



THE REVERSE REVOLUTION

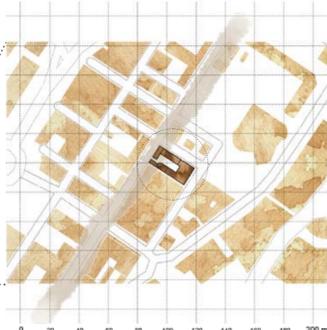
SELLERS WHEEL, SHEFFIELD  LAUNDRY

SITE LOCATION
149 ARUNDEL STREET,
SHEFFIELD, S1 2NU

Sellers Wheel is a former industrial building based in Sheffield City Centre. It's a Grade II* listed building with three floors that has recently had student accommodation attached to the outside of its courtyard. Initially it was home to John Sellers and Sons tool manufacturing but now it accommodates for two coffee shops and office space which is currently let. It is easily accessed due to being 7 minutes away from Sheffield Train Station.



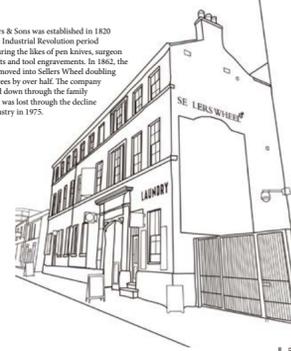
SCALE 1:2000



SITE ANALYSIS
HISTORY



John Sellers & Sons was established in 1820 during the Industrial Revolution period manufacturing the files of pen knives, surgeon instruments and tool engravers. In 1862, the company moved into Sellers Wheel doubling it's employees by over half. The company was passed down through the family however it was lost through the decline of the industry in 1975.

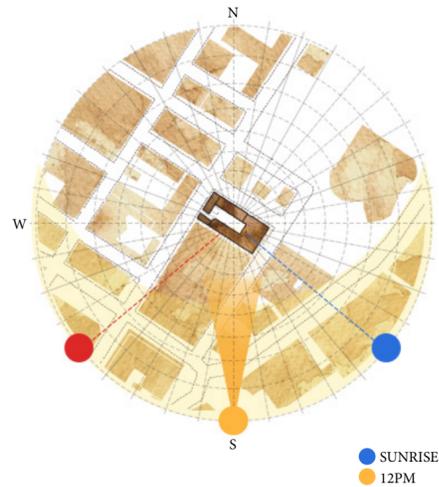
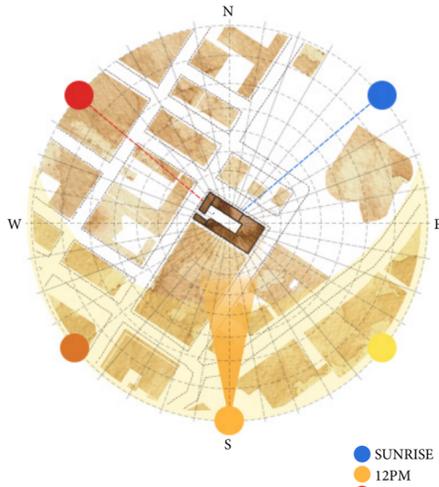


TAMPER COFFEE

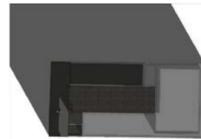
Tamper Coffee is a barista cafe that has taken influence from it's New Zealand owners embracing kiwi coffee culture. It's an informal and relaxed dining experience that serves food inspired by it's origin. Established in New Zealand, Chose is the sustainable supplier of the quality coffee they provide. The building has conserved it's industrial heritage giving the inside a distressed and unfinished look making it a survivor of it's times.



FRONT ELEVATION
SCALE 1:100



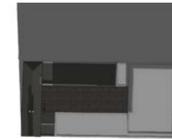
10:00AM
24TH DEC - MIDDLE OF WINTER



10:00AM

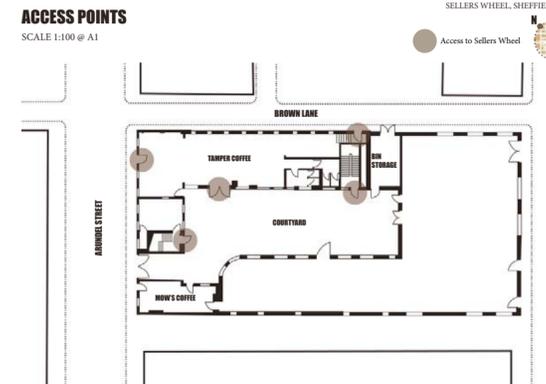


12:00PM

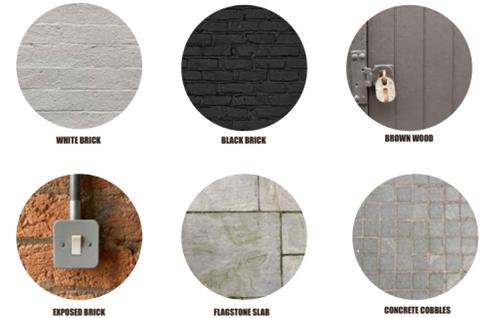


12:00PM

ACCESS POINTS
SCALE 1:100 @ A1



TEXTURES



METHANE

Mega methane reduction

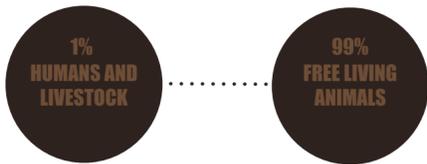
Methane contributes to over 25% of global warming coming second most dangerous GHG to carbon dioxide. Although there's less of it, methane holds 100 times more heat than carbon dioxide. Higher temperatures of the Earth's atmosphere is life threatening to all existence on Earth.

WHY METHANE?

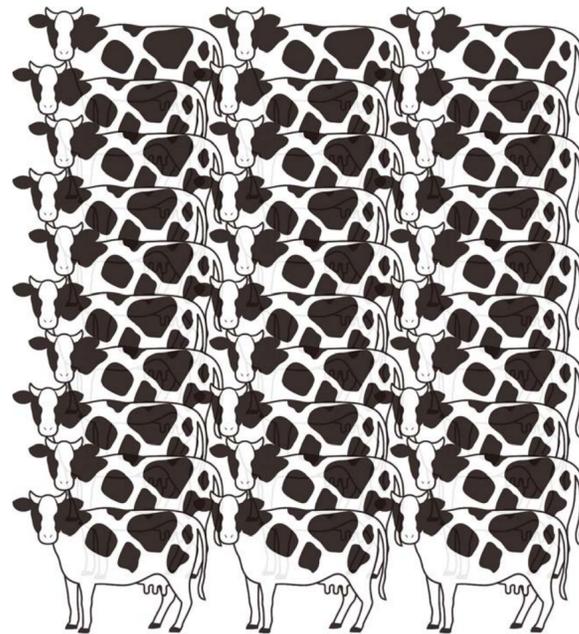
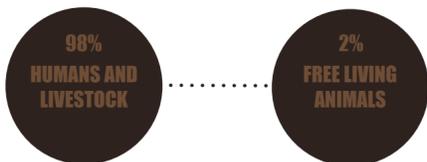
The majority of methane production comes from animal agriculture due to the high demand in the meat industry. This results in an excessive amount of cow farming and as cows flatulence they give off methane into the atmosphere. Cows produce 130 times more waste than the entire human population everyday. However, the effects of methane reduction can be seen in the same decade where as reduction in carbon dioxide can be seen in the century.

EARTH'S BIOMASS

10,000 YEARS AGO:



PRESENT DAY:



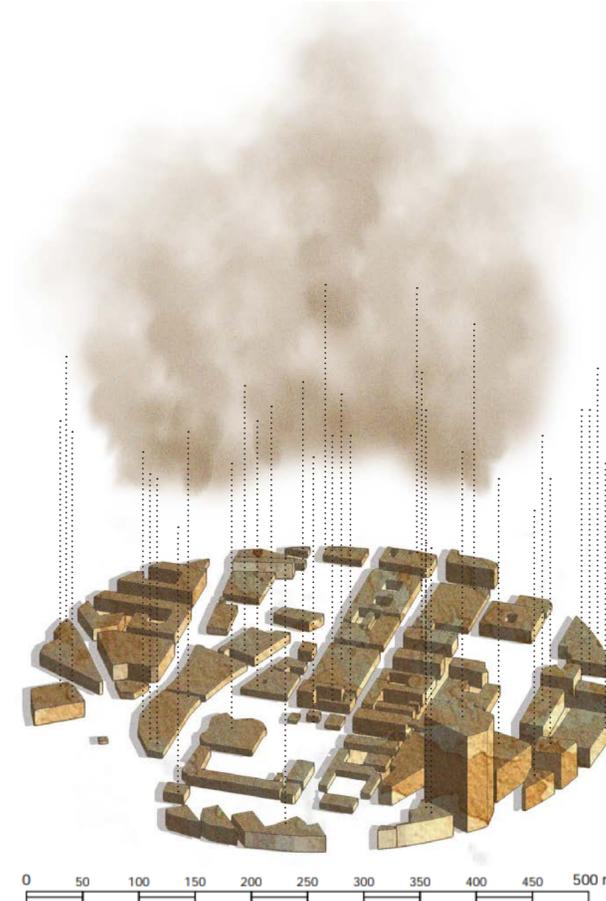
SOLUTION

Korean scientist discovered the storage of methane within used coffee grounds. Kemp mixed 1/2 a cup of used Kirkland dark roast colombian coffee grounds with sodium hydroxide and heated it in a furnace(700-900 degrees) for 24 hours. This produced a stable material that absorbed methane which can be used later as fuel.

MEAT ACCESSIBILITY

WITHIN SHEFFIELD

SCALE 1:5000



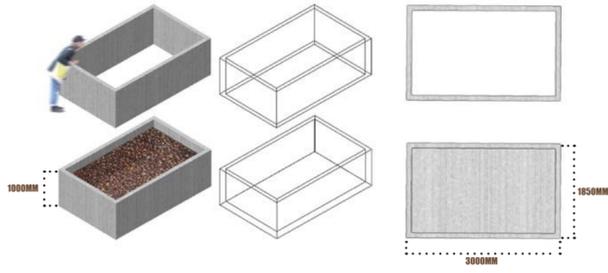
SELLERS WHEEL, SHEFFIELD

- UK citizens must eat 30% less meat by 2030 to reduce GHG emissions through livestock farming
- A UK citizen consumes 604.1g of meat per week on average

Available meat in Sheffield

ASSEMBLY LINE: GRAVITY

SELLERS WHEEL, SHEFFIELD



Between the SF and FF there will be a void in which coffee beans are dropped through in order for them to arrive at the next work station in the quickest and most efficient way. Mirroring an assembly line, the beans will use gravity so that they can be passed down into the floor below.

HOW DOES IT WORK?

Gravity is an invisible force that pulls objects towards each other. Earth's gravity is the reason why things fall towards the ground as it's heading for the center of the Earth. Anything that has mass has gravity therefore the coffee beans rely on the gravity to pull them down onto the next floor.



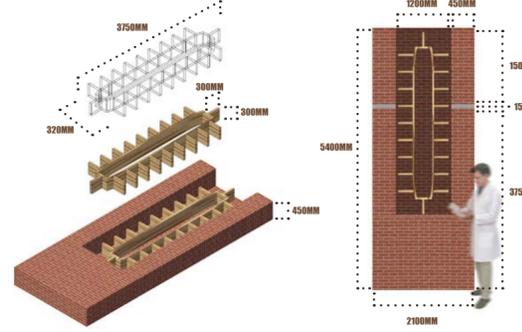
The void and basin are both made from reclaimed silver steel as it's one of the most sustainable materials due to its recyclability. The steel is 100mm thick.

SELLERS WHEEL, SHEFFIELD



ASSEMBLY LINE: CONVEYER BELT

SELLERS WHEEL, SHEFFIELD



Between the FF and the GF there will be a conveyor belt that transports the packaged coffee onto the next stage in the assembly line. The coffee will be used for using and selling in store and creating the methane storage product.

HOW DOES IT WORK?

The conveyor belt is made up of three different components including the profile, the driving unit and the extremity unit. The profile consists of the frame, the belt and the support and in this case is made from flexible reclaimed wood. This provides more movement and a smoother flow in the belt. The driving unit consists of the motor brackets where as the extremity unit are the pulleys. A conveyor belt uses two motorized pulleys which the belt should loop over. When the motors in the pulleys operates at the same speed and in the same direction the belt moves between the two. Rollers may be placed inside for if the produce it's carrying is heavy. Rollers and wheels provide for flexible movement.



Natural Clay Brick & Reclaimed Wood

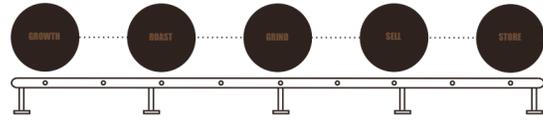


Aluminium motors and pulleys.



CONCEPT: ASSEMBLY LINE

SELLERS WHEEL, SHEFFIELD

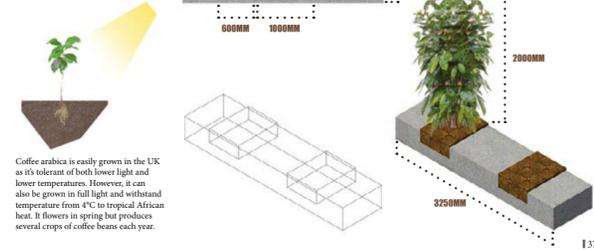


36 |

GROWTH

COFFEE ARABICA

- ☛ Direct sunlight from large industrial style windows
- ☛ Chlorosis from the winter recovers in the sun
- ☛ Fertilise in summer (regularly)
- ☛ Standard potting mix soil
- ☛ Bring soil to dryness between watering



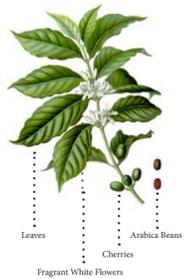
Coffee arabica is easily grown in the UK as it's tolerant of both lower light and lower temperatures. However, it can also be grown in full light and withstand temperature from 4°C to tropical African heat. It flowers in spring but produces several crops of coffee beans each year.

37 |

GROWTH

PROCESSION OF GROWTH

Coffee beans come from bush like plants called coffee arabica trees. This type of coffee bean is the preferred choice rather than Robusta beans. Arabica beans are oval shaped with a pronounced centre crease. Farmers typically keep the trees around 5ft to ensure they're manageable as the trees can grow up to 15ft tall and 8ft wide.



SF Natural Light onto Coffee Plants

- ☛ Bunches of cherries grow on the trees which inside are the coffee arabica beans
- ☛ Cherries turn red when they're ripe.
- ☛ 1 year: Appearance of white fragrant flowers
- ☛ Up to 4 years: Bear Fruit
- ☛ 10 years: Producing coffee beans on a commercial level

38 |

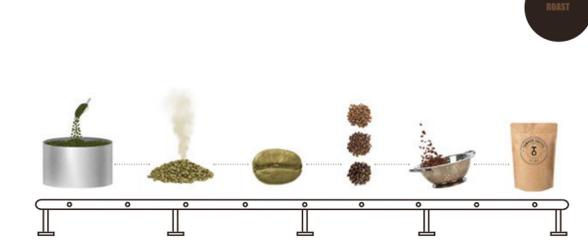
ROASTER



39 |

ROAST

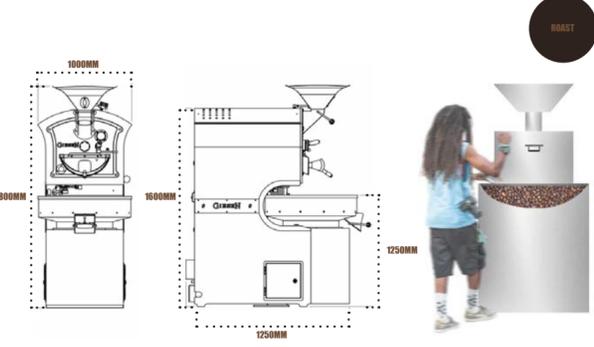
COFFEE ARABICA



1. Put green coffee beans into the roaster placing the lid on and set the temperature to 140°C for 14 minutes
2. Roast from green to yellow until it smells gray and the water evaporates from the beans
3. Set the temperature to 180°C for 12 minutes until the beans crack.
4. Set the temperature to 220°C and wait for the amount of time you want the beans roasting.
 - ☛ Light (7 minutes)
 - ☛ Medium (10 minutes)
 - ☛ Dark (24 minutes)
5. Quickly cool in a metal collander by shaking until you can touch the beans with your hands.
6. Store beans in an air tight container in a cool and dark place

40 |

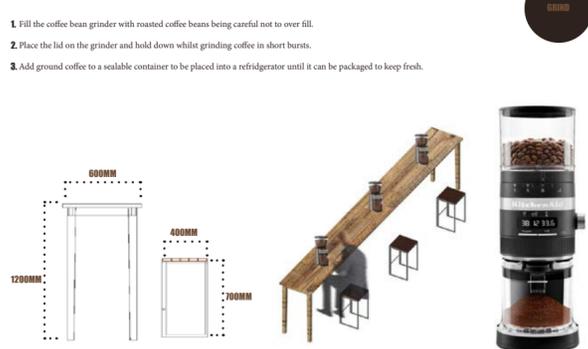
ROASTER



41 |

GRIND

COFFEE ARABICA

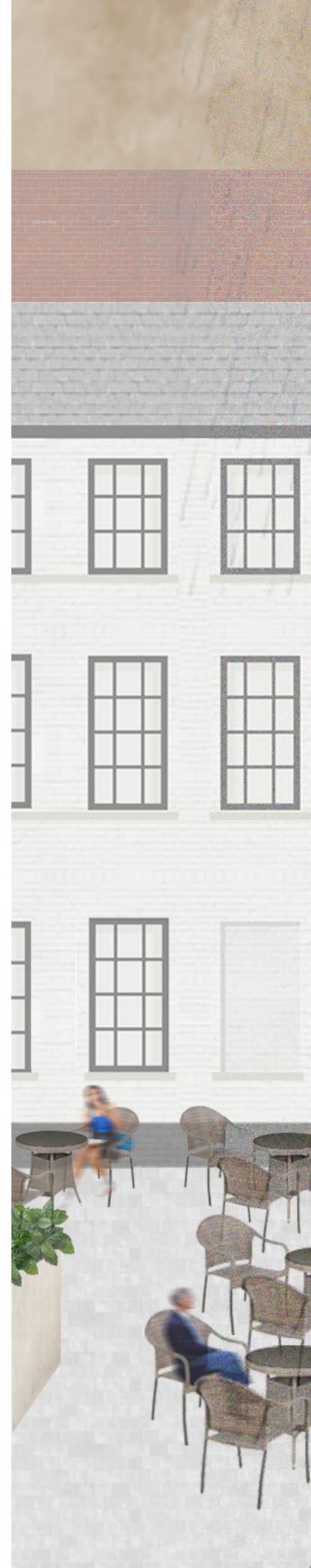


42 |

GRIND

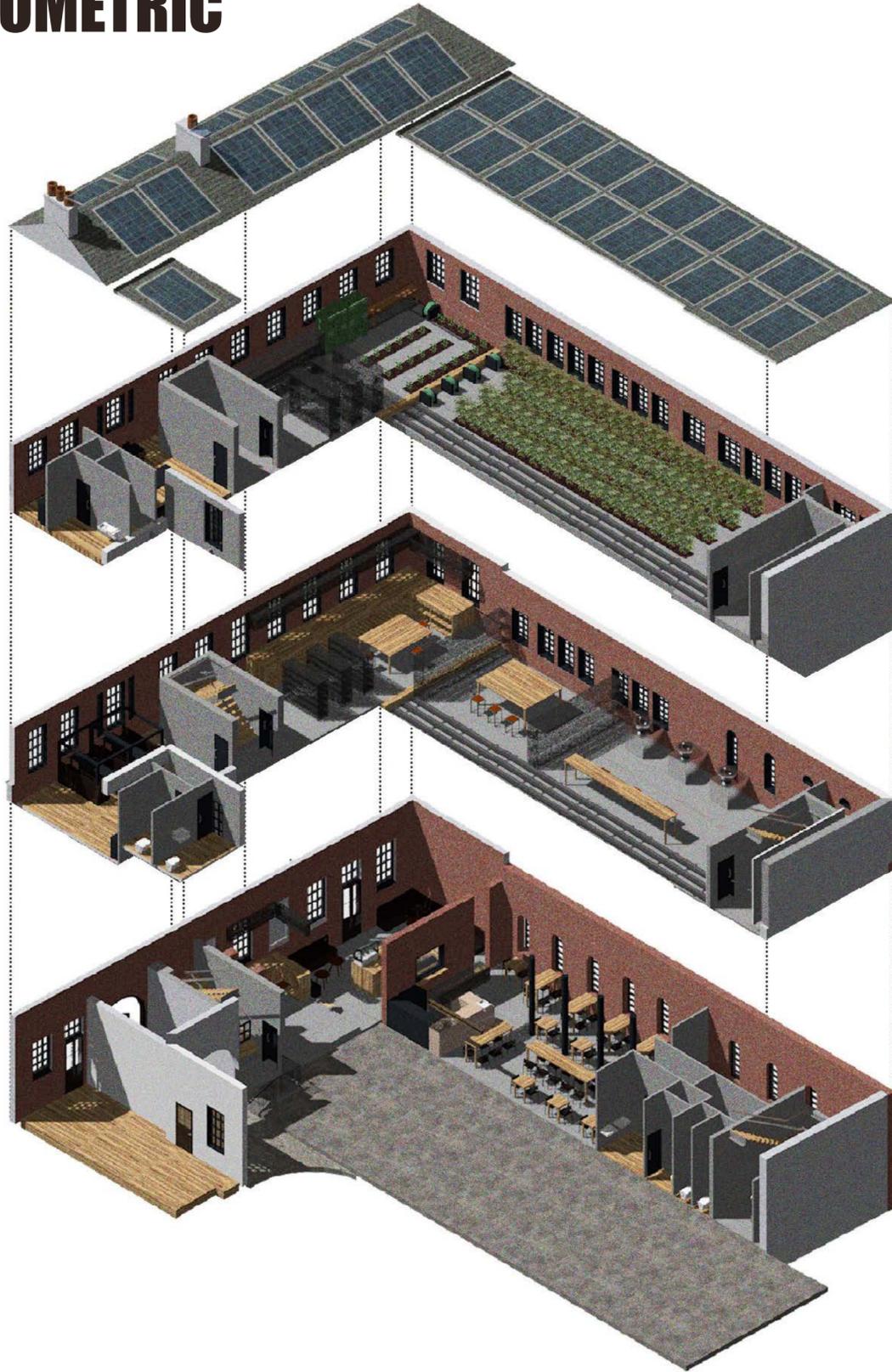


43 |



EXPLODED ISOMETRIC

SCALE 1:100



SELL

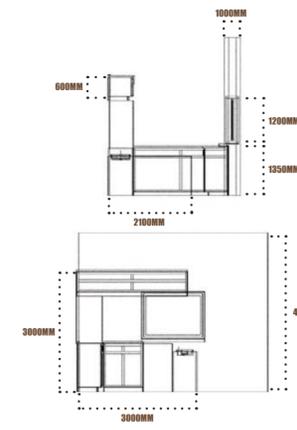
COFFEE ARABICA

The coffee made in Sellers Wheel will be sold in Tamber Coffee on the ground floor as usual. The coffee is sold in the form of:

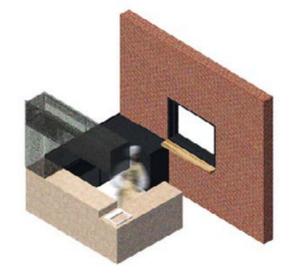
- Short Black
- Long Black
- Tamber Filtered (Black)
- Tamber Filtered (White)
- Americano
- Flat White
- Latte
- Cappuccino
- Traditional Cappuccino
- Piccolo
- Macchiato
- Mocha
- Affogato
- Hand Brew



SELLERS WHEEL, SHEFFIELD



SELLERS WHEEL, SHEFFIELD



STORE

COFFEE ARABICA



1. Mix 1/2 a cup of used coffee grounds with sodium hydroxide
2. Place in a furnace and heat to between 700-900 degrees
3. Package the stable material, which can now store methane, and send off to customers to use as fuel.

• Can absorb 7% of coffee beans mass in methane in 24 hours.



SELLERS WHEEL, SHEFFIELD



UNIFORM



SELLERS WHEEL, SHEFFIELD

PRODUCT TRANSPORTATION

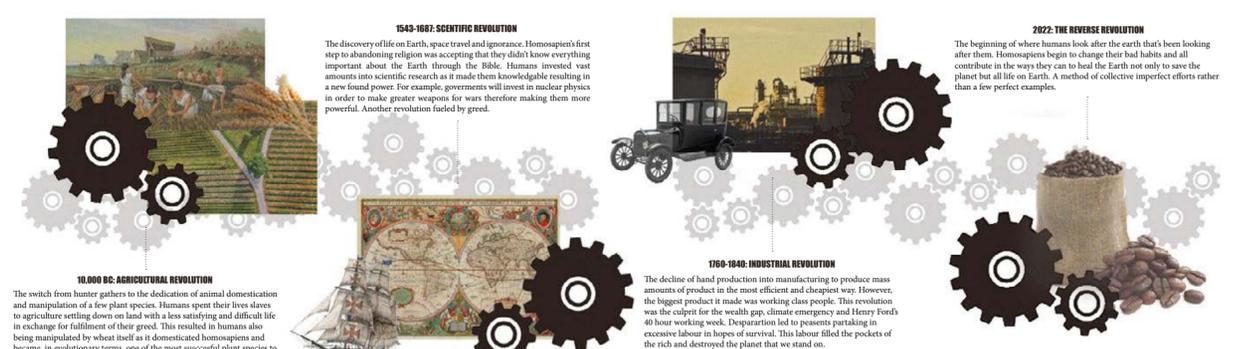


SELLERS WHEEL, SHEFFIELD



SELLERS WHEEL, SHEFFIELD

REVOLUTION TIMELINE



SELLERS WHEEL, SHEFFIELD

SELLERS WHEEL, SHEFFIELD