

# HOUSE OF 2030

House For Life

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# My Initial Proposal

For my project, I want to create the 'House for Life': the perfect family home which is adjustable through all stages of your life. Furthermore, this home will be suitable for those who want to expand a family and for those who do not. This house will be an affordable option and one in which members of society in 2030 over the age of 60 will not need to leave due to physical difficulty. As it will be a house in 2030, this house will be both eco-friendly and conserve maximum energy in order to forward the goal zero carbon emission by 2050, a greener future for everybody! I want to emphasize the minimalism of the Home of 2030; I feel as it should be realistic, not too extravagant where one may feel they cannot buy as it is out of their price range.

**The Name:** House for Life

**The Logo:** (copyrighted for now)





# Research: Housing Design Awards

As a starting point, I briefly looked at the 2016 Supreme Winner in order to further explore how others reformed old space, creating this residential space adaptable for the future. The architects in Newcastle turned this once deprived industrial area into a residential area.

Personally, the feature of this concept of living which I liked the most was the inclusion of a 'Communal feel'. For example, the positioning of the flats are deliberate as a way of people being forwarded to converse with each other. Alongside this, there is also a Communal recycling area within the perimeter of the 76 flats.

However, although this project creates this element of community, there is a lack of emphasis on whether it is suitable and adjustable for all members of society, whilst not stressing the importance of conserving energy in their homes. I want to ensure I do include this.

# RESEARCH: ACTIVE BUILDING CENTRE

The ABC has a vision ' to transform UK construction, contributing to more efficient energy and ultimately reaching net zero carbon emissions by 2050.

These Active buildings are to integrate renewable energy technologies for power, heat and transportation. The 'Active Homes Neath' are 16 active homes which will generate, store and release their own energy, evidently reducing energy consumption by 60%.

These active buildings hold features which aid creating a sustainable house, conserving energy. Furthermore, I will integrate these features in my final design.



# Further Research:

## Active Building Centre- eco-friendly features

Structurally Insulated Panels: Reduces heat loss as the solar roof has layers of different materials in order to minimise heat loss. Moreover, homes use less energy to maintain a comfortable temperature.



Generating Heat: Solar Walls are used in order to generate heat. It works by heating a boundary layer of air on the outside surface of steel, which has a special coating. Furthermore, the heat from Solar walls also help to provide hot water via a heat pump.



Heat Recycling System: Extracts heat from kitchen or bathroom and heats fresh air from outside that has come into the house. I feel as though this would be the most efficient way to conserve energy through generating heat in residential buildings.



The Battery is also a key part to the Active home as it powers the house whilst conserving energy. The battery stores excess energy and powers home for approximately 16 hours when fully charged.

# Research: BedZED

BedZED is the UK's first large-scale eco village.

Some of the BedZED features include multicolored wind funnels- which provide passive ventilation as the BedZED home designs have high levels of airtightness to reduce heat loss. The wind funnels replace the need for electrically powered fans whilst still conserving heat.

This eco village even contains green roofs in order to aid the air quality, reducing the greenhouse gases.



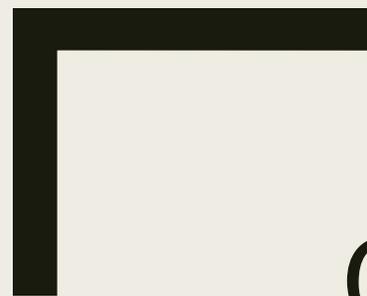
# Sustainable Materials for the Home Design

**Recycled Steel:** producing steel takes up a lot of energy therefore using recyclable steel would be the solution to use in greener construction of houses. The beams can be used for beams and girders.

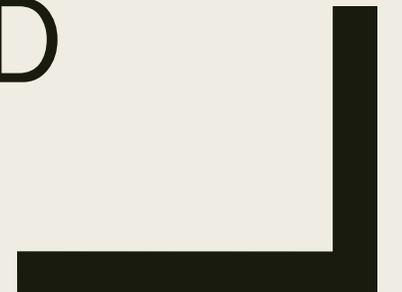
**Bamboo:** The problem of using other wood in construction is the increasing issue of deforestation. Bamboo is sustainable as it takes a quick time to grow whilst being deforested much more promptly than cedar or pine. It also holds a great amount of sterile strength. This could be used for wooden floor and furniture and give rooms a modern finish.

**Recycled Plastic:** Instead of mining, extracting, and milling new components, researchers are creating concrete that includes ground up recycled plastic and rubbish, which not only reduces greenhouse gas emissions, but reduces weight and provides a new use for landfill-clogging plastic waste.

**Sheep's Wool-** for insulation, easily accessible and can be produced rapidly.



CONCEPT BOARD



# What Rooms?

- As a standard detached family home, it will have **three bedrooms**.
- **Two bathrooms**
- A **large living room** for all the family
- A **kitchen**
- A **utility room** (holding the heat pump)
- A **garage** for extra storage alongside space for vehicles
- A **garden area**
- A **porch**
- A **hallway**
- An **office** which can be reformed into a children's playroom or a larger living room for the family

# Deciding on House/Room Size



In terms of deciding on the size and position of each component of the house, I did research on the average sizes of both the house and rooms.

The average house today is very much smaller than those in the last few decades. For my project, I want to replicate this but alter the room sizes to get the maximum potential of space.



## The Design: Features of the interior- Adjustable Walls

Through the concept of homes being adjustable through different stages of life, I thought that walls that could move reforming rooms and space whether you had a larger family, guests, children or perhaps even needed a smaller space as older residents. Through this concept, I did some research and found how Ikea made these moveable walls; Furthermore, these walls provide extra storage for items varying from children's toys to books and office supplies. There is a desk which can be used in order to reform the space as an office and in the Ikea model there is even a pull out mattress in case for guests or perhaps even a worst case scenario as a member of society over the age of 60 who have been temporarily physically prohibited due to whichever reason there may be.

# The Design: Features of the exterior- Sedum Roof

I want to add a Sedum roof to the porch of the house. Although it will not be a large portion of the area of the whole roof, it is still a small section. Moreover, if there were to be one hundred of these houses being built into estates, there is still a difference and will effectively help our environment towards the goal of de-carbonisation.

Green roofs also are not as affordable as other features to the construction which is why I have interpreted my inspiration from BedZED on a smaller scale.

**The Sedum Roof made me question the position of the house in terms of the sun path. To get the full capacity of sunlight and heat, my house will be facing in between North and North West.**



# Site Analysis

**The house will be positioned North** in order to get maximum natural light inside the home. This will also be aiding the health of the Sedum Roof on the porch of the house.

**There will be natural features positioned on the site. Trees will specifically be planted** in gardens and green spaces (if the House For Life would be turned into estates). The trees will be planted in places not blocking the natural light from reaching inside your home. **Green spaces positioned in front of the homes** for children where parents can see from homes.

This house is most likely to be **situated near urbanized areas**, there will be **neighbouring buildings** but not too close. Ideally there will be some **green land around**, but it will not be too necessary due to inclusion of green communal spaces.

**There will be neighbouring roads** for a quick route to work/school/hospital will be easily accessible.

# Extra Features: Safety features and Energy Conserving



There will be a charging port in the garage for electric cars as they will most likely be used more in 2030.



There are two fire alarms: one in the hallway and one on the landing.



There will be a combustible gas sensor.



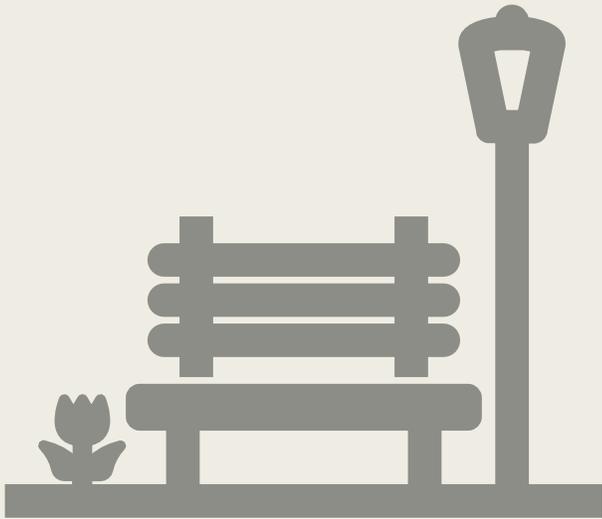
The cladding will not be flammable



Energy saving bulbs (inexpensive)



There will be some room if older residents needed to put in a lift due to physical issues.



# Further Communal developments:

**In further development of the House for Life, I want to add communal features to help the environment:**

- A communal recycling area.
- A communal Greenhouse for an estate to grow their own herbs, pants etc.
- Green Spaces for children to play and interact; This will be in the view of the homes.



# 3D ROUGH DRAWING PLAN

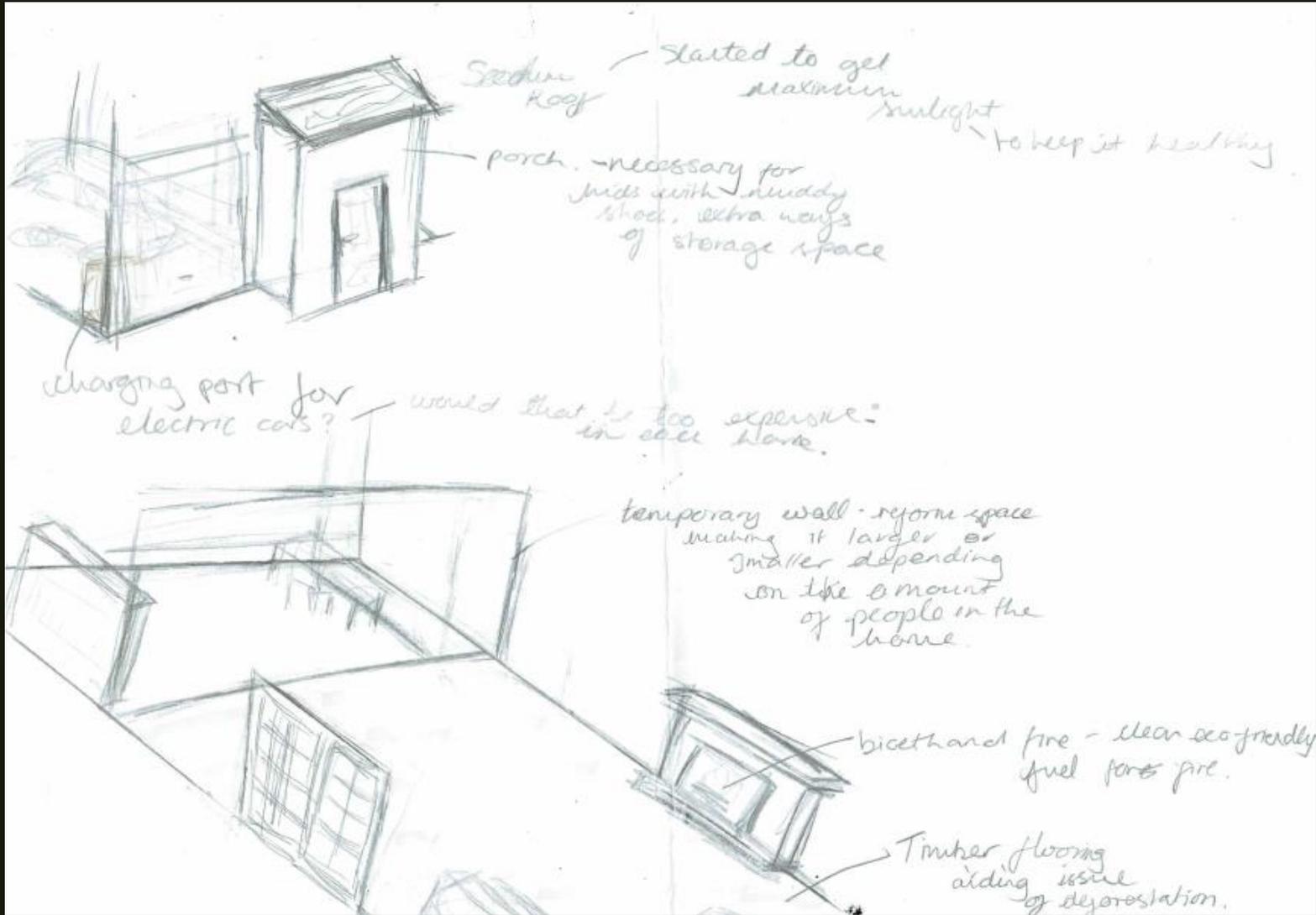


# A ROUGH SKETCH OF THE FLOOR PLAN

Not drawn to scale

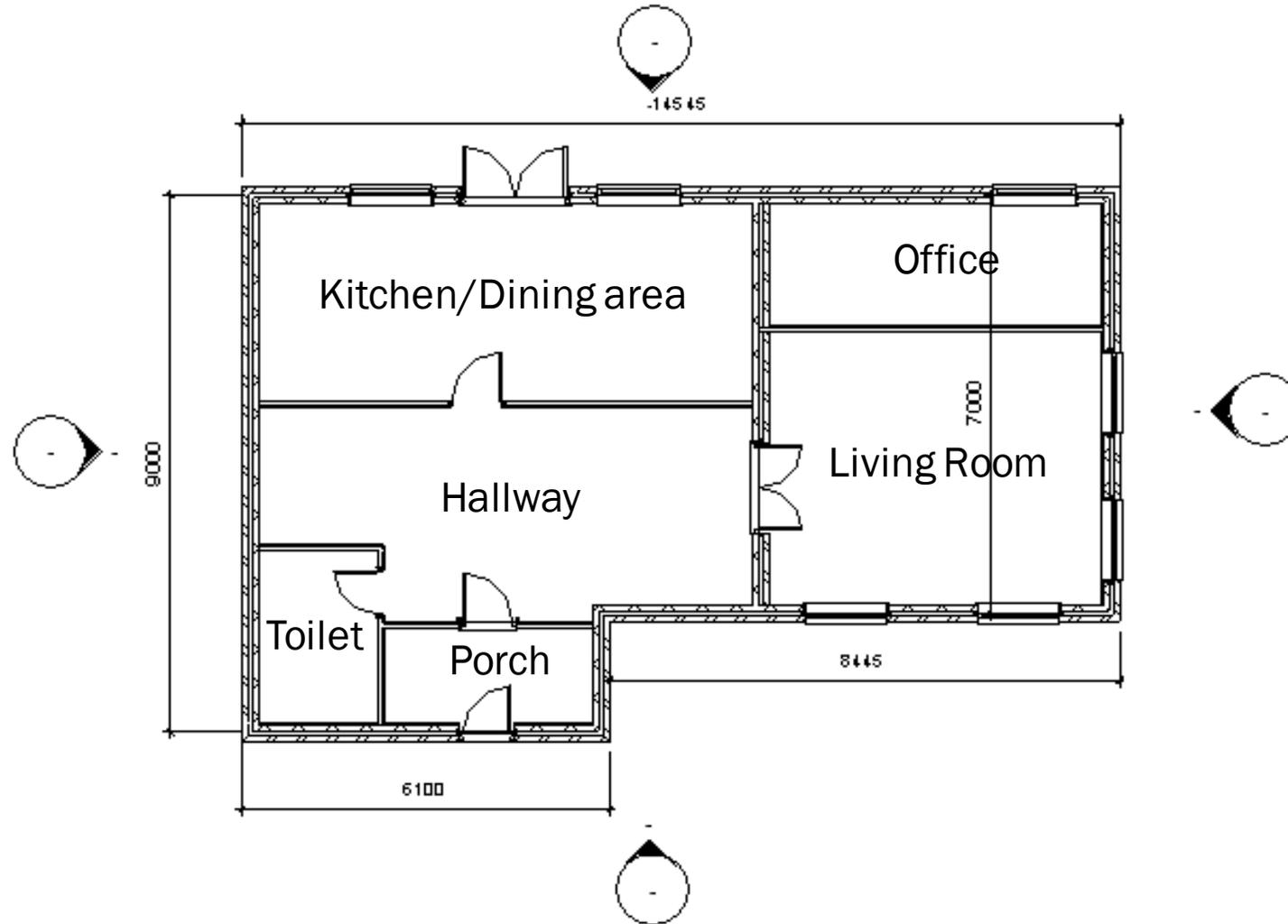


A ROUGH  
DRAWING OF  
THE FIRST  
FLOOR

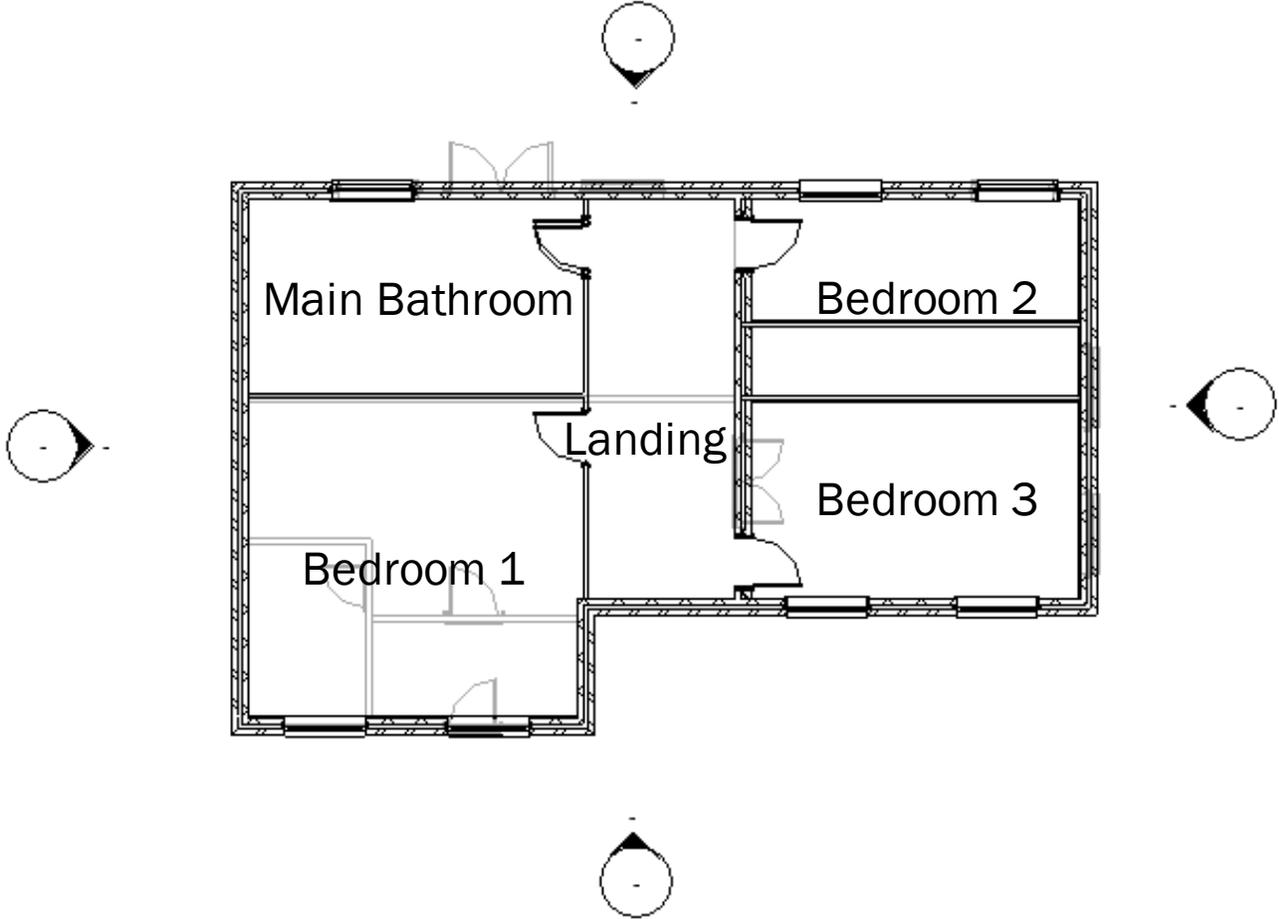


# A ROUGH SKETCH OF KEY FEATURES

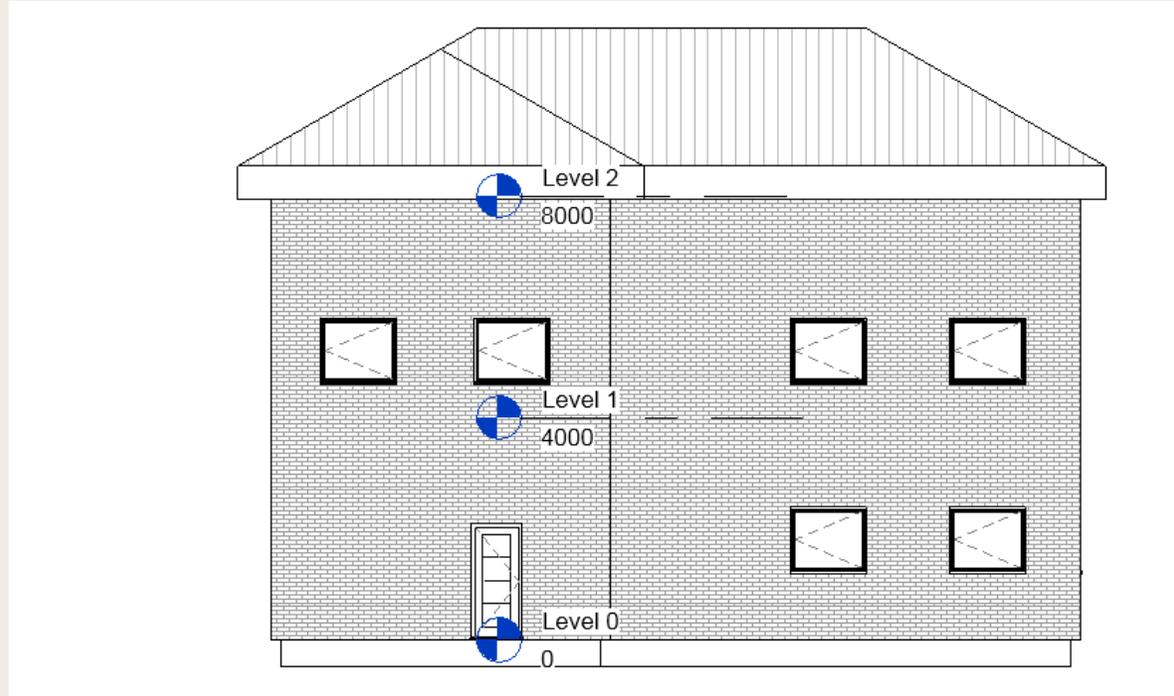
# A SCALE DRAWING OF THE GROUND FLOOR



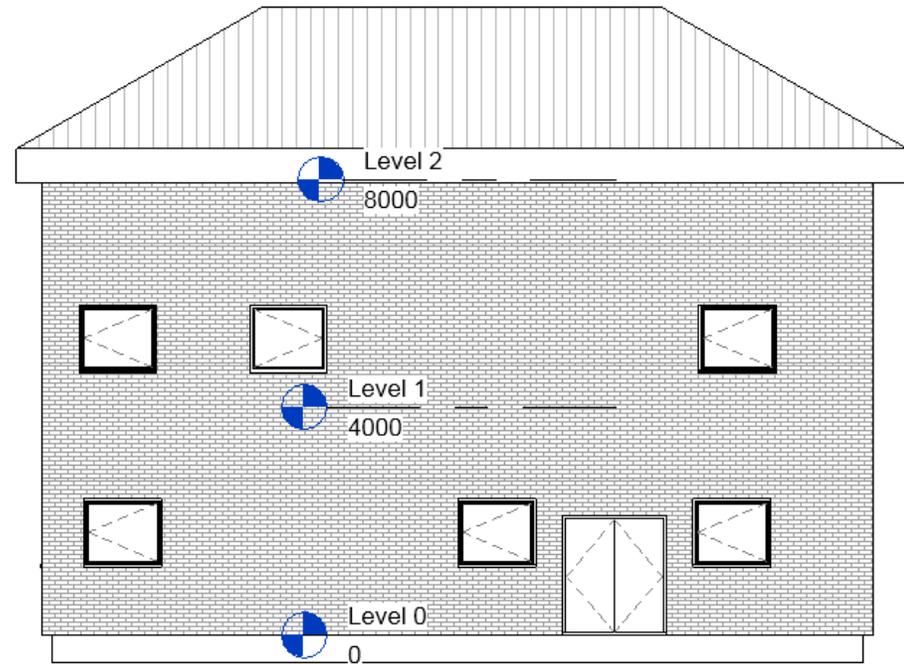
# A SCALE DRAWING OF THE FIRST FLOOR

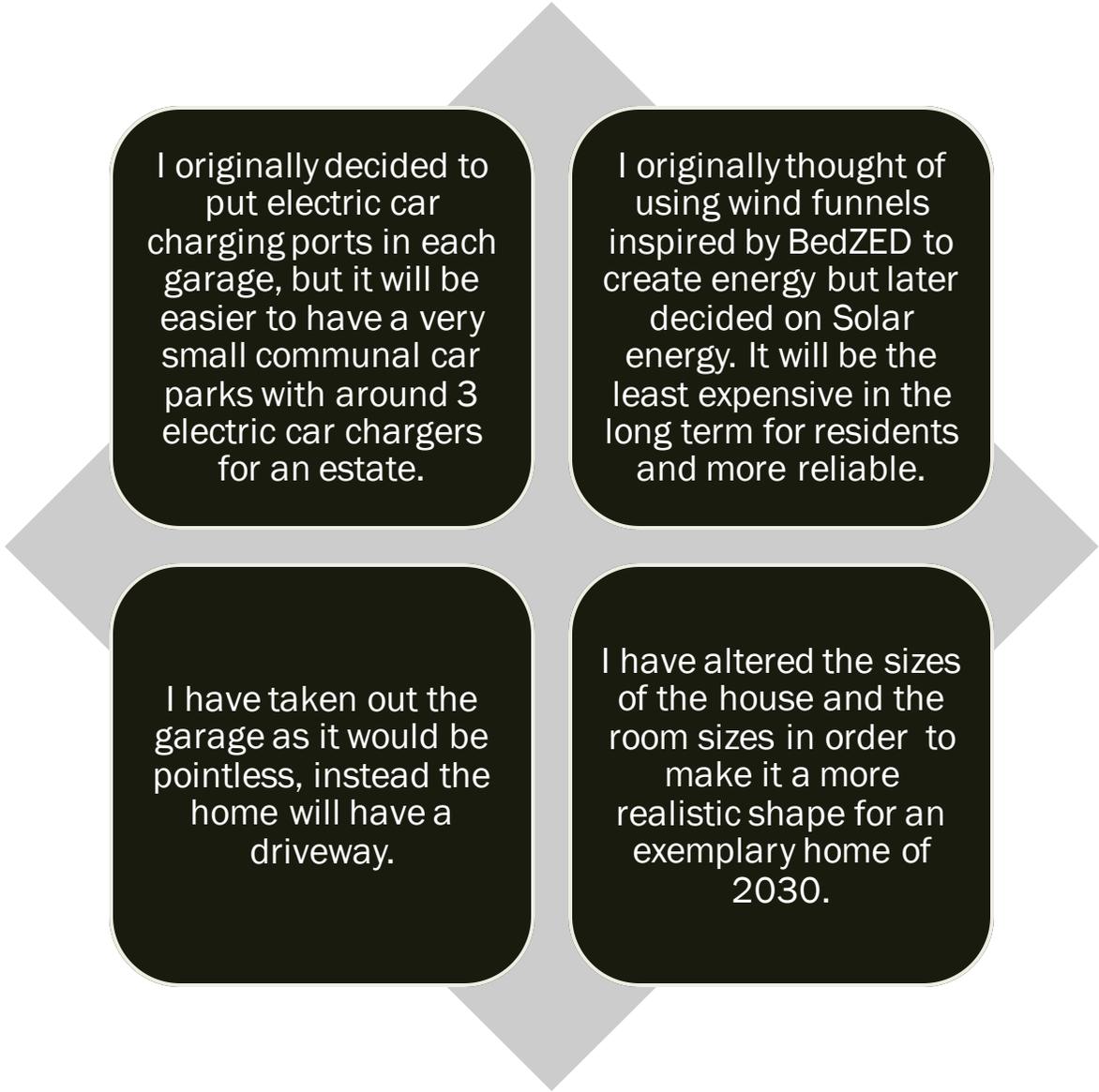


# SOUTH VIEW OF HOME: FRONT OF HOUSE



# NORTH VIEW OF HOME: BACK OF HOUSE





I originally decided to put electric car charging ports in each garage, but it will be easier to have a very small communal car parks with around 3 electric car chargers for an estate.

I originally thought of using wind funnels inspired by BedZED to create energy but later decided on Solar energy. It will be the least expensive in the long term for residents and more reliable.

I have taken out the garage as it would be pointless, instead the home will have a driveway.

I have altered the sizes of the house and the room sizes in order to make it a more realistic shape for an exemplary home of 2030.

Changes I  
have made  
to my  
project: