SCHOOL COMPETITION

WINNING ENTRIES FROM 2023

A CSTT Initiative

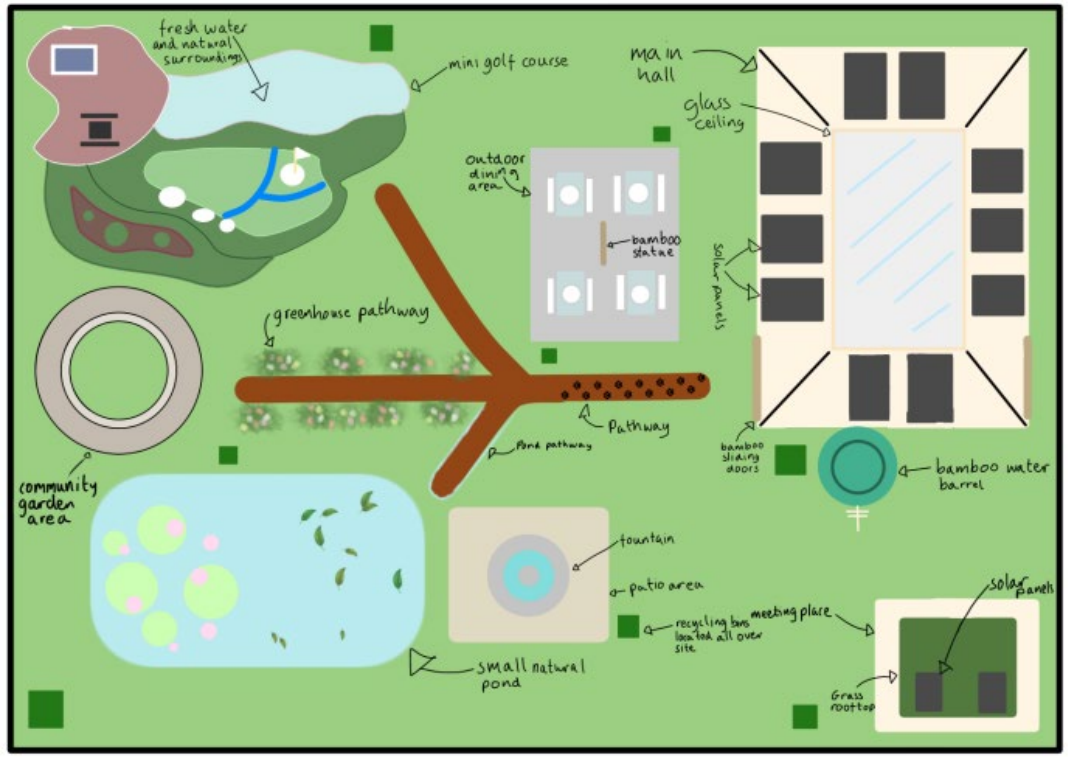
MY ENVIRONMENT MY FUTURE

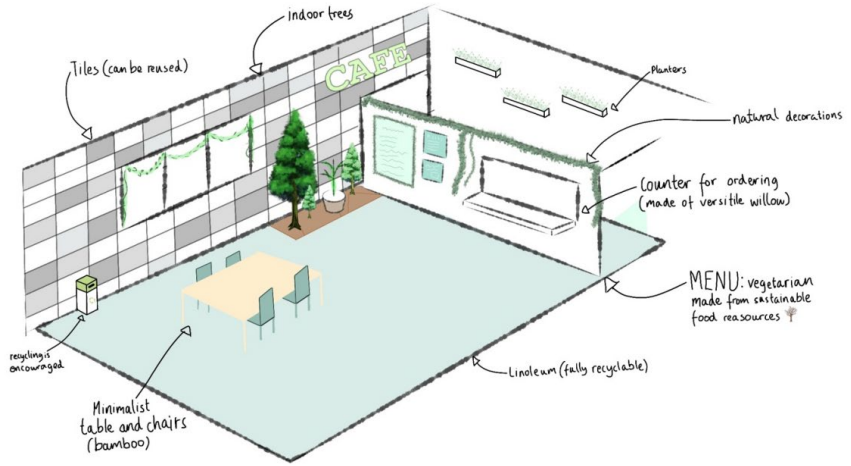
MEMF SCHOOL COMPETITION 2023

This year, the MEMF school competition drew over 850 young people from across the UK who exceeded our expectations with their innovation, creativity, and care for their local community and the built environment. Their passion was evident in their thoughtful and sustainable designs for a redevelopment of a building or space in their local area, with entries ranging from ages 11 to 19.

Our expert panel of judges has reviewed all the entries and has selected a winning proposal from each age category, as well as several honorable mentions. We are thrilled to announce the winners of the 2023 MEMF School Competition and showcase the winning entries

MY ENVIRONMENT
MY FUTURE





MY ENVIRONMENT
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WINNING ENTRY: AGE 11 TO 14

Community refuge from Channing School (ages 11-13)

This entry chose a space of over 1000 cubic meters of concrete in North London and suggested transforming it into a community refuge with a hall and garden. The proposal presented detailed designs of the new space and demonstrated a commitment to bringing the local community together to foster a sense of safety and connection. The judges were impressed by the thoughtfulness behind the building's new purpose and the innovative sustainable designs.

Site 3: New Dragon

Where is it?

The site I have chosen is site 3 which is called New Dragon it is located slightly north to the heart of London. It is north east of Leopold Road in East Finchley. It is 1,154 m².

What will I use it for?

The site was just plain rectangular concrete with not much use. Although the government is planning to build something here already. It is very spacious and it could be used well to make a more comfortable community refuge. I am planning to do the hall on the right side of the concrete area and on the left side would be a small garden circular area with a mini golf and a natural pond. The shrubs will be tended to more often.

This is a side view of the place. As you can see it is overgrown with shrubs and wild plants.

What the government is planning to do.

Before:

The first fence is made out of metal bars and plastic. These materials are not good for a secure community refuge. Plastic is not a sustainable resource for the planet.

In the first picture you can see that the concrete ground is dirty and overgrown with wild bushes. Concrete production makes around 2.5 billion tonnes of carbon dioxide per year. This is why

The gate is made out of rusted metal bars and some unfastened plastic sheets. The plastic sheets would not be good for the environment and they could easily fly away and could harm many birds or animals. Metal production causes bad air emissions.

After:

I have decided to change it into a composite fence. Made out of 99.9% of recycled materials, it is extremely long lasting and secure. After it's life cycle it can be recycled.

For the flooring I'm going to use CarbonNeutral concrete which is better for the environment and produces less carbon dioxide.

I have wanted to make the gate more natural but also keeping the size of the gate the same. It would be made out of fallen birch tree branches and would also have a secure lock making the place safe as well.

MY ENVIRONMENT
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Social Benefits

One of the reasons why I have chosen a community refuge is because it unites a community and makes people feel safe and in harmony with others. It encourages teamwork and people are valued by their own individuality.

Having a community refuge like this impacts young peoples lives in a positive, healthy way. Especially people who have suffered trauma throughout their lives. This opportunity will boost their mental health.

It enriches peoples lives and brings together larger diversities. Certain kinds of social interactions help trauma survivors control their emotions of fear, anxiety, and mistrust.

Environmental Benefits

I tried to make my community refuge as sustainable as possible. Instead of there being taps as a water source, I have changed it to a filtered water barrel which takes some of the water from the pond after it rains. Then the barrel filters the pond water making it clean sustainable water. And what is even better is that the water is collected after it rains so the pond will never dry out or overflow.

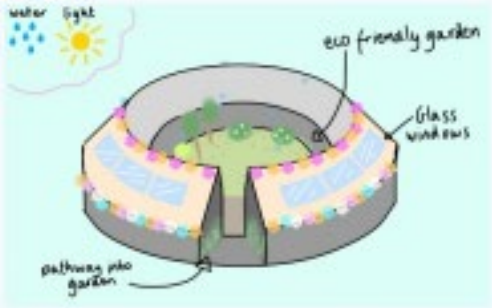
The reason why I have made a small circular garden area is because gardens help to reduce traffic and other noise pollution by absorbing sound. Plant leaves, bark and stems absorb sound at different levels because of their surface dynamics, created a peaceful and quiet environment.

MY ENVIRONMENT
MY FUTURE

Economic Benefits

By making my community refuge economically sustainable I made sure that the materials would last for a long time and tried to make it not negatively impact the environment for future generations. For example, I decided to make wind turbines at the bottom of the site because they do not release carbon emissions and can last for an extremely long time.

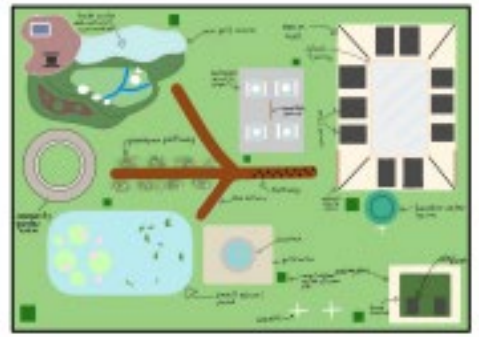
To contribute to economic growth I put solar panels all around the main hall and the meeting place because energy is harnessed from the sun, a solar system power source can last forever as long as the sun exists. This reduces resources like coal, oil, and natural gas, which are contributing to global warming.



This is a closer view of the circular garden area. It has:
- A sustainable water system
- A garden with many different plants
- An open roof for the sunlight
- Circle shape to prevent noise pollution
- Glass windows all around

This shows the top view of the sight. It has:
- A main hall
- A meeting place/toilet
- A natural pond
- A circular garden area
- Mini golf course
- Outdoor eating area
- Windmills

(First page for bigger view)



The main hall includes:
- Minimalist tables and chairs
- Wall Planters
- Indoor trees (freshen up air)
- Many recycling bins
- Cafe counter (vegetarian food)
- Sustainable materials: linoleum, tiles, willow wood

(Next page for bigger view)

MY ENVIRONMENT
MY FUTURE

WINNING ENTRY: AGE 11 TO 14

"I enjoyed participating in this competition because it gives you an opportunity to incorporate Maths, Art and Geography all into one project. I also think that it was enjoyable because we got to learn much about sustainability and its importance. We also got to experiment with our own ideas for what sustainability means to us individually. Thank you!"

"We are proud to have played a role in creating opportunities for young women in the sustainable built environment space. By opting to deliver this design project from a cross curricular approach, we encouraged the students to view the project brief from the contrasting perspectives of Geography, Art and Maths. This made the project engaging and relevant to them and elevated the quality of their work." Channing School

MY ENVIRONMENT
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WINNING ENTRY: AGE 15 TO 16

Sustainable Sips from Malvern College (ages 14-16)

This submission successfully transforms a dilapidated space into an eco-friendly restaurant where students, teachers, and locals can come together to socialize and unwind. The proposal has strategically chosen a derelict building, formerly a nursery, to revitalize into a vibrant social hub for the community, complete with its own garden to supply the kitchens and plenty of spaces for locals to work and relax.

MY ENVIRONMENT
MY FUTURE

Introduction

In the next few slides, we will provide an overview of our bar’s plans, design and benefits. Whether you're a student, faculty member, or visitor, the bar will offer a welcoming environment where you can enjoy delicious drinks and food, connect with friends, and unwind after a long day. We hope this presentation will give you a glimpse into what our bar could offer.

The Current Site

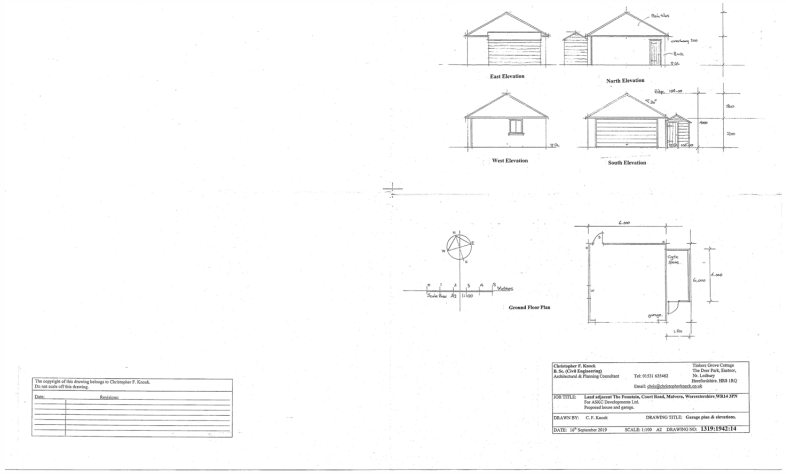
Grass Area
Main Building
Car Park

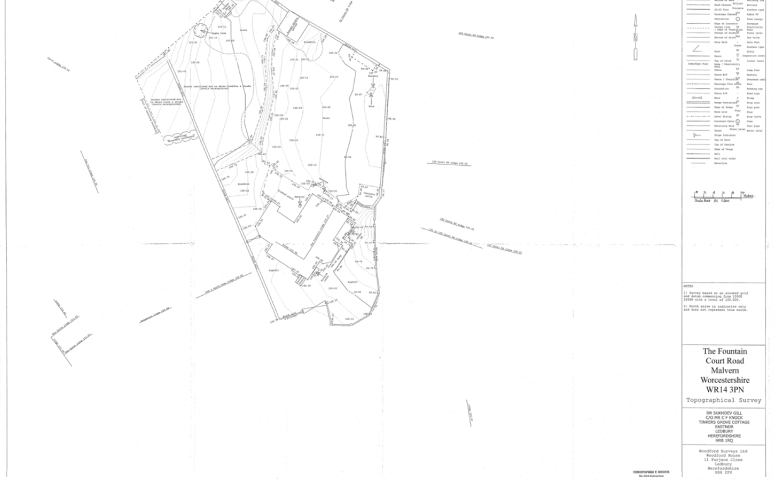
The current site we are looking at to redevelop is called ‘Fountain Stores’, it was previously a nursery and is located at ‘The Fountain Nursery School, Court Rd, Malvern WR14 3PN’. It is currently owned by a company named Askc Development Ltd the company specialises in redeveloping a property and turning it into housing.

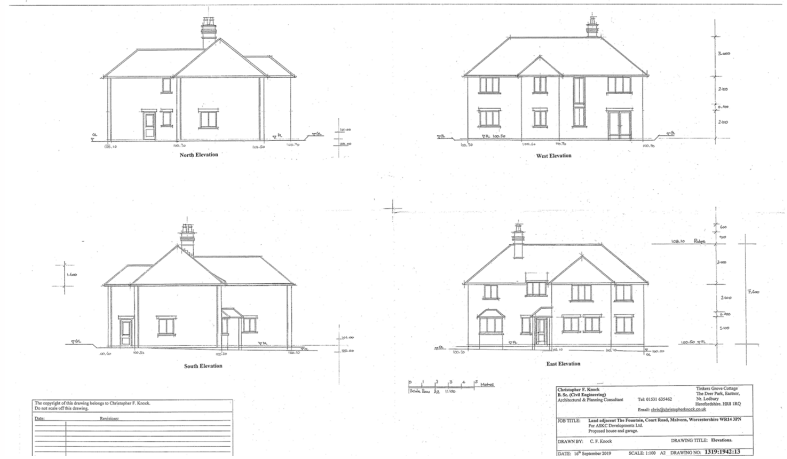
It is currently derelict and permanently closed, many windows are smashed and the whole building may need to be redone and renovated. The image on the right shows the current layout including a large grass area a small car park and the main building.

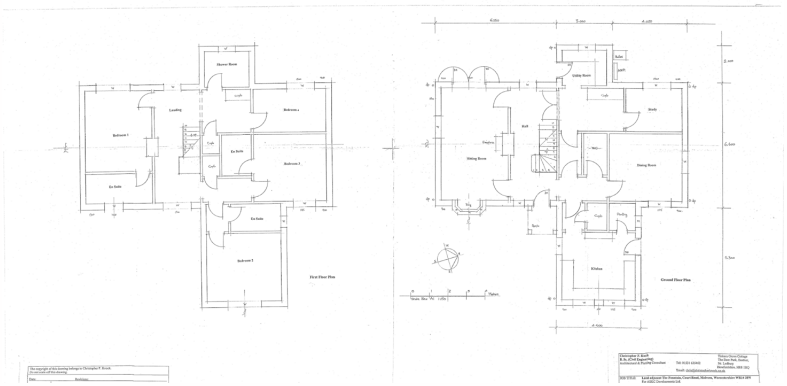
We feel that The Fountain Nursery School is in need of renovation because of its status and positioning in the area. It lays on a crucial crossroad between Malvern College and the nearby local community therefore we feel it should be a vital cornerstone in connecting the local community to the students at Malvern College.

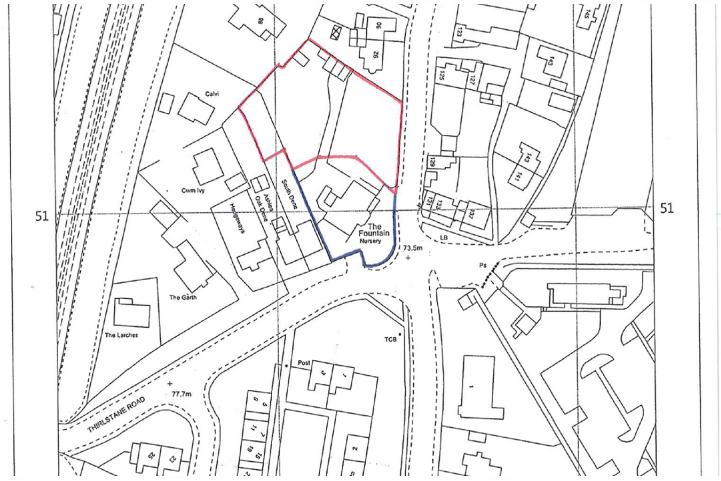
MY ENVIRONMENT
MY FUTURE











Askc development Ltd ‘s previous proposal.

The only reason the full planning permission of the erection of the garage and dwelling has been refused is that:

“The proposed dwelling and detached garage would fail to respect the setting, character and scale of the local area by virtue of their massing, position, design and appearance which would result in an incongruous and overly prominent development which would detract from the street scene and character of the Conservation Area as well as the setting of the listed building at 125 Court Road. The proposal therefore fails to comply with policies SWDP6, SWDP21 and SWDP24, the South Worcestershire Design Guide SPD and the NPPF.”

In short, the renovations proposed in the planning would ‘detract’ from the ‘character’ of the area and does not comply with the policies SWDP6 and SWPD 24 stating that their contribution must be protected ”in order to sustain the historic quality, sense of place, environmental quality and economic vibrancy.”

The images show the proposed plans to the local council consisting of a construction of a house and a garage.

Planned Changes

- The building will be renovated into a two-floor restaurant and bar for Malvern College students, staff and locals.
- It will include an outdoor grass area for seating and performances as well as an indoor restaurant and bar.
- The grass areas will be turned into an open garden where most of the food will be produced.
- The building if in need of rebuilding will be rebuilt strictly using reclaimed wood.
- A new bike storage will be installed in the carpark as many residents in the area travel using bikes.
- A small outdoor stage will be installed in order to encourage student performances.

No major construction changes will be made to preserve the historic environment and atmosphere.

Big Plan.
Big Changes.

Social Change does not require Superheroes

The Planned Layout

Sustainable Sips will feature an open plan layout with ample seating space, a bar, and a stage for live performances and music. The outdoor area will be designed to provide a natural and inviting atmosphere with a grassy lawn and plenty of greenery.

The open plan layout is essential to the restaurant to create a welcoming and inclusive atmosphere. The design will feature large amounts of natural light and ventilation, reducing the need for artificial lighting and air conditioning.

Adjacent to the main area will be a lounge. This will feature comfortable seating, coffee tables and a fireplace. This area will be designed to provide a snug and intimate atmosphere, perfect for small groups of friends and couples. The outdoor area will be accessible from both the main area and the lounge area, providing customers with a natural and refreshing space to relax and unwind.

Upstairs will include the bar where staff and locals can enjoy a refreshing pint of beer after a long day's work.

The grass outdoor area will be designed to provide customers with a natural and refreshing space. This will feature a grassy lawn, surrounded by trees as it is an AONB. There will be plenty of seating options, including benches and picnic tables. The area will feature a small stage for acoustic performances or small bands. The garden will be lit with low level lighting, creating a warm and inviting atmosphere. The garden will also include an area to grow and cultivate our own ingredients for the restaurant.

Sustainability

As mentioned previously, Sustainable Sips will grow its own ingredients to an extent. Most vegetables can be grown in the garden to help keep the restaurant eco-friendly.

Sustainable Sips will also incorporate a comprehensive waste management program, designed to minimize its environmental impact. We will use biodegradable and compostable products wherever we can, such as straws, cups, and utensils. Additionally, separate bins for paper, plastic, glass and organic waste.

The organic waste will be composted on-site, using a composeting system that will produce nutrient-rich soil and compost for the outdoor garden and soil. We hope to also partner to local organization such as Malvern Food Bank to donate any excess food to those in need, reducing food waster and supporting the local community.

Sustainable Sips will do whatever it can to use energy efficient appliances and equipment to reduce energy consumption and minimize its carbon footprint. A smart lighting system should be implemented, which will automatically turn off lights in unoccupied areas. The heating and cooling systems will also be on timers to ensure energy is only used when necessary. Solar panels can be implemented onto the roof of the design to help cut down on our carbon footprint as well.

MY ENVIRONMENT
MY FUTURE

How it Benefits the Local Community

It is positioned in a location where students and locals can take advantage of it.

Students and staff can go and relax after a long day of classes.

It could benefit over 30,000 people by giving locals a nearby location to have a good time.

The restaurant is open to all ages to help support the diverse ages around Malvern.

This would especially benefit locals because the town center is almost 15 minutes away by foot! Furthermore, the train station is only a 5-to-10-minute walk away and so transport is easily available.

We asked 10 local students of different ages and backgrounds who expressed their interest in renovating The Fountain Stores into a restaurant for students and locals.

MY ENVIRONMENT
MY FUTURE

Conclusion

In conclusion, Sustainable Sips will be a fun and social place to unwind and enjoy a variety of foods and beverages. However, it's important to always drink responsibly and be mindful of our limits to ensure a safe and enjoyable experience. The most important thing to our project is how it benefits locals and the environment as nothing is more important than our planet earth.

WINNING ENTRY: AGE 15 TO 16

“We are happy to have won the competition and we hope our ideas can be taken into consideration. Winning is just a bonus!” Winning team

‘We were really impressed by the level of work produced by the boys for this competition. They have represented the school fantastically and I am delighted that they have been chosen as the winners!’ Malvern College

MY ENVIRONMENT
MY FUTURE

MY ENVIRONMENT
MY FUTURE

WINNING ENTRY: AGE 17 TO 19

The Reach Cultural & Educational Centre from John Mason School (ages 17-18)

This proposal boldly transforms the Upper Reaches hotel into a cultural and educational center that aims to collaborate with the local community and businesses, fostering cultural unity in Abingdon, and supporting the increasing refugee population. The proposal thoroughly investigates multiple ways to ensure the building's sustainability and presents a compelling case for a sustainable business model. The judges were thoroughly impressed by the proposal's alignment with the UN Sustainability Goals.

REACH CULTURAL & EDUCATIONAL CENTRE

Upper Reaches Sustainable renovation

Created by Aden Couture, Cade Botha, Sonya Robinson, and Maisie Sharps.

REACH

OUR PROPOSAL;

- Renovate the Upper Reaches hotel into a cultural & educational centre for the diversifying population of Abingdon.
- Work with the local community and businesses, not diverting business or developing an unsustainable project.
- Our target is to unite the range of cultures in Abingdon/Oxford and assist the growing population of refugees.

Design Brief

Each entry should cover four key areas:

- the original site,
- their new designs,
- sustainability of the designs and
- how their plans meet the needs of the local community.

Sustainability

Local Community

At the heart of any redevelopment, should be the needs of the local community. Most of us live in diverse and intersectional communities and new spaces should be welcoming to all. Students

MY FUTURE

SUSTAINABILITY

Sustainability consists of fulfilling the needs of current generations without compromising the needs of future generations

WHAT ARE THE NEEDS OF FUTURE GENERATIONS?

OUR RENOVATION;

- GOAL 3; Good health and well-being
- GOAL 4; Quality Education.
- GOAL 9; Industry and infrastructure
- GOAL 11; Sustainable cities and communities
- GOAL 13; Climate Action

ABINGDON COUNCIL OBJECTIVES

CLIMATE

To respond effectively and speedily to the climate emergency.

ECONOMIC

To manage the Council's assets efficiently and effectively to meet the needs of the community now and in the future.

SUSTAINABLE

To develop a resilient, sustainable town that will provide a home for residents now and in the future.

COMMUNITY

To work with community partners to support those who are vulnerable and in need and to create opportunities to increase social inclusivity.

MY FUTURE

01 WHY?

Why does Abingdon need a cultural & educational centre?

MY ENVIRONMENT
MY FUTURE

Petition launched to get Abingdon's Upper Reaches back in use

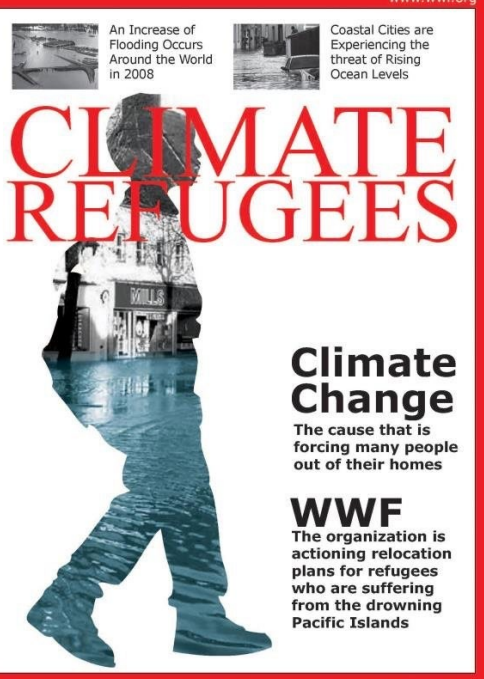
23rd March 2022

Abandoned Upper Reaches Hotel, Abingdon. Picture: Damian Halliwell

Oxfordshire welcomes over 1000 refugees as part of Homes for Ukraine

3rd May 2022

www.wwf.org

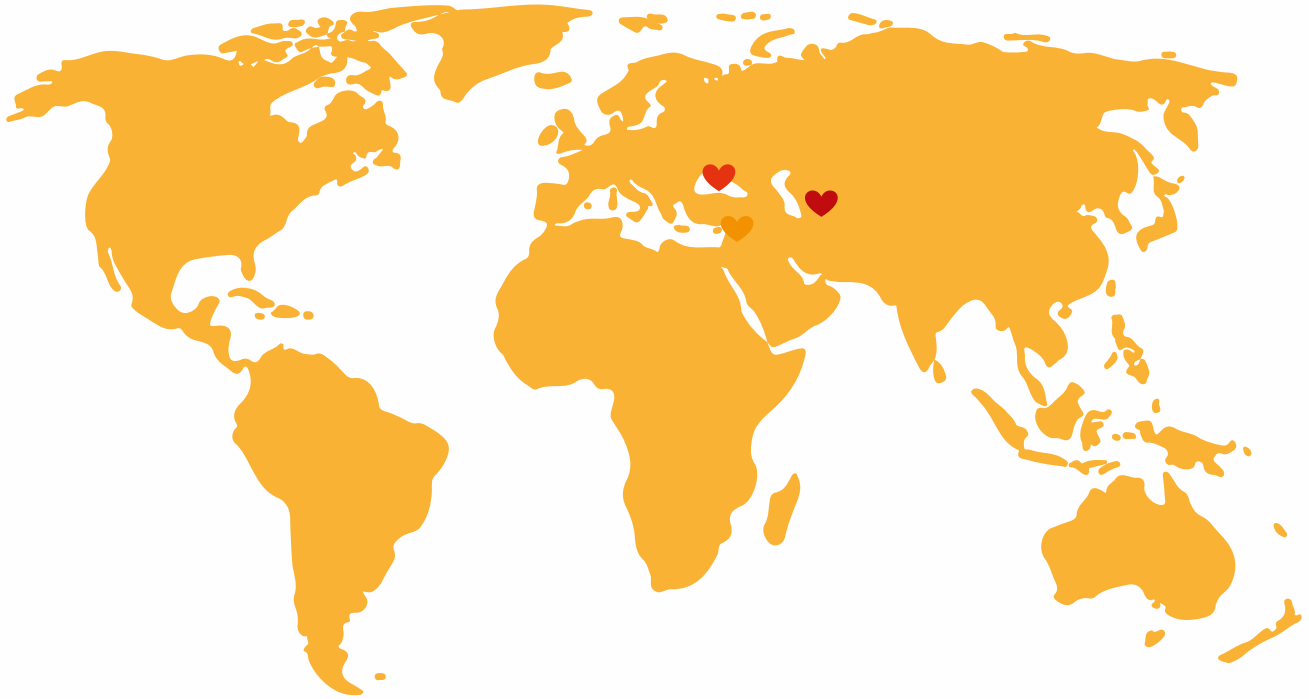


Slow Down Climate Change. Don't Let Migration be the Escape Plan

REFUGEES & ABINGDON

- Abingdon currently holds and supports many refugee families.
- In Oxfordshire alone there are over 1000 families that have escaped conflict and hazardous situations.
- With the current climate of the world it is estimated that **1.2 bn** will become displaced due to climate change.
- Refugee resources overwhelmed in Oxford.
- Many refugee families find a city to navigate stressful, so location of Reach is ideal- connected but with scenic parks nearby!

LARGEST REFUGEE POPULATIONS IN UK & OXFORDSHIRE



UKRAINE

Since February 2022

AFGHANISTAN

Since 2021

SYRIA

Since 2011

WHAT IS ABINGDON CURRENTLY DOING & HOW WILL REACH HELP?

Abingdon needs a base centre, currently the Barns Cafe, and St Ethelwolds manage refugee social help and resources. This is not sustainable for these businesses as they don't have time and resources to maintain this long term.

Reach will relieve the pressure. It will keep these connections to maintain a sense of community but advertise for local help in the area at a designated area.

SUSTAINABILITY

- GOAL 3; Promote good health through communal cooking classes in conjunction with St Ethelwold's garden.
- GOAL 4; Assist families and refugees with applying to quality education institutions nearby, aiding with language classes to increase employability.
- GOAL 9; Maintain the structural features and aesthetic of the Upper Reaches hotel to complement Abingdon Town Centre
- GOAL 11; Aid creating an increasing multicultural community and town, welcoming to all!
- GOAL 13; Environmentally friendly construction and more green spaces without interfering with beautiful landscapes surrounding - no urban sprawl!

02
WHAT?

What features will Reach have?

MY ENVIRONMENT
MY FUTURE

CULTURAL

Promoting a welcoming Abingdon;

- Prayer spaces for Islam; 11.5% of Abingdon is Muslim yet there are no prayer spaces available, Quranic Classes Programme with Abingdon Muslims.org
- Warm space to encourage community and respite during cost of living crisis.
- Areas for donations, resources and host pairings.
- Sport opportunities, such as cricket (popular for Afghanistani communities and outreach programmes)!
- Well-being staff for traumatised refugees

EDUCATIONAL

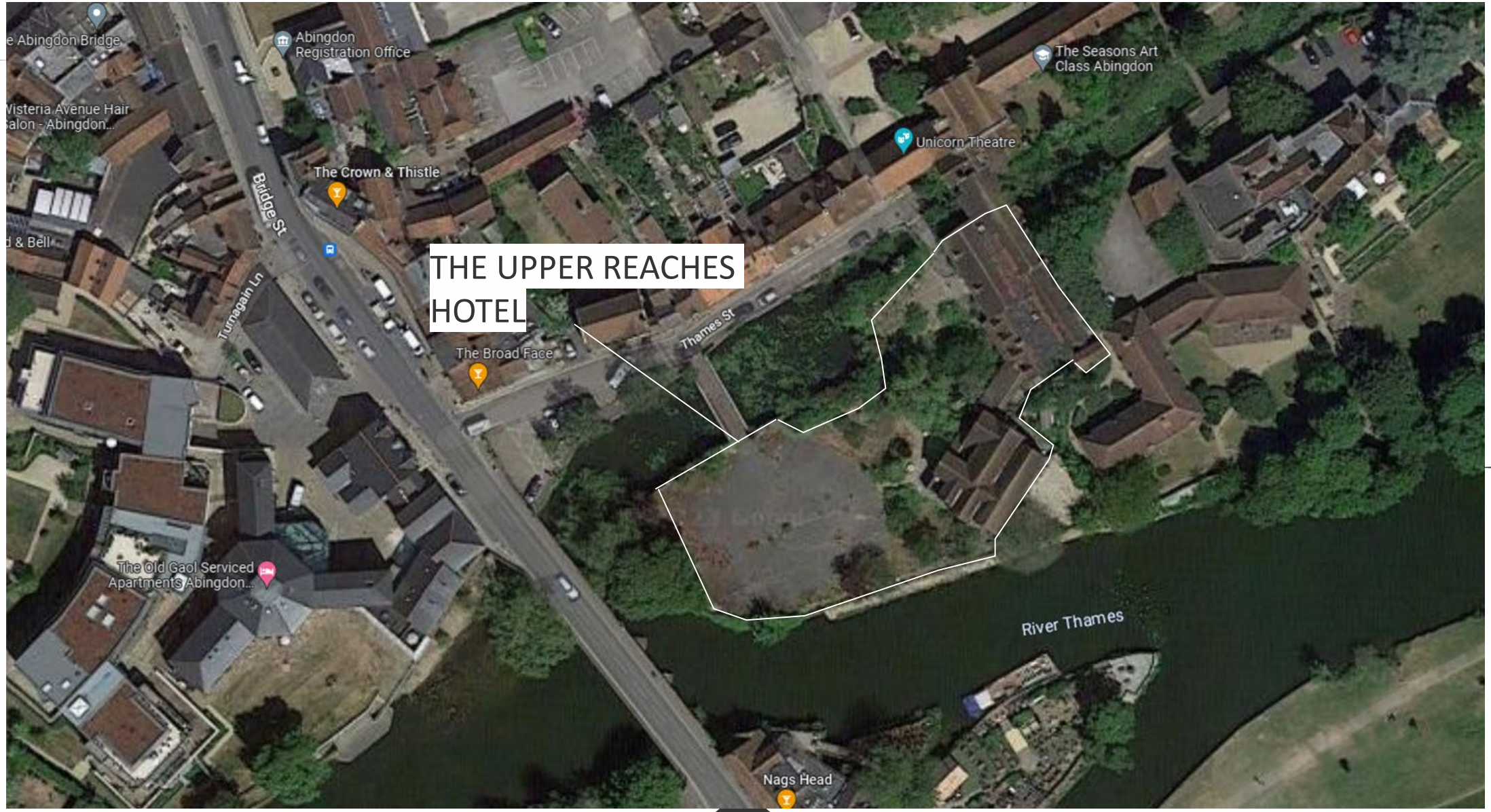
Supporting the community for the future

- Gardening therapy, skills and engagement with Abingdon
- Life skills- hold specific classes for life in England and confusion around tax/employment
- Cooking classes- use local products- Peachcroft farm, gardens.
- Library- inclusive books (foreign).
- Resources for surrounding educational institutions and children's play area
- History of upper reaches (sign outside refurbishment)

03

OUR DESIGN

Layout and construction plans, aesthetic and inspiration from existing cultural centres!


e Abingdon Bridge
Abingdon Registration Office
The Seasons Art Class Abingdon
Visteria Avenue Hair Salon - Abingdon...
Unicorn Theatre
The Crown & Thistle
Bridge St
d & Bell
THE UPPER REACHES HOTEL
Turnagain Ln
Thames St
The Broad Face
The Old Gaol Serviced Apartments Abingdon...
River Thames
Nags Head


INTERIOR
&
EXTERIOR

INTERIOR

Our interior will include:

- Classrooms for language education, and study purposes
- Islamic prayer rooms, open 24 hours a day for accessibility
- A kitchen for cooking classes, and preparation of meals
- Resources for housing schemes
- A small library with a range of multicultural books (not preventing usage of the local library)
- Staff accessible areas
- A conservatory serving as a seating area
- Conversation pit
- Bathrooms

SUSTAINABLE KITCHEN

WHAT WILL IT DO?

- Provide cooking classes for personal skill/development.
- Opportunity to share and learn about different cultures.

On Mondays we will offer some of our products such as baked goods at the Abingdon market to raise money.

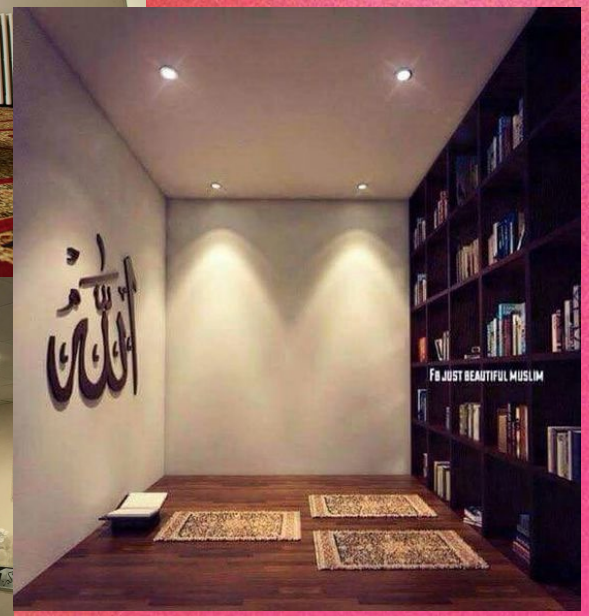
Locally sourced ingredients, keeping our centre sustainable, while also helping small businesses. We can also work with local food banks, supporting the community.

SOURCES

- Our community garden.
- Peachcroft farm: a local farm producing meats and cheese available to order.
- Millets farm: local farm with a range of organic products.

PRAYER ROOM

Reference images;



MY FUTURE

SOCIAL AREAS

Community atmosphere and opportunities.

SUSTAINABLE CONSTRUCTION

Abingdon currently has these ratings for environmental atmosphere

FACTOR	RATING	LEVEL
WATER POLLUTION	50.00	Moderate
QUALITY OF GREEN AND PARKS	50.00	Moderate
NOISE AND LIGHT POLLUTION	50.00	Moderate
AIR QUALITY	100.0	Very High

Construction, and running of machinery for our project is likely to affect these factors negatively so we are aiming to make production as ecologically friendly as possible.

HOW WILL WE BE SUSTAINABLE?

Lack of construction vehicles

Our use of construction vehicles is aiming to be limited to reduce amount of noise, air,and water pollution omitted from these.

Protecting natural habitats

Surrounding the construction zone habitats such as the river, birds nests, and plants. Our construction will aim to not disrupt these habitats, and if they do, for only a short period of time.

Recycling previous materials

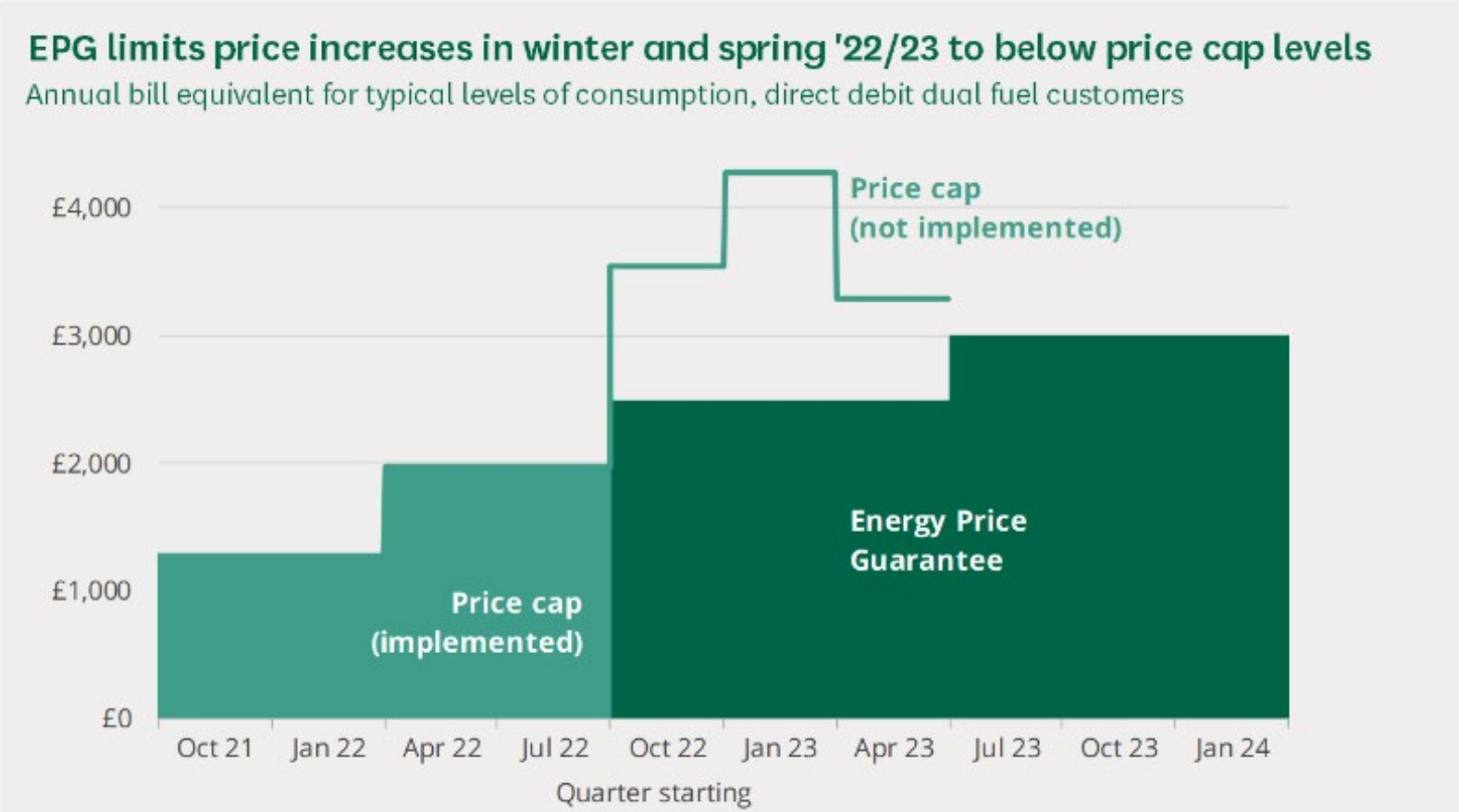
To avoid waste we will recycle previously used materials, such as building materials

Reduced waste on-site

Waste on-site will be an issue however we are hoping to dispose of it efficiently, and not let it pollute the area.

ENERGY

With the rising energy costs, and cost of living crisis, sustainable, and cheap energy sources need to be considered for usage.

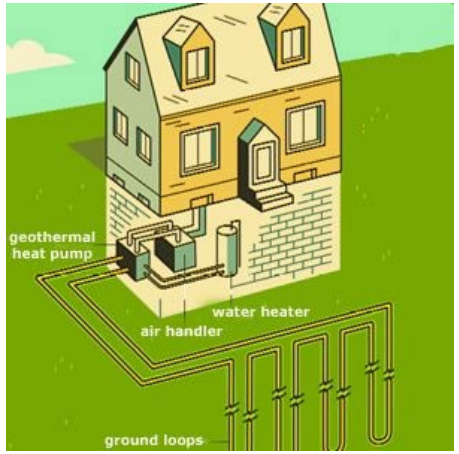


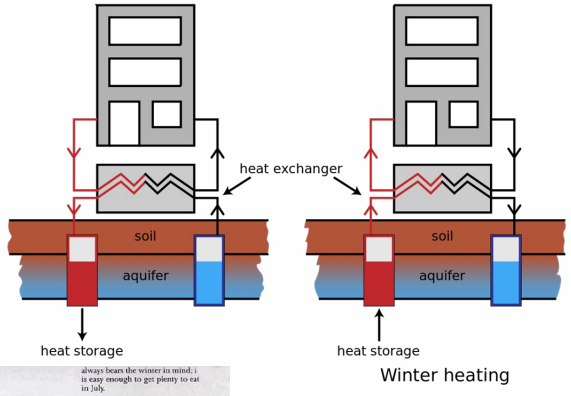
Basic (Electricity, Heating, Cooling, Water, Garbage) for 827m² area (area of Upper Reaches) is £1605.35.

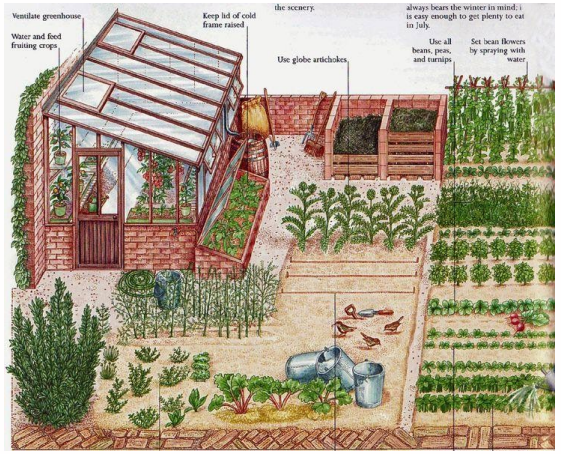
MY FUTURE

THERMAL HEAT PUMP

- Heat pump prices vary but for an air source heat pump it is approximately £12-£15,000 inclusive of system design and installation.
- That is before the £5,000 in government funding under the Boiler Upgrade Scheme (BUS) is taken into account. Actual amount typically paid is between **£7-£10,000.**
- “Deemed most carbon friendly solution and are now the cheapest option to warm homes”- Octopus Energy
- Can save **£187** per year by switching from gas boiler to heat pump
- Factoring other costs, ie. boiler cover and gas standing charge, your heat pump could save you a further **£263 a year**.
- On a large scale project, eg. REACH centre; lower costs of heat will be beneficial , lowering cost of living crisis, and carbon emissions

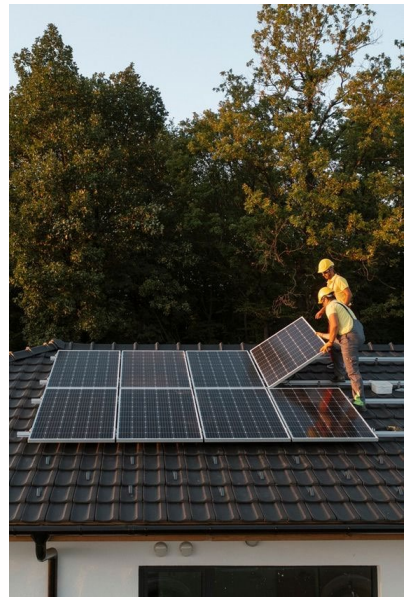


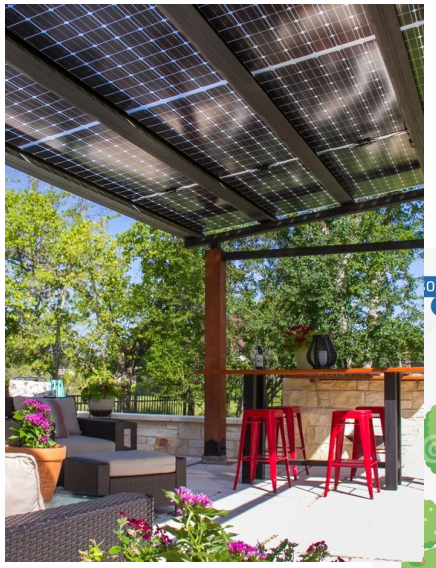


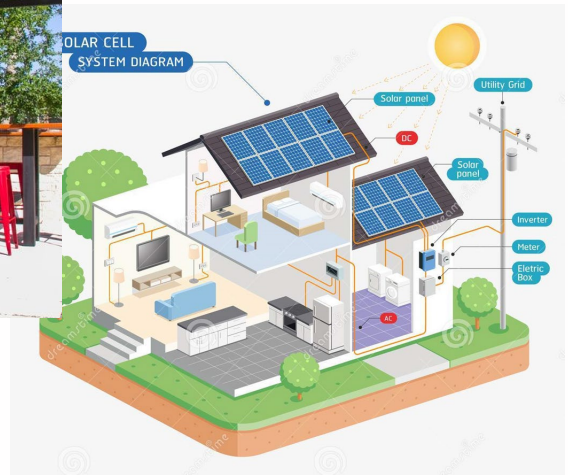


SOLAR PANELS

- Solar panels on average cost between **£150-400** each to install (dependent on size and efficiency).
- Generate free (and green) energy during the daytime meaning demand for energy from the grid is greatly reduced, saving thousands long-term.
- Energy security is raised due to being less vulnerable to power cuts and outages.
- Solar income: although we would prefer to use all power we generate, all excess can be sold back to the grid.







LIGHTING

At Reach we will use sensor LED light bulbs which are **90% more energy efficient** than incandescent light bulbs and 80% more efficient than CFLs.

Benefits of LED lights

- Long lifespan: average of 50,000 hours and up to 12 years
- Higher brightness, and intensity in comparison to incandescent and CFL bulbs meaning less are needed, therefore less money and energy is used
- Low radiated heat, means LEDs operate at a lower temperature than other light bulbs
- LEDs are a very durable and reliable form of lighting since they can operate safely in colder temperatures, and can withstand more impact and vibration than other light bulbs as they have no filaments or other fragile parts

OUTDOOR SPACE

WHAT WILL IT BE USED FOR?

- Community garden; seasonal fruit and vegetables, grown as ingredients for kitchen as well as personal use. Gardening classes used as stress relief as well as personal enjoyment.
- Socializing space: open space with benches and tables - used as an area to make friends and chat, particularly in summer months. Can also be used for summer activities such as barbeques.
- Children's play area: an area for young children to play on playground equipment.
- Bike sheds: to allow community members to have a safe space for bikes, hopefully emphasising a reduction in car travel- further contributes to our low carbon footprint goal.

COSTS AND LOGISTICS

- Energy for lighting - £832.2/year
- CCTV - ANNKE E200 1080p - £750 for cost and installation
- Removal/demolition costs - 800m² / 90 = 8.89 x £8000 = £75,000
- Construction costs - 800m² x £1300 = £1,040,000
- Turning soil - topsoil cost = £3800
- Liming soil - 2800m² of soil / 700 = (4+1) x £25.99 = £129.95
- Seed/grass costs - 950m² / 35 = 27.14 x 9 = £244.29
- First aiders (3)- £600 (£200 per person)
- Cleaners (2)- £840 per month - £10,080 a year (two times per week)
- Maintenance/groundskeeper- £22-25,000 per annum (unless volunteer)

Total: £1,156,436.44