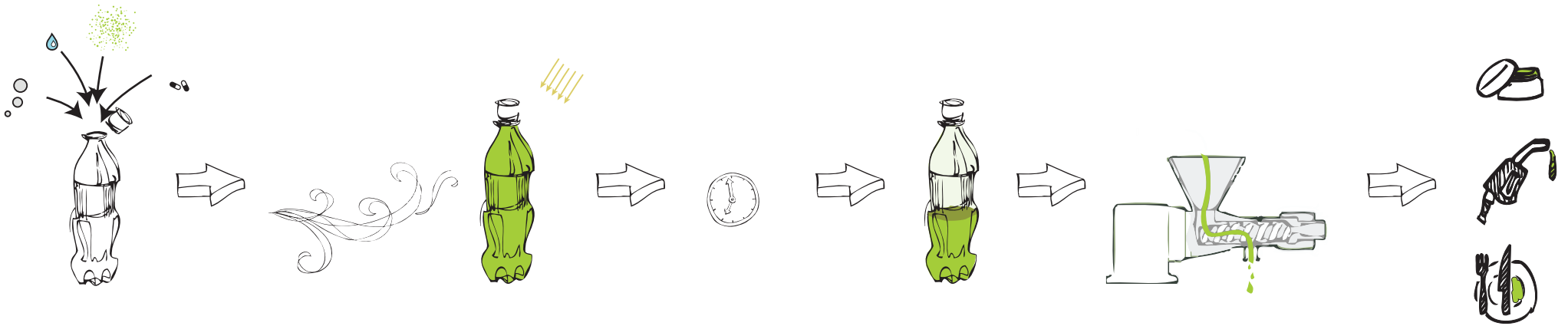
WIND
GARDENING KITES

MATERIALITY
RECYCLED MATERIALS

TEMPORARY LOCATION
MOBILITY

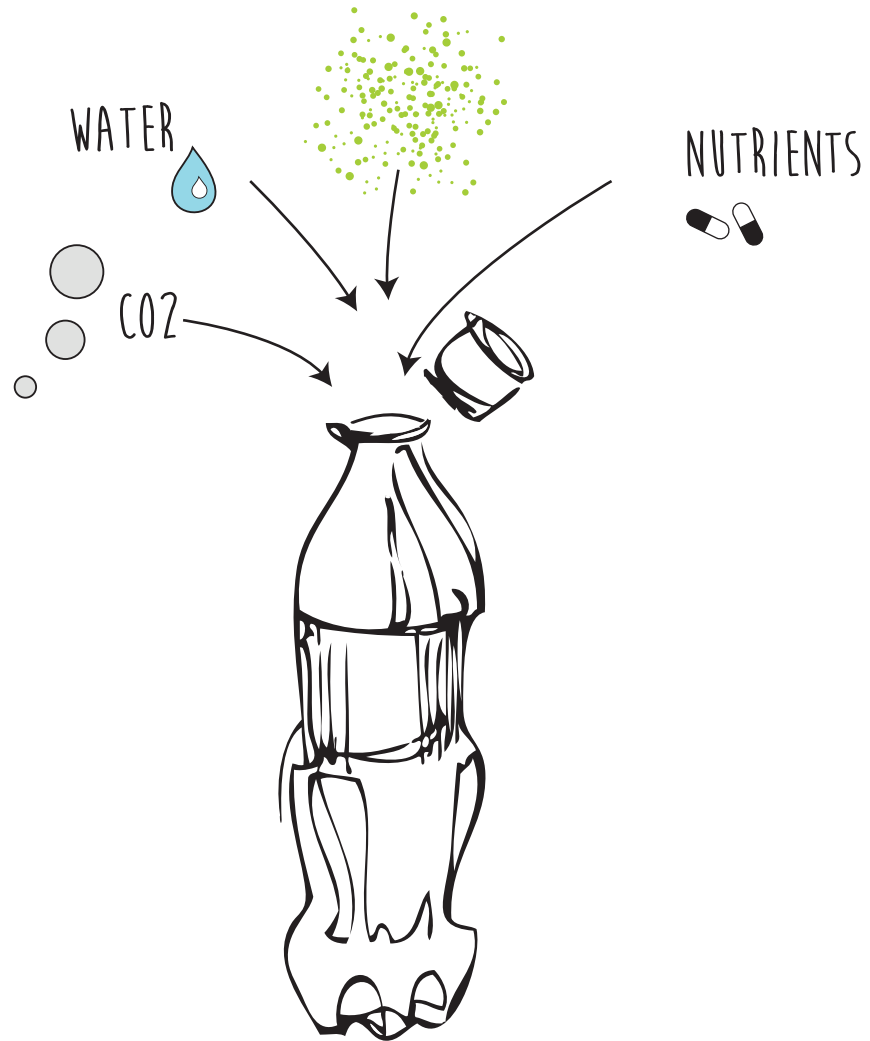
VERTICAL MOVEMENT
TRANSPORTABLE

CULTIVATION PROCESS OF ALGAE



THE MIX

MICRO ALGAE



Micro algae species: *Dunaliella*

Growing cycle: 24 hours

Salinity : 0.37 ‰

PH: 7-9

Nutrient requirements :
CO₂ , water, salts , vitamins

67 % turns to oil



THE NEEDS

Temperature: between 15 to 22 C
(optimum 16th C)

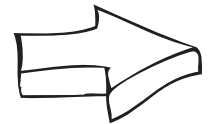
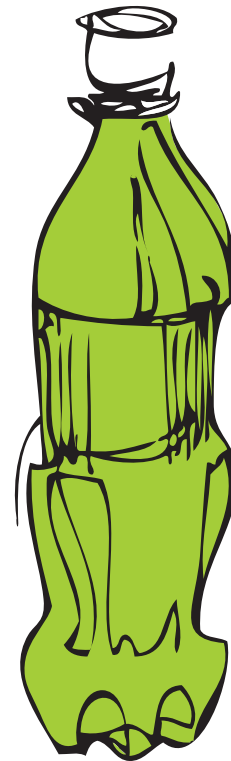
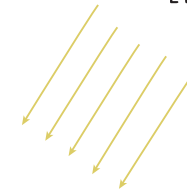
Lighting: 2000 - 4000 lux.

MOVEMENT
(WIND)

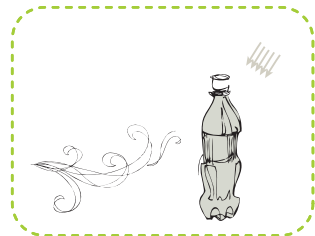


PHOTOBIOREACTOR

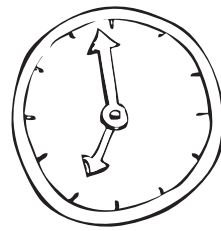
SOLAR
LIGHT



Cultivation process of algae



24 HOURS LATER...

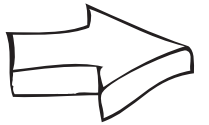


Cultivation process of algae



SEDIMENTATION OF BIOMASS

Separation of water and biomass



Cultivation process of algae



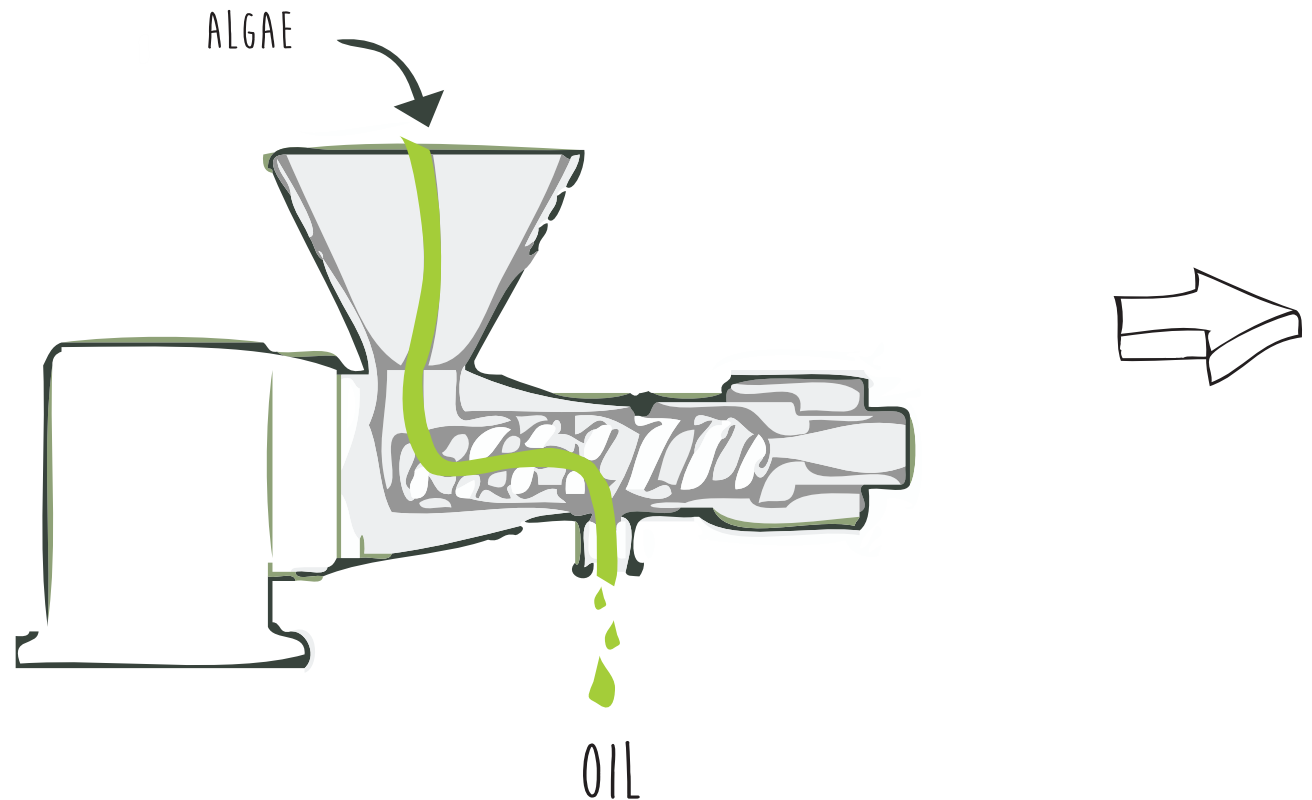
OIL EXTRACTION (PRESSING)

84 bottles of 0.50 liters = 42 liters

42 kg, of which 67 % is converted into oil , that is, 28.14 kg

$28.14 \text{ L} \times 33 \text{ mg / L} = 928.62 \text{ mg / day}$ every kite (0.93 kg / day) .

Each year, for every kite installed we will generate 339,45 Kg of oil.



Cultivation process of algae



PRODUCTS



COSMETICS



BIODIESEL



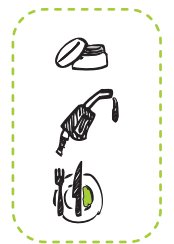
FOOD

OILS: Biodiesel & cosmetics

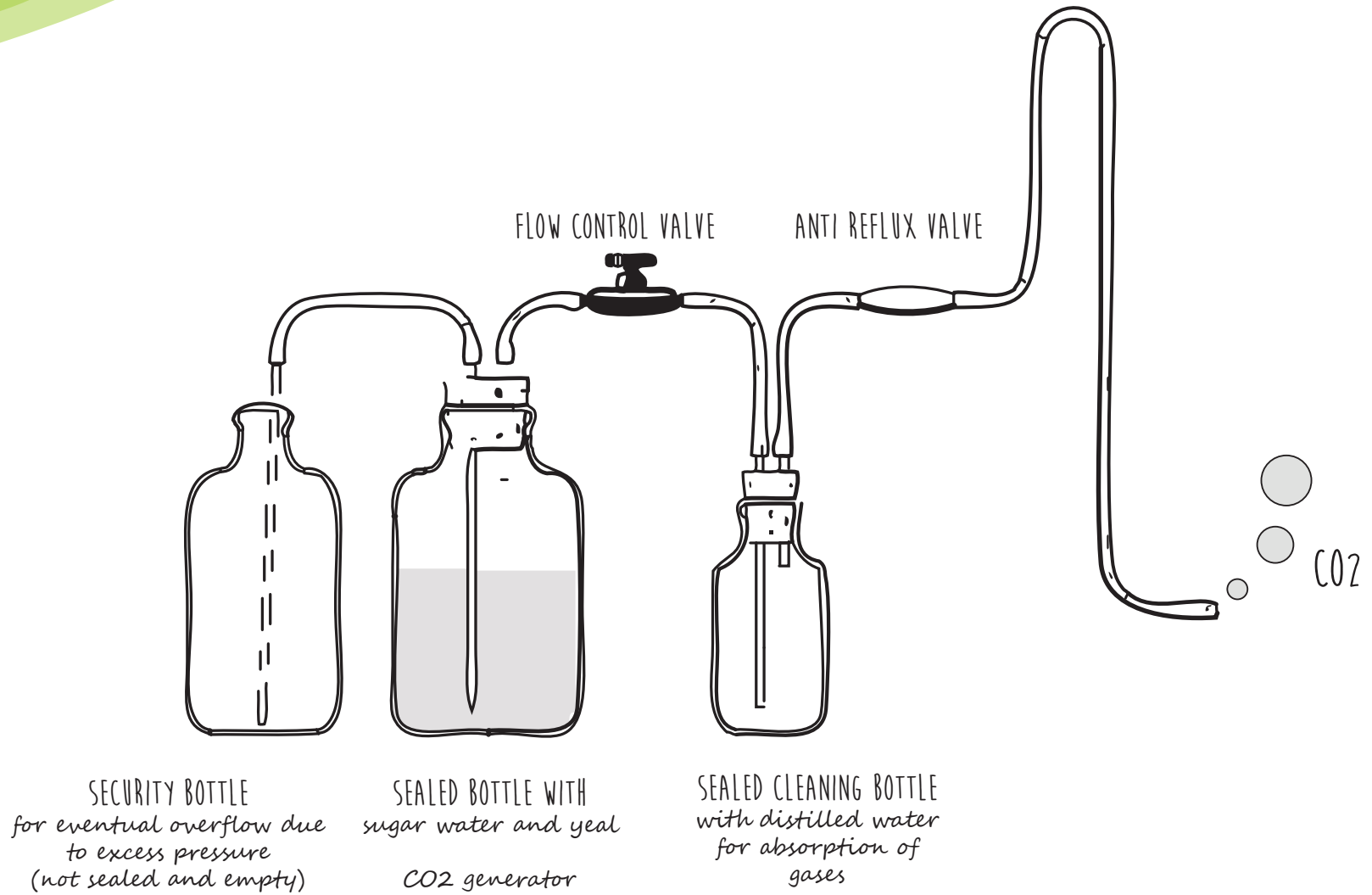
VS

FIBERS: Food, alcohol & proteins

Cultivation process of algae



CO₂ GENERATOR



RECYCLING MATERIALS

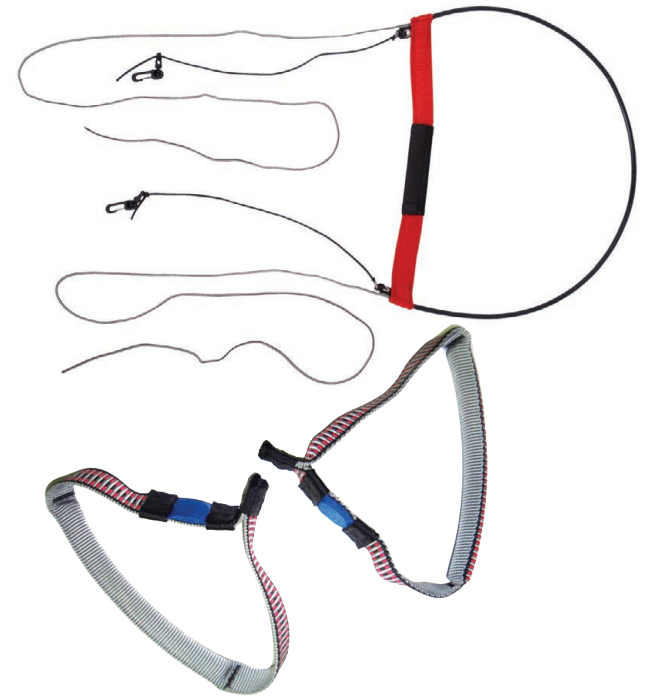
BOTTLES



OLD UMBRELLAS & TENTS



KITE CABLES & HANDLES



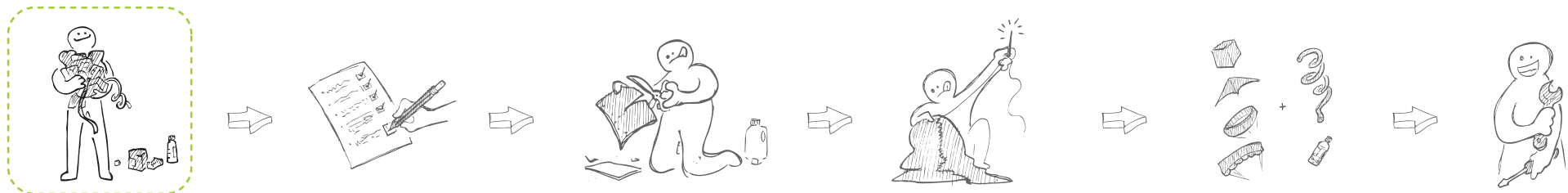
CONSTRUCTION PHASE



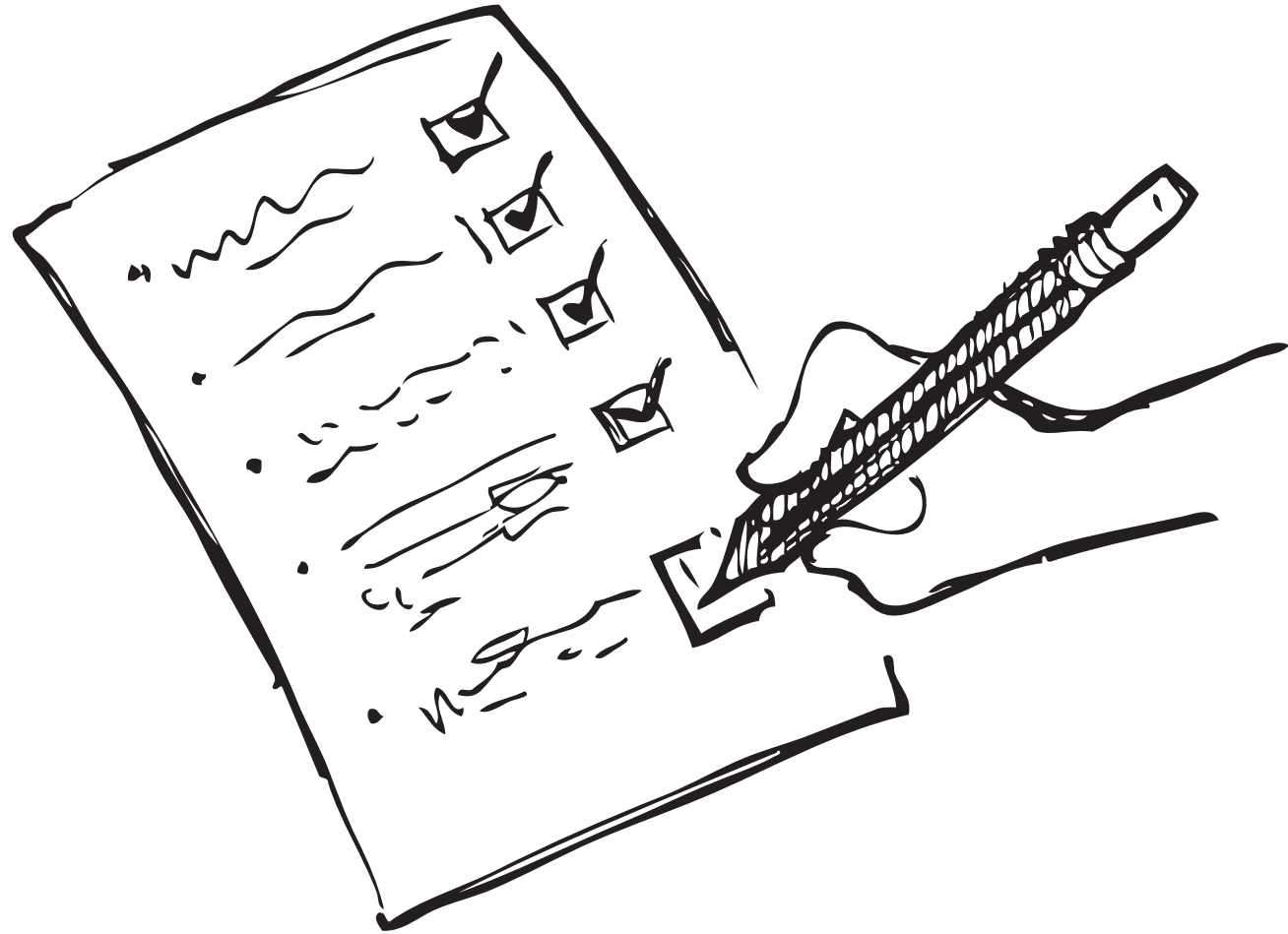
COLLECTING



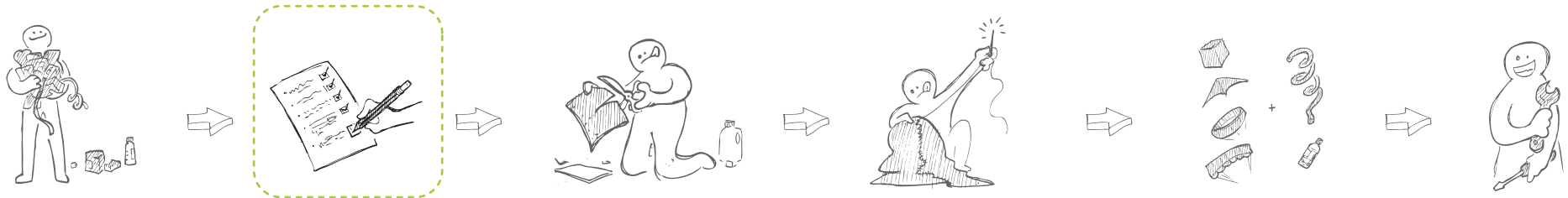
Construction phase



STOCK CHECKING



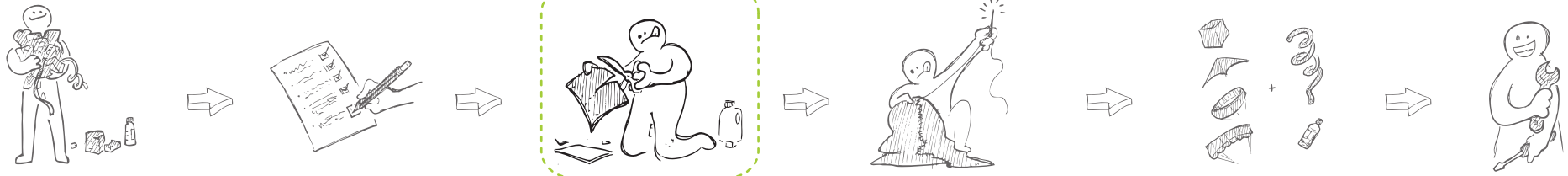
Construction phase



TRANSFORMATION



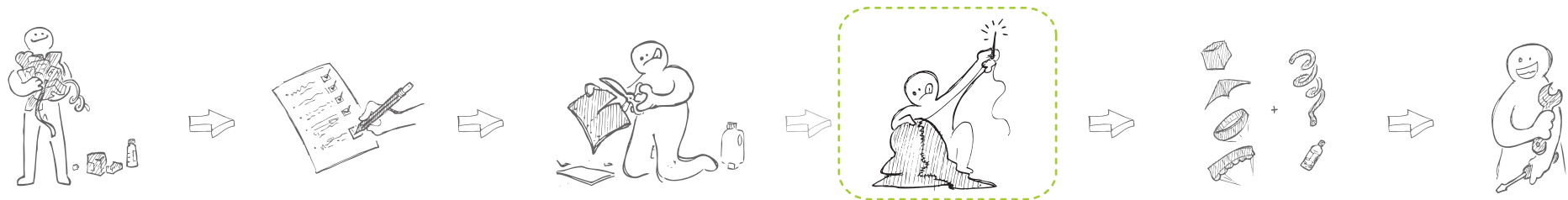
Construction phase



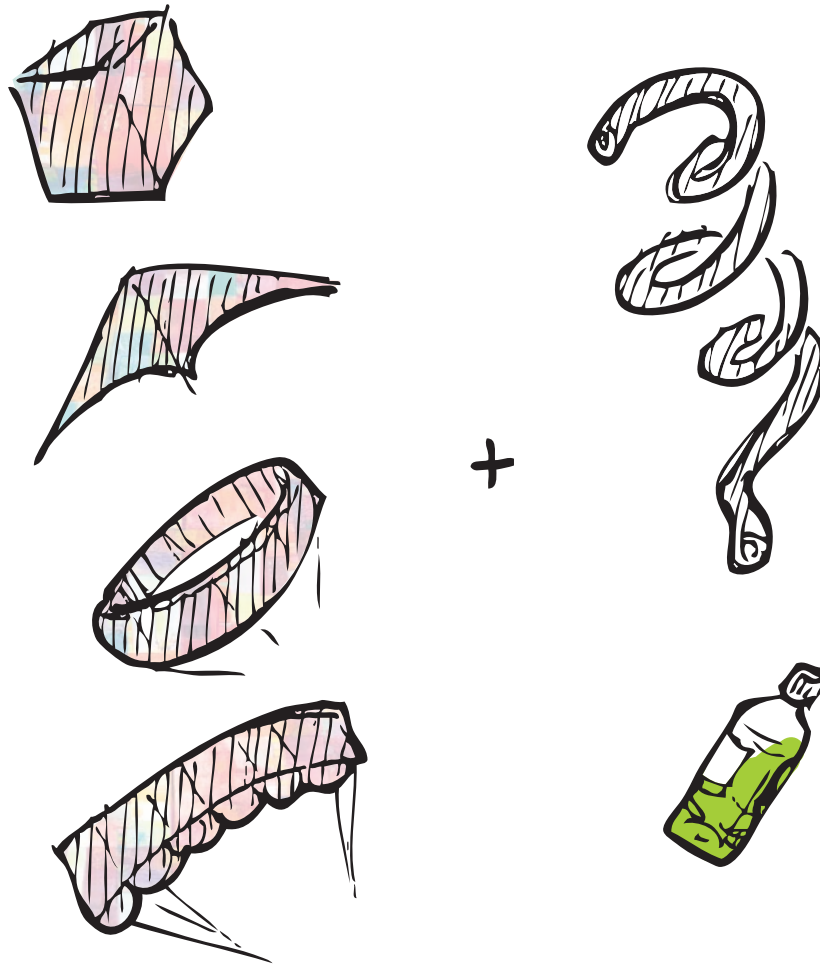
ASSEMBLY



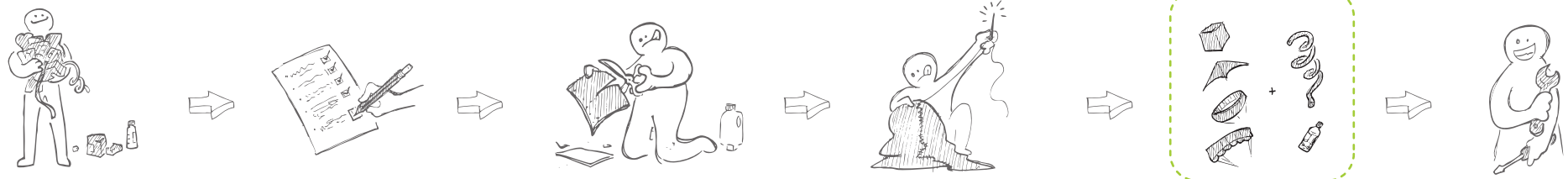
Construction phase



KITE & CONTAINER



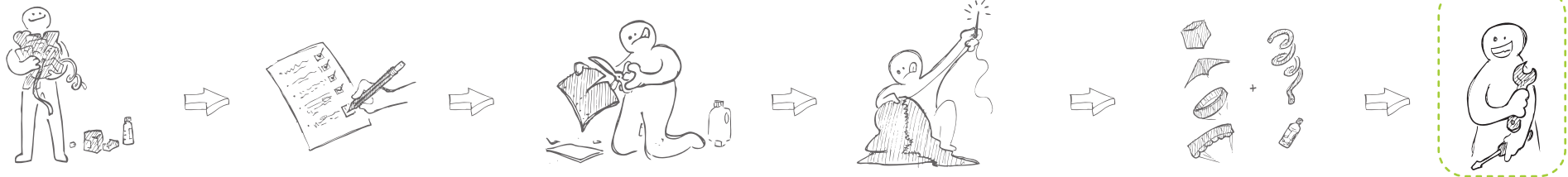
Construction phase



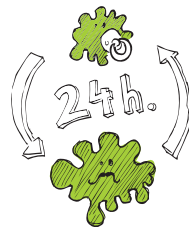
MAINTENANCE



Construction phase



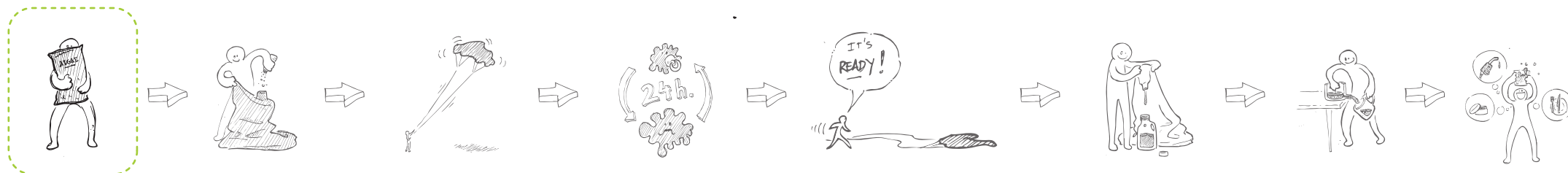
USING PHASE



FIRST CROP



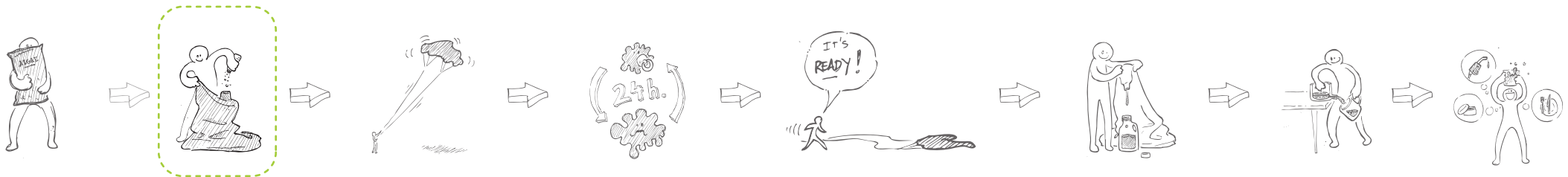
Using phase



SEEDING



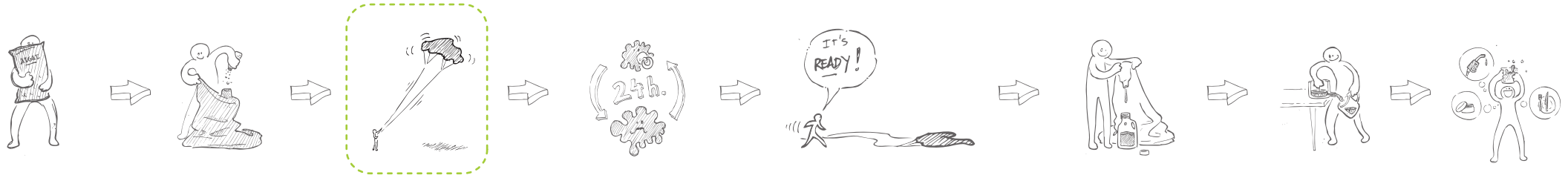
Using phase



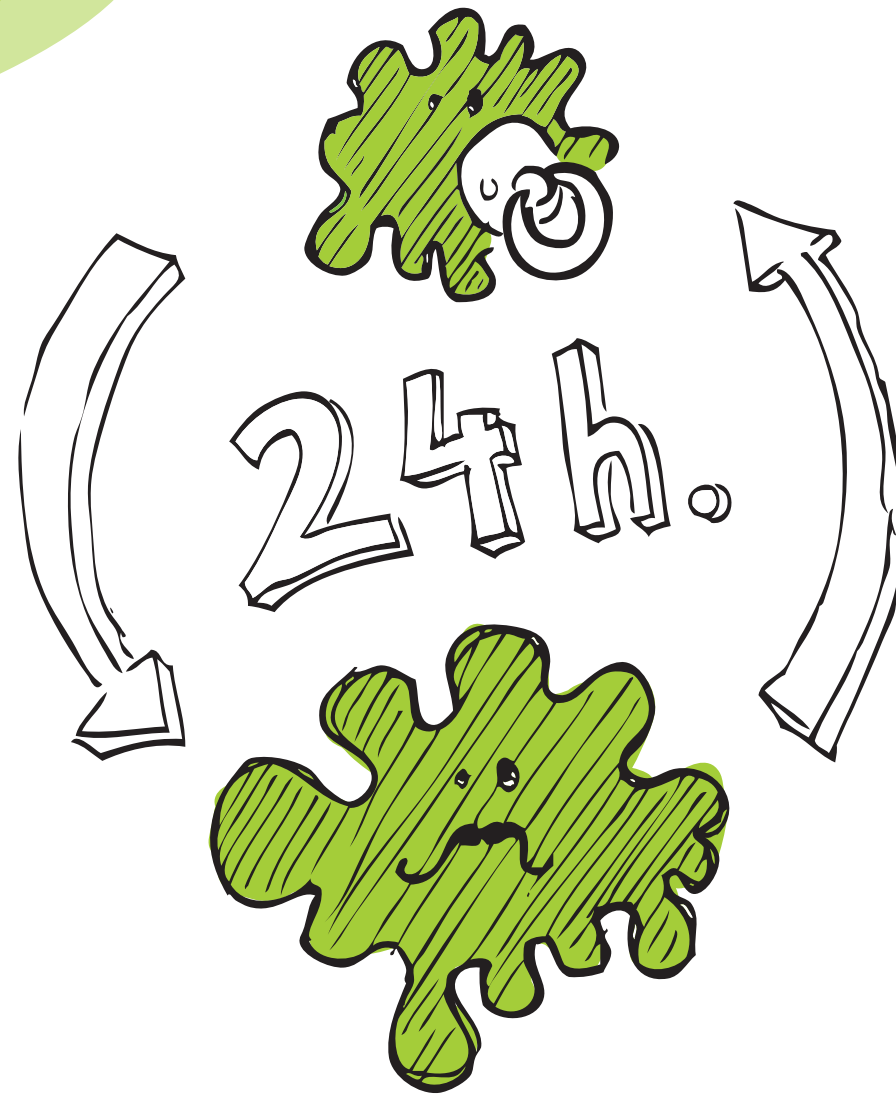
MOVEMENT



Using phase



GROWING CYCLE



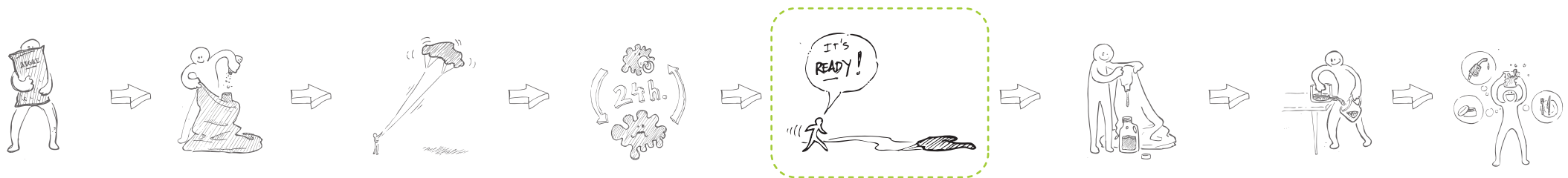
Using phase



COLLECTING



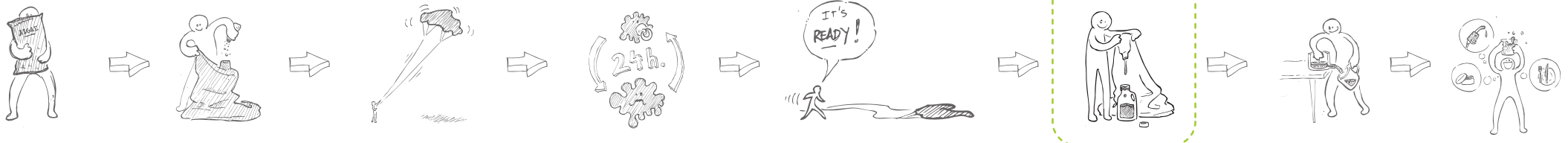
Using phase



REMOVAL



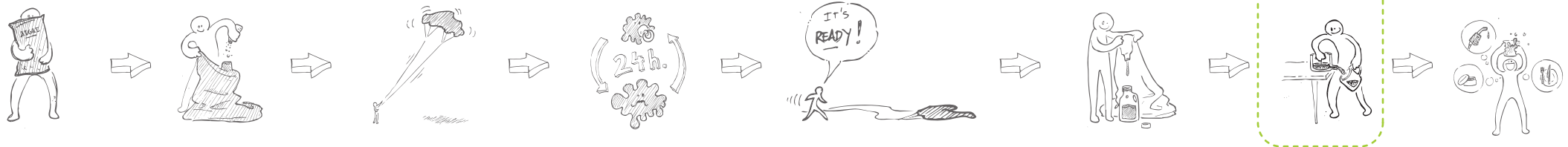
Using phase



PRESSING



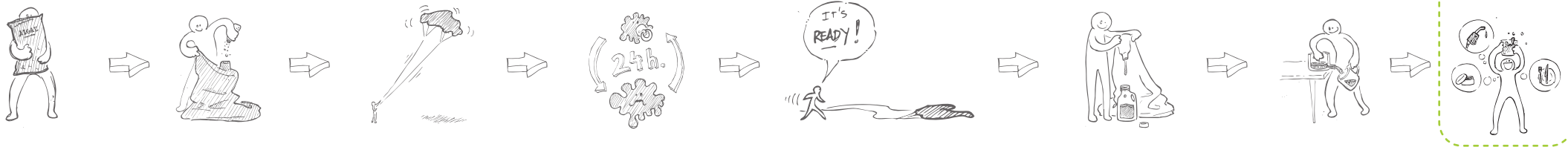
Using phase



MULTIFUNCTIONAL PRODUCT



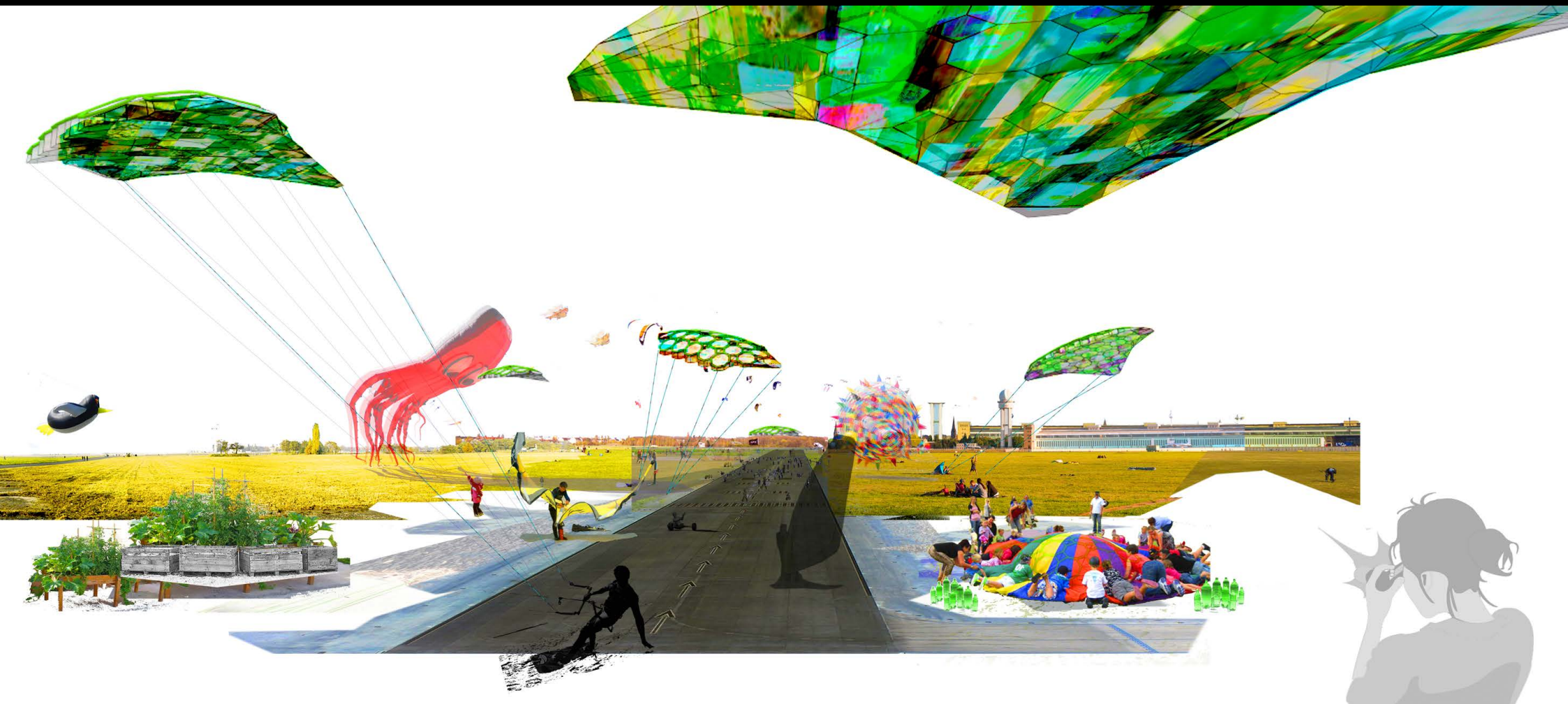
Using phase



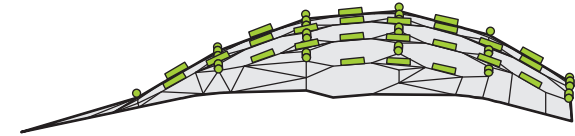
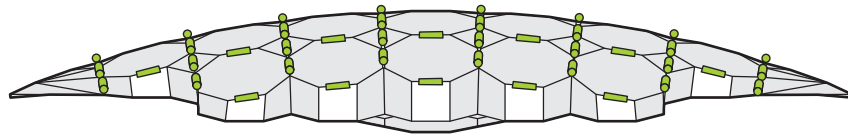
MEETING POINTS



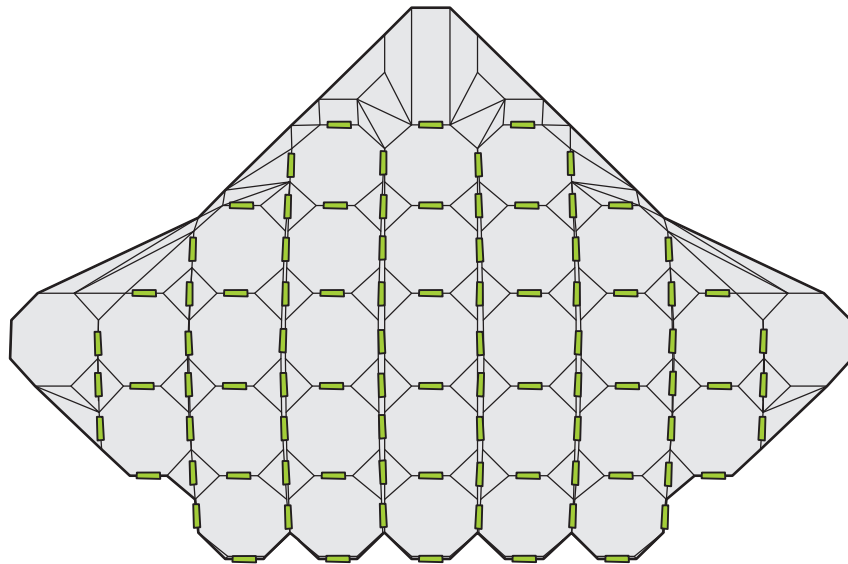




KITE PROTOTYPE



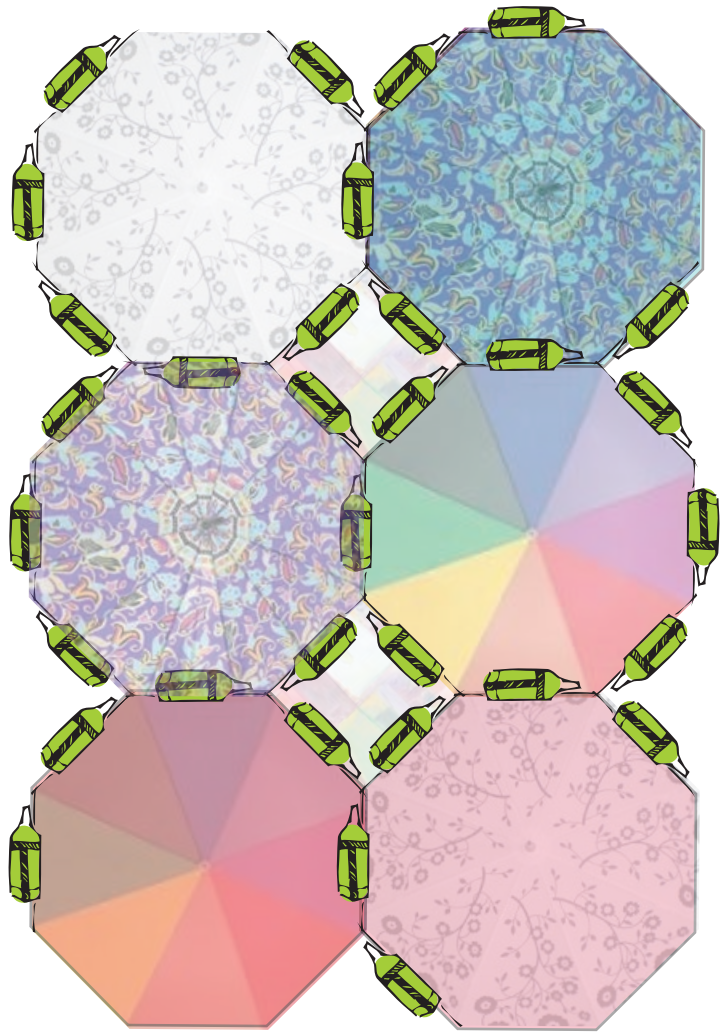
1,20



5,47

8,35

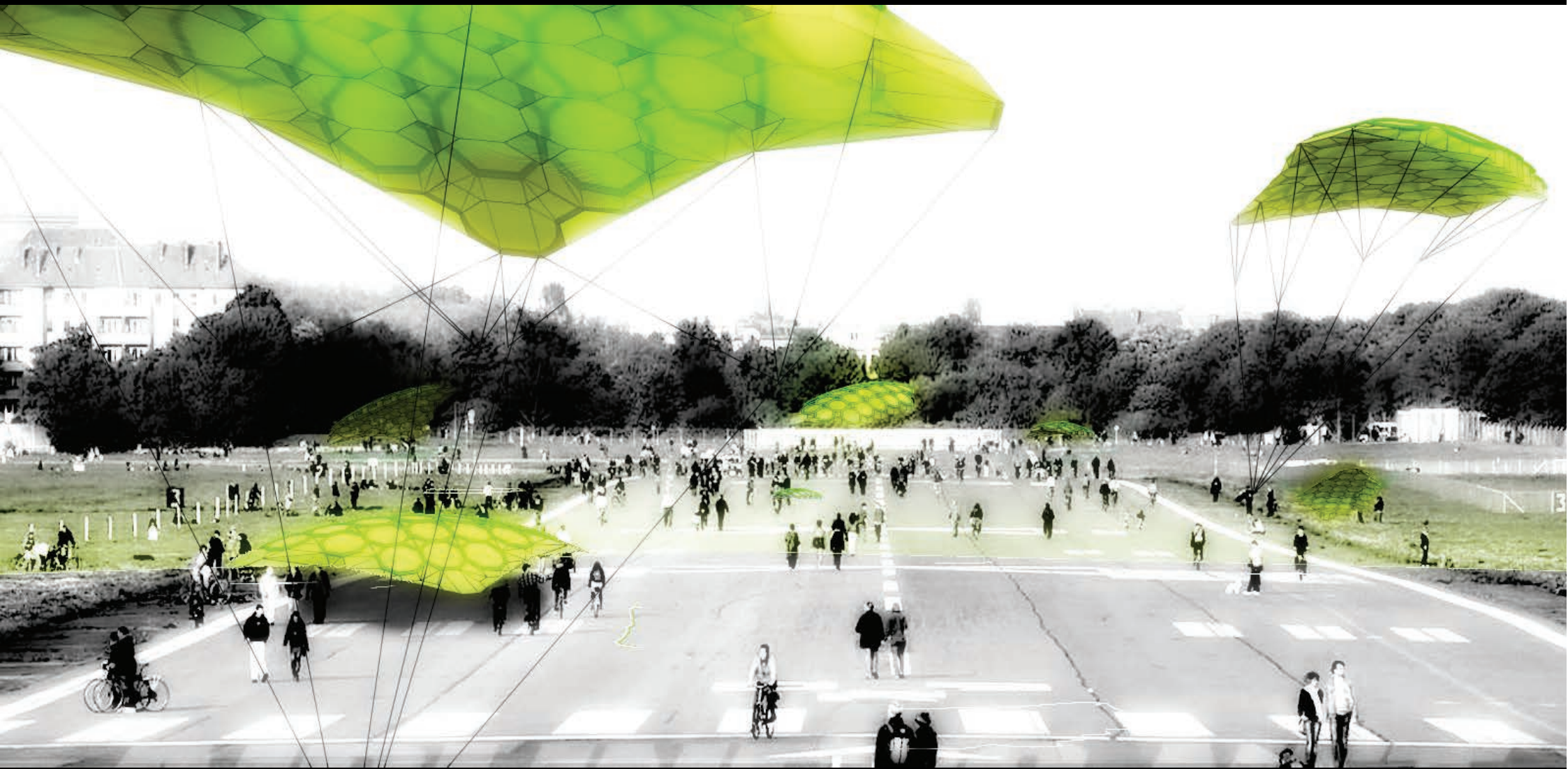
KITE PATTERN



PATCHWORK MAKING









ANNA STROBL

ARTURO GARRIDO

LAURA COLOMER

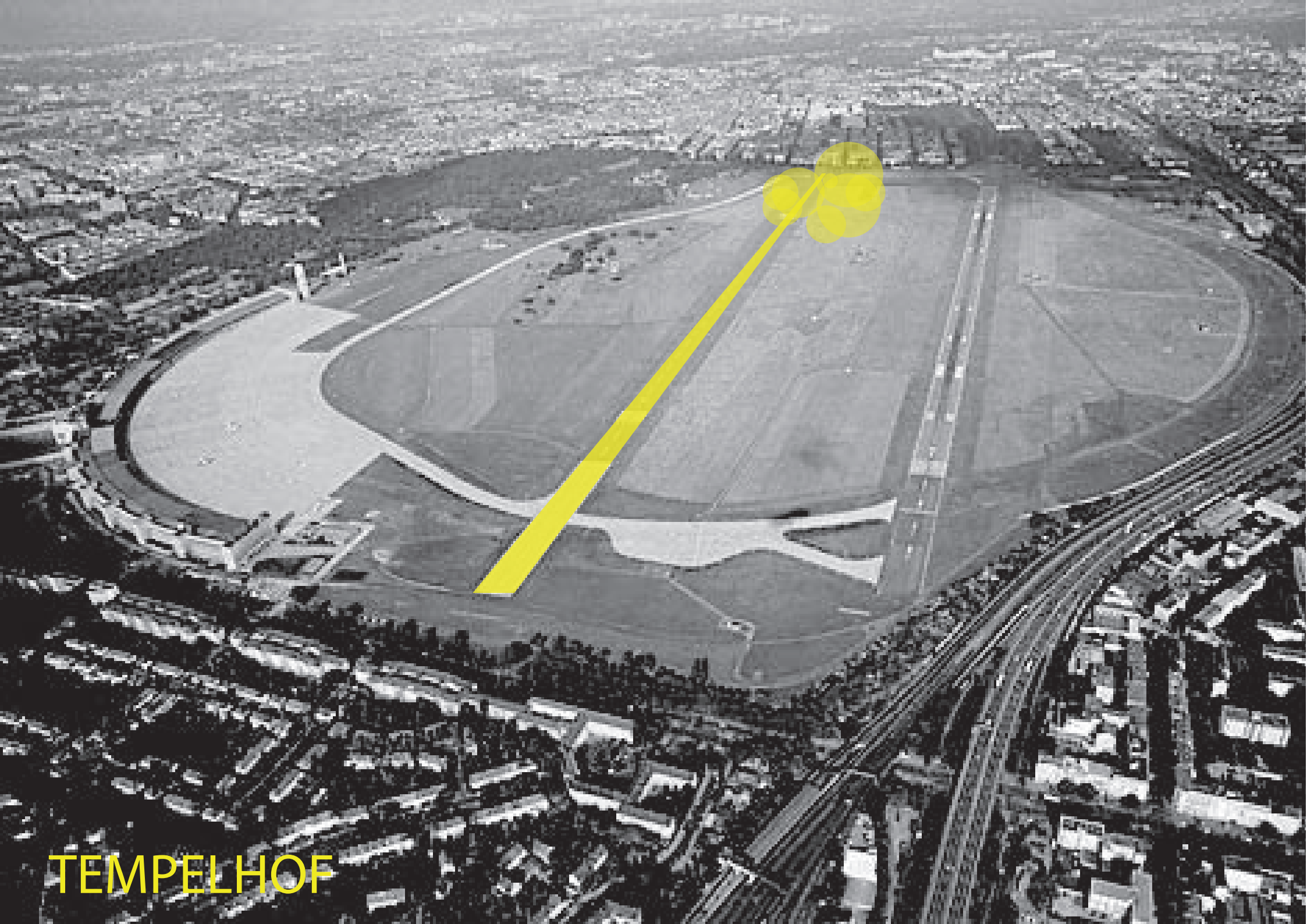
CARLOS GONZALEZ



EVENT 4
JOIN US?



JOIN US?



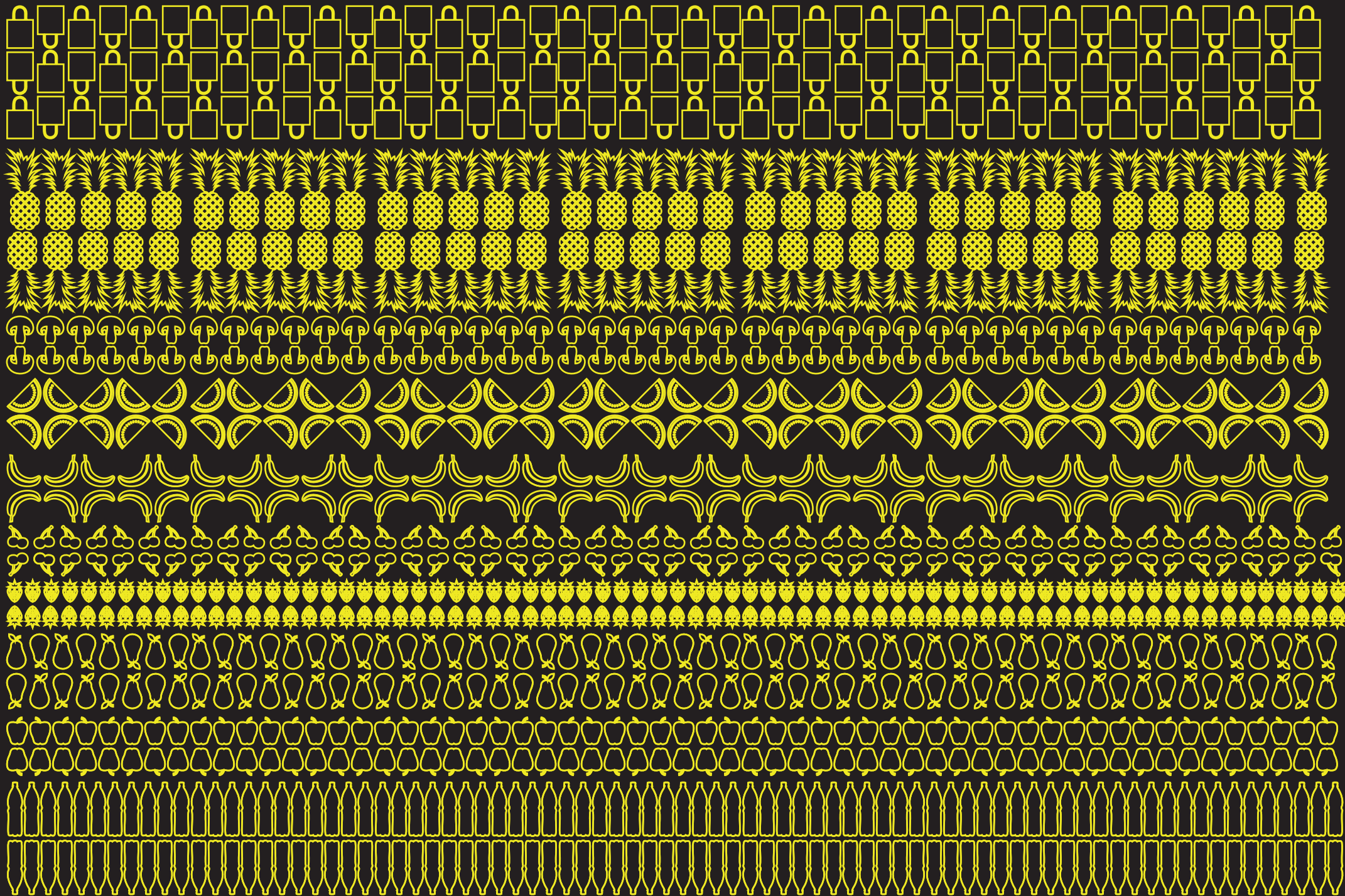
TEMPELHOF



THE LANDING STRIP

GAP BETWEEN PRODUCTION AND CONSUMPTION





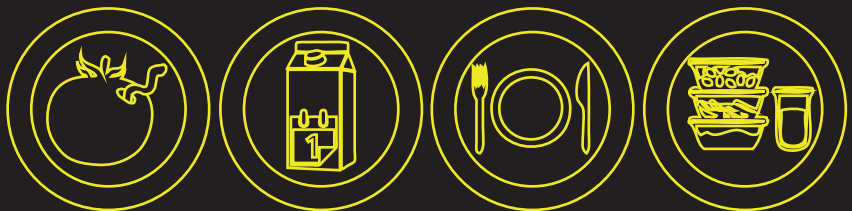
FOODWASTE



50%



50%



$\frac{1}{3}$

WHAT IS IT?

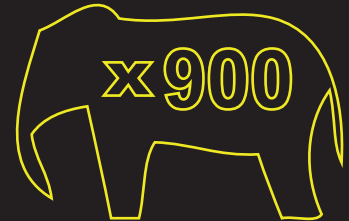
 **20%**
OILSEEDS & PULSES
FOOD LOSSES

 **x 10** /year

 **20%**
DAIRY
FOOD LOSSES


 **x 369** /week

 **20%**
MEAT
FOOD LOSSES

 **x 900** /day

 **30%**
FISH & SEAFOOD
FOOD LOSSES

 **30%**
CEREALS
FOOD LOSSES

 **x 19** /hour

 **45%**
ROOTS & TUBERS
FOOD LOSSES

 /min

 **45%**
FRUIT & VEGETABLE
FOOD LOSSES

Kg of food waste

HOW MUCH?





logistical incidents



market conditions



consumer behaviour

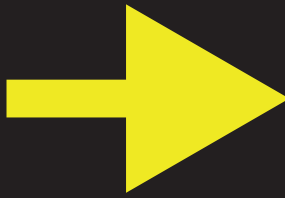


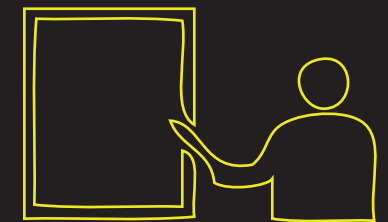
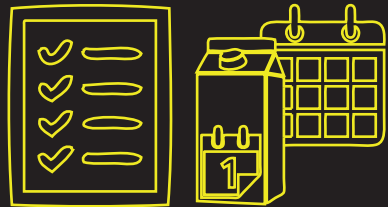
quality standards

WHY?



Consequences





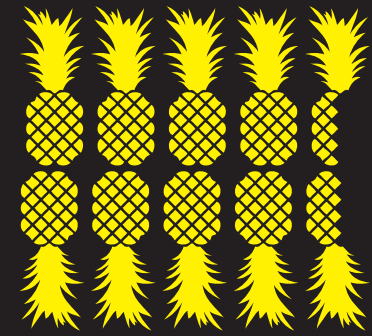
CONSUMER EDUCATION

Apfel-Randensalat
 Zubereitungszeit: ca. 15 Minuten
 als Vorspeise oder Beilage für
 2 Personen:
 150 g Äpfel
 100 g Randen
 1 EL Essig
 2 TL Schnittlauch
 1 TL Olivenöl
 ein wenig Salz und Pfeffer
 gehackt

einige
 Schüsseln
 Öl in einer Schüssel
 verrühren und mit Salz und Pfeffer
 würzen. Die Randen mit dem Hobel
 oder einem Messer in dünne Scheiben
 schneiden und mit der Sauce durch die
 Röstiraffel reiben und zu den Randen
 geben. Den Schnittlauch auf den Tellern
 anrichten und mit den Baumnüssen
 dekorieren.

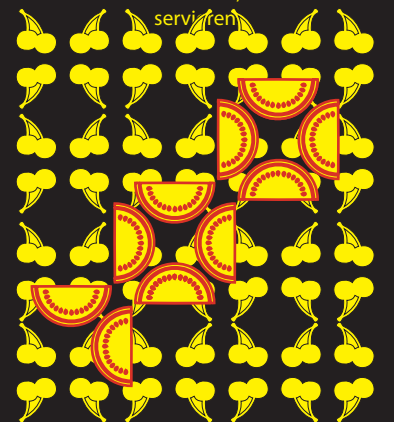
Zitronencrêpe mit Zitronensirup
 Zubereitungszeit: ca. 20 Minuten
 Zutaten für 2 Personen

1,7 dl Milch
 1 Ei
 50 g Mehl
 1 TL Vanillezucker 1 Prise Salz
 1/2 -1 Zitrone (Saft und Schale) Puderzucker
 Milch mit dem Ei und der abgeriebenen
 Zitronenschale mit dem Handrührgerät
 verrühren. Das Mehl dazu sieben.
 Vanillezucker, abgeriebene Zitronenschale
 und Salz dazugeben und alles glatt rühren.
 Den Teig zugedeckt bei Zimmertemperatur
 ruhen lassen.



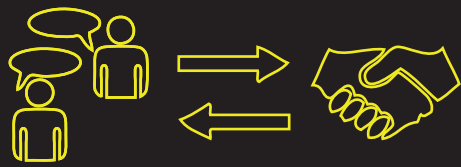
Zubereitungszeit: ca. 15 Minuten
 Zutaten für 2 Personen:
 1/2 Salatgurke
 250 g Joghurt nature
 1 Knoblauchzehe
 1/2 EL Olivenöl
 1/2 TL Salz
 wenig Pfeffer aus der Mühle

Die Salatgurke schälen, grob raffeln und mit Salz
 würzen. Etwas ziehen lassen und anschliessend
 den Saft abgiessen (als Saft trinken oder für eine
 kalte Gurkensuppe verwenden). Joghurt mit
 Gurken vermischen. Knoblauch schälen und durch
 die Knoblauchpresse pressen, Olivenöl dazugeben
 und mit Salz und Pfeffer abschmecken. Umrühren,
 kühl stellen und mit Brot, z.B. Fladenbrot
 servieren.





integration



exchange



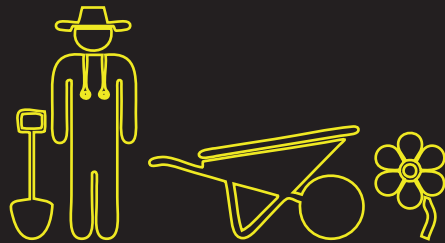
participation



healthy food



education



self sufficiency



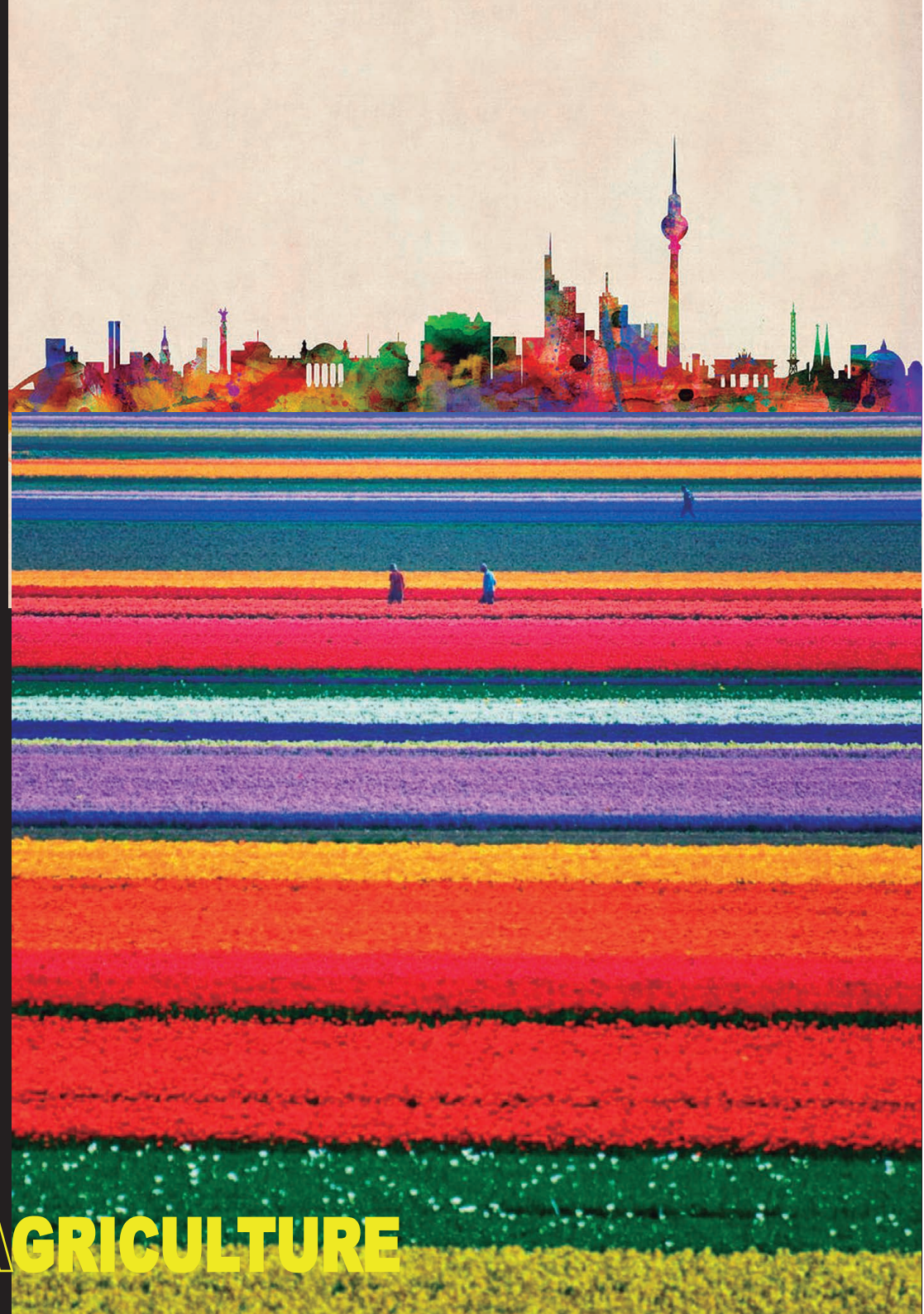
recycle creative



TIPOLOGIES

ALTERNATIVE

URBAN AGRICULTURE



JOIN US?

<https://vimeo.com/92546633>



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AN THE
CB METROPOLITAN
LABORATORY

Escuela de Arquitectura

University Design Studio

Berlin urban agriculture sites

April 2014

Proposals'brochures:

GUERRILLA GREEN FESTIVAL 2014

STAGE 1

THE CLOBBERING TIME

GUERRILLA BOMB SEEDS

- | | | |
|--------------|-------------|-----------------|
| ALFALFA | DANDELION | RYE |
| CLOVER | CRANESBILL | BARLEY |
| WHITE WILLOW | SUNFLOWER | RAPESEED |
| BLACK POPLAR | HORSERADISH | STINGING NETTLE |



STAGE 1

THE CLOBBERING TIME

GUERRILLA BOMB SEEDS

- | | | |
|--------------|-------------|-----------------|
| ALFALFA | DANDELION | RYE |
| CLOVER | CRANESBILL | BARLEY |
| WHITE WILLOW | SUNFLOWER | RAPESEED |
| BLACK POPLAR | HORSERADISH | STINGING NETTLE |



GREEN UP
CLOUDCATCHER
TEMPELHOF PARTISANS

STAGE 2



GREEN UP
CLOUDCATCHER
TEMPELHOF PARTISANS

STAGE 2

- | | | |
|-------------|----------------|---------------|
| ANIMAL MUCK | PLANT DISCARDS | ORGANIC WASTE |
|-------------|----------------|---------------|

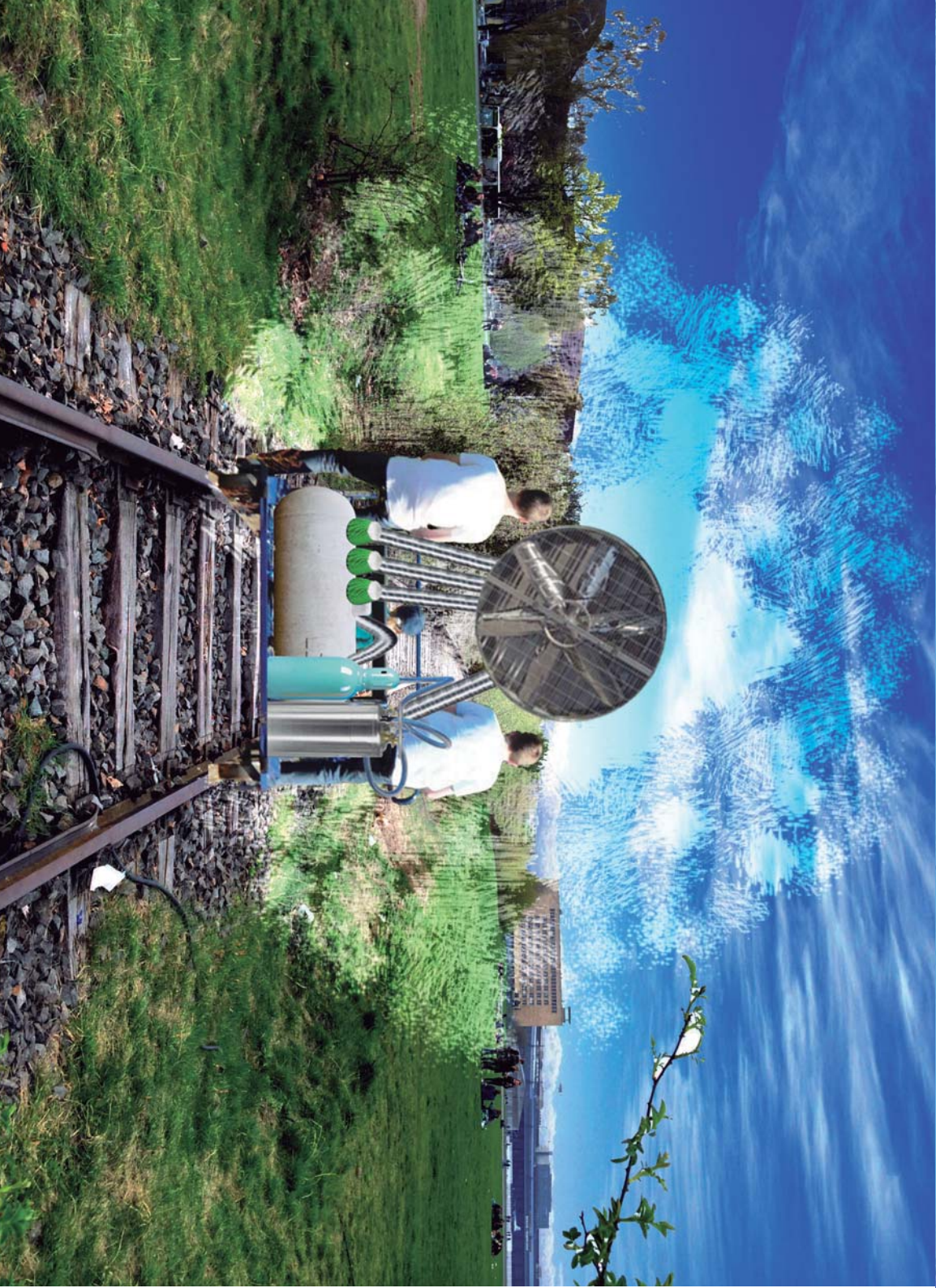
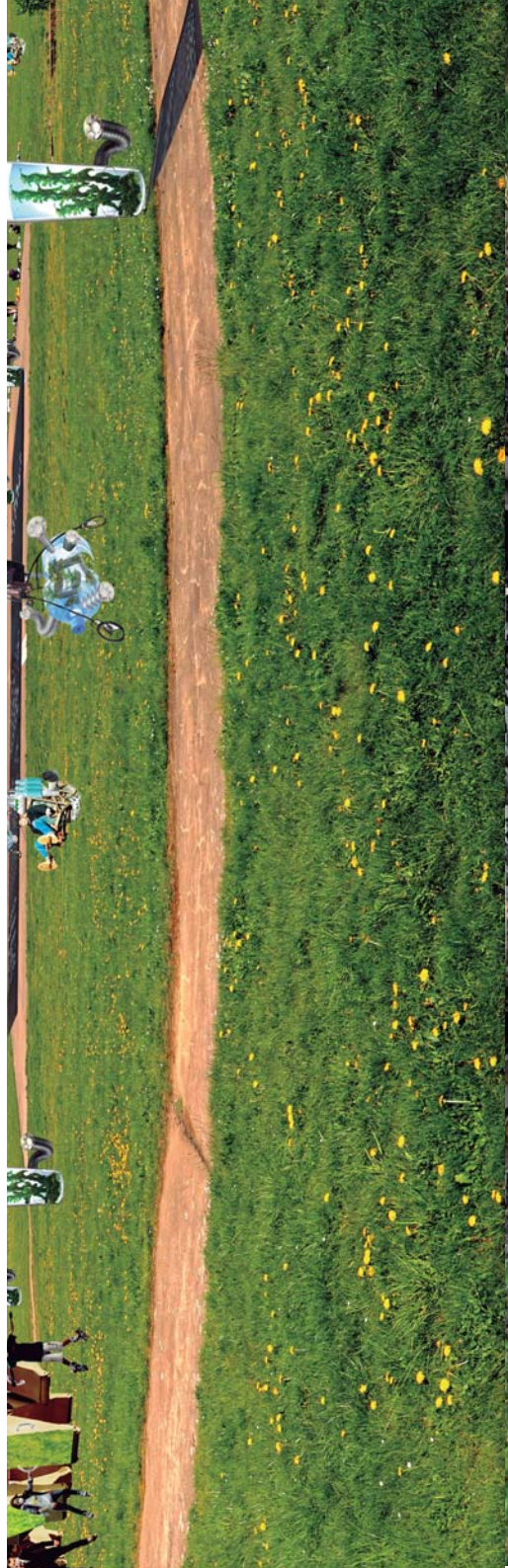
DIGESTOR PILE
THE COMPOST PROJECT

STAGE 3

- | | | |
|-------------|----------------|---------------|
| ANIMAL MUCK | PLANT DISCARDS | ORGANIC WASTE |
|-------------|----------------|---------------|

DIGESTOR PILE
THE COMPOST PROJECT

STAGE 3

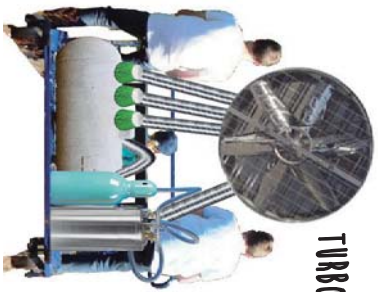


ARTIFICIAL GREEN LUNG SYSTEM

TEMPELAOF, BERLIN



PROTOTYPES GREEN SYSTEM IN TEMPELHOF



TURBO KITE

USE: MULTUSER DEVICE (3 PEOPLE)

ROUTE: RAILROAD TRACKS

TIME: 30 MINUTES 1 LAP

DIFFICULT: LOW

PERSONAL BENEFITS: 240 CALORIES

LUNG BENEFITS: 90 LITRES AIR

USE: +12 YEARS

ROUTE: AIRPORT RUNWAY

TIME: 1 HOUR

DIFFICULT: LOW

PERSONAL BENEFITS: 420 CALORIES

LUNG BENEFITS: 120 LITRES AIR

BREATHABLE BIKE



SAVE THE PLANET

TEMPELHOF WELCOMES YOU TO THE WORLD LEADING PIONEER RESEARCH CENTER THAT SEEMS TO ENHANCE BERLIN'S AIR QUALITY WHILE AT THE SAME TIME CREATING AN ARTIFICIAL PARK WITH THE CLEANEST AIR IN THE WORLD, PRODUCED THROUGH CITIZEN'S PHYSICAL EXERCISE.

IT'S YOUR TURN! YOU HAVE TO SEARCH THE CATALOG, LOOK AT THE BENEFITS OBTAINED, PURIFY THE AIR AND START DOING EXERCISE TO HELP THE PLANET.

WORKSHOPS

COME AND LEARN ABOUT HOW TO MAKE YOUR OWN AIR PURIFIER PROTOTYPE WITH RECYCLED MATERIALS. PARTICIPATE IN WORKSHOPS FOR THE WHOLE FAMILY AND HELP CLEAN UP THE PLANET WHILE SPENDING TIME TOGETHER WITH YOUR COMMUNITY. THERE ARE SEVERAL WORKSHOPS: ONE DEDICATED TO MANUFACTURING THE ARTIFACT'S BODYWORK, AND A SECOND WHERE YOU CAN CONSTRUCT YOUR OWN AIR PURIFIER WITH THE FEEDBACK OF EXPERTS WHO WILL BE AVAILABLE TO HELP YOU BUILD ANY OF THESE THREE DIFFERENT DEVICES.

HANDCAR MINICLOUD



USE: +18 YEARS

ROUTE: GRASS

TIME: 20 MINUTES

DIFFICULT: HIGH

PERSONAL BENEFITS: 160 CALORIES

LUNG BENEFITS: 60 LITRES AIR

STEREO SEAWEED



USE: MULTUSER DEVICE (3 PEOPLE)

ROUTE: RUNNER CIRCUIT

TIME: 60 MINUTES

DIFFICULT: NONE

PERSONAL BENEFITS: 560 CALORIES

LUNG BENEFITS: 200 LITRES AIR

SEAWEED MONSTER



USE: MULTUSER DEVICE (3 PEOPLE)

ROUTE: FREE

TIME: 60 MINUTES

DIFFICULT: NONE

PERSONAL BENEFITS: 520 CALORIES

LUNG BENEFITS: 750 LITRES AIR

E
M
J
O
Y



CONCEPT PHASE

This project makes your dreams come true. What you've been waiting for is now here: FLYING GARDENS.

The idea behind this project arises from the combination of the two main activities that take place at Tempelhof: urban gardens and kites. Conditioned by the highly contaminated soils at the site, the elevated costs of planting on the spot, the need to be easily transported, and the large amounts of wind blowing through the park, the idea of elevating gardens seemed the perfect answer to urban agriculture.

The new question to answer was what to crop. Vegetables need big amounts of soil to grow and have negative outcomes when cultivated in windy places. What could solve this problem? MICRO ALGAE.

Micro algae is a source of energy production continuous, inexhaustible and non-polluting. Algae can produce great amounts of biomass per hectare due to its high efficiency during photosynthesis. Furthermore, 70% of algae turn into oil, which can later turn to biodiesel, cosmetics, and food. To grow they just need water, CO₂, nutrients, light, and movement.

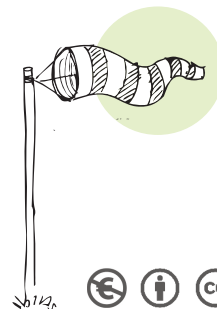
It's as easy as can be.

Find some umbrellas, grab a few bottles, and jump into the most entertaining garden community!



Idea produced at the AEDES Berlin workshop that took place from April 6 to April 11. Additional support provided by Universidad Europea de Madrid.

AN
CB THE METROPOLITAN LABORATORY



FLYING GARDENS

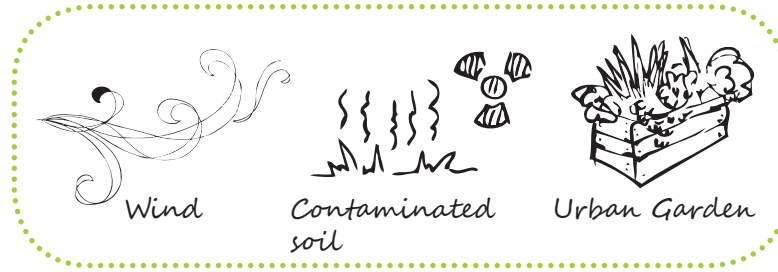
ANNA STROBL
ARTURO GARRIDO
LAURA COLOMER
CARLOS GONZALEZ



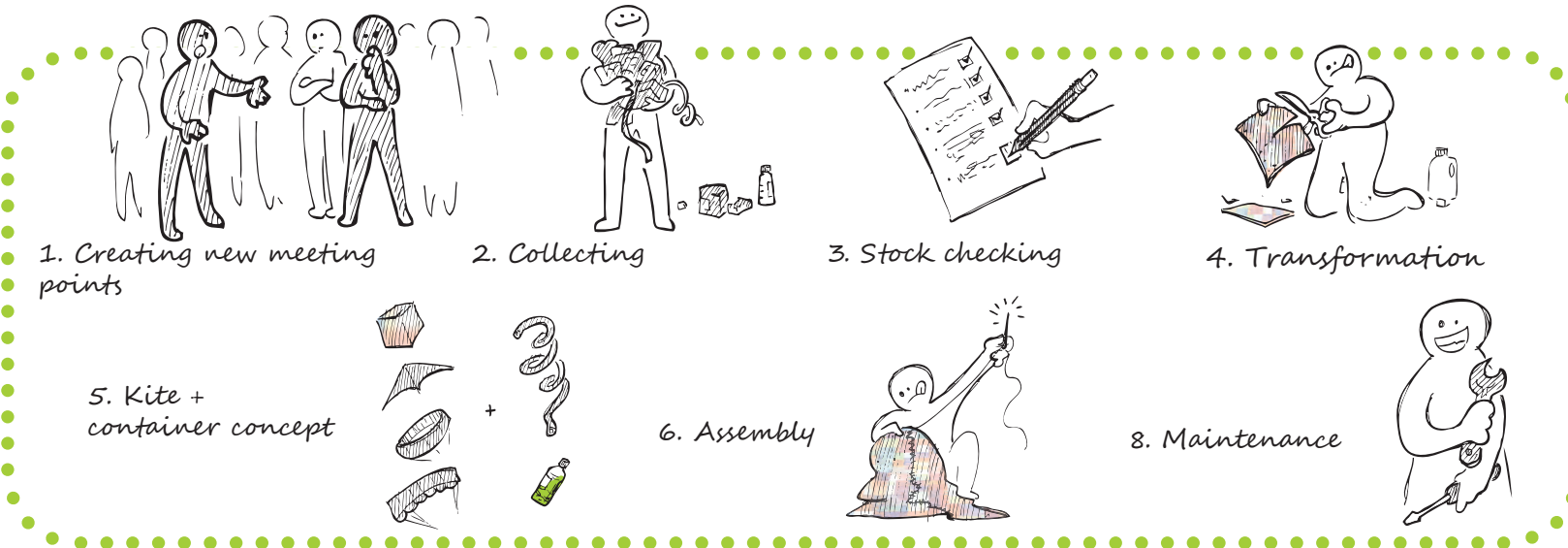
ALGAE



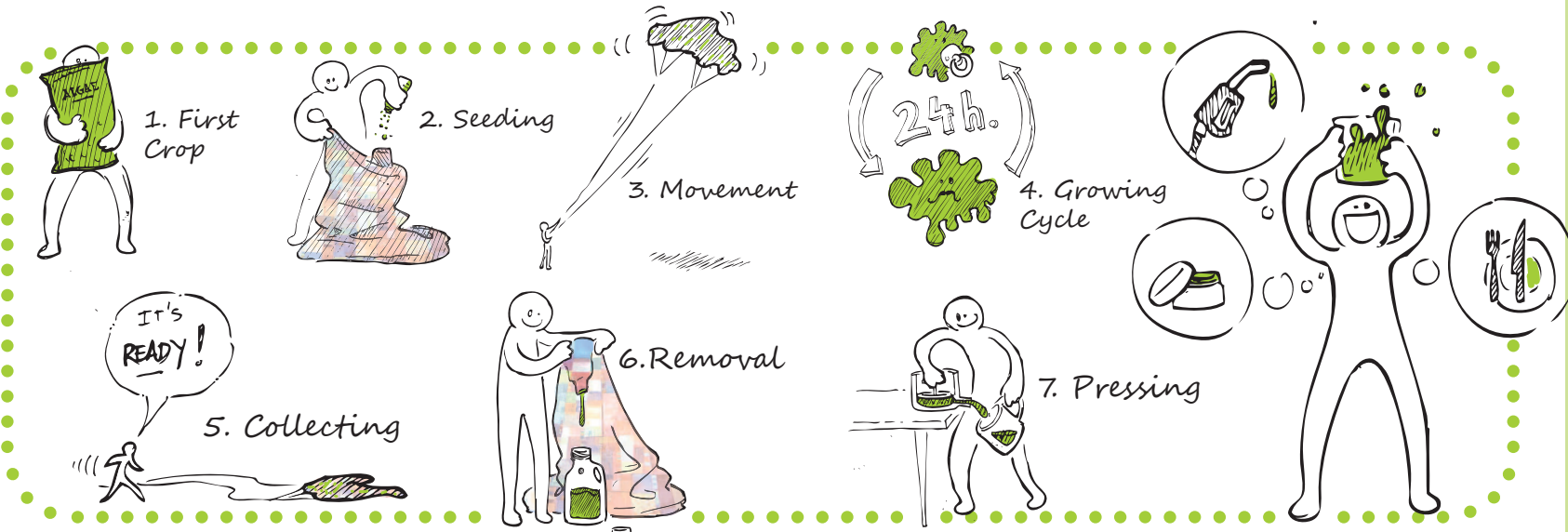
TEMPELHOF



CONSTRUCTION PHASE



USING PHASE



PRODUCTS

- Oil
- Biodiesel
- Cosmetics
- Food
- Alcohol
- Proteins

RESULTS

- Entertaining
- Fun
- Creativity
- Exercise
- Participation
- Shaded spaces







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METROPOLITAN
LABORATORY

Escuela de Arquitectura

University Design Studio
Berlin urban agriculture sites
April 2014

Studio Participants_

Team 1_ "Guerrilla_Green Festival"

Jessica M. CARREIRA / Álvaro CEREZO / Silvia RIVELA

Team 2_ "Artificial Green Lung System"

Angel BARRÓN / Borja DE SANTIAGO / Danny R. MOUTINHO / Paula E. SABARIEGO

Team 3_ "Goodbye Ground"

Laura COLOMER/ Arturo GARRIDO / Carlos GONZÁLEZ / Anna STROBL

Team 4_ "Join us?"

Inés CEDRÓN / Marta GOVANTES / Jaime MARTÍN

Studio Leader_

Eva HURTADO / Phd Arch. Professor on Architectural Design (UEM)

Input Activities_

_Guided Bicycle tour around Berlin to "Urban agriculture" sites including Mauerpark, Gleisdreieck, Prenzlauer Berg and Prinzessingarten / Ralf WOLLHEIM

_Visit to Flughafen Tempelhof (Tempelhofer Feld)

_Lecture by Kerstin STELMACHER/ Urbane Allemende Kontor, introduced by Dunya BOUCHI / Programme Management ANCB



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ANCB THE
METROPOLITAN
LABORATORY

Escuela de Arquitectura

Workshop Guest Critics_

_Berta SOLA / Construction Engineer and Architect based in Berlin

_Eduardo BELZUNCE / Arch. Professor on Architectural Design (UEm)

_Patricia GRANDE / Architect Nieto/Sobejano GmbH

Final presentation Guest Critics_

_Hans-Jürgen COMMERELL / ANCB The Metropolitan Laboratory

_Miriam MLECEK / Programme Management ANCB

_Hendrik BRAUNS / Tempelhofer Projekt GmbH / Grün Berlin

_Berta SOLA / Construction Engineer and Architect based in Berlin

Coordination UE de Madrid_

Prof. Angel Luis FERNÁNDEZ y Prof. Eva HURTADO

