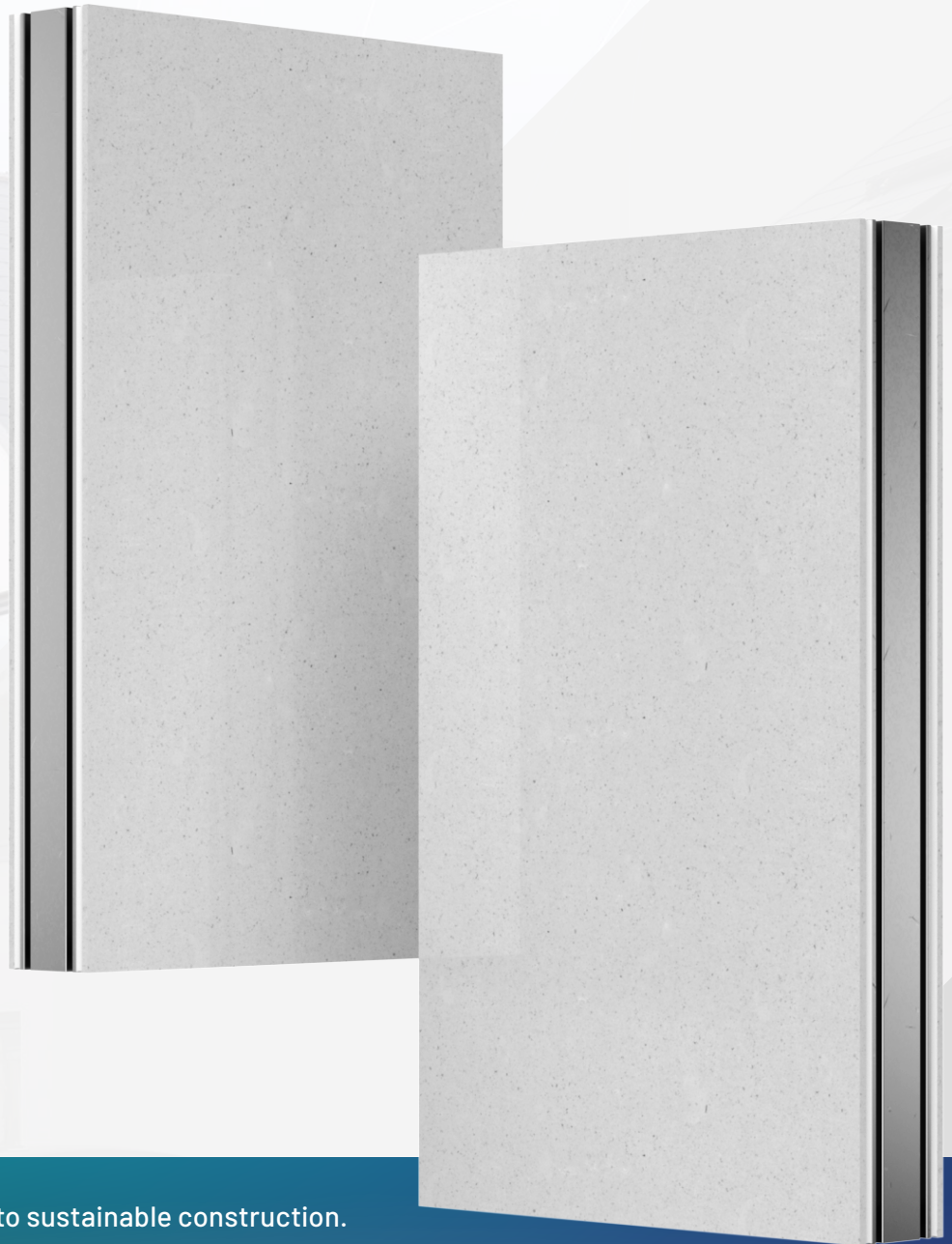





AN INTRODUCTION TO ETOPiA

# Sustainable building, without compromise.



 A fabric-first approach to sustainable construction.



### WHAT ETOPIA DO

We design, manufacture and install a cutting-edge MMC build system.

Using our unique hyper-SIP (structurally insulated panel) system, we deliver sustainable, high-performing energy-efficient homes with little to no impact to cost or design. We enable contractors, developers and registered providers to deliver Net Zero Ready homes that are warm and highly energy-efficient. We facilitate the construction industry to achieve and exceed the Future Homes Standards from 2025.

### THE ETOPIA OFFER INCLUDES

The digital design of a new or existing scheme or house type.  
The manufacture of the hyper-SIPs that provide the structural shell of a building, plus the intermediate floors, internal walls, and internal battening to create a service void and roof trusses.  
Offer also includes delivery and installation on-site.

Our hyper-SIP



### OVERVIEW OF OUR BUILD SYSTEM

Our build system is a modern method of construction (MMC) precision system comprising insulated wall panels fabricated in the UK.

The flexibility of our system allows any house type to be designed, supplied, and installed.

All the panels are 185mm thick, faced with 12mm cement bonded particle board (CBPB) and have a metal profiled 'perimeter' to enable panel-to-panel connections.

The panels are filled with 160mm PU foam insulation that bonds the entire panel together and gives it its high structural strength, airtightness and low U-value of 0.14w/sqm. Window and door openings have specific 'lintel' and 'base' panels. Wide-span lintels comprise a 160mm wide glulam beam faced with 12mm CBPB.

#### System components include:

- Panels
- Roof
- Floor
- Service battens

#### Not required:

- Membranes
- Sealing tapes
- Additional insulation



### RENEWABLE ENERGY

We can provide ASHPs (Air Source Heat Pumps) via our partnership with Samsung. Etopia homes fitted with an ASHP will have an EPC (Energy Performance Certificate) rating of at least B. If PV (solar) panels are added to the home, they will have a rating of A or A+ or zero carbon, depending on the specification and renewables package. This means we can deliver a home capable of producing more energy than the heating and hot water systems require. Our highest recorded EPC is 107/100.



### HYPER-SIP BENEFITS AND PERFORMANCE

## Redefining sustainable construction standards.



#### FIRE RESISTANCE

Tested to BS EN 1365-1 and received an A. The system was still unaffected by fire after 77 minutes.



#### HIGH EPC

We have achieved an EPC rating of 107/100, with an average rating being 105/100.



#### AIRTIGHTNESS

Airtightness of 0.32m3/hr/m2 @ 50Pa is achievable if third-party items are installed in line with our specifications.



#### CONSTRUCTION SPEED

We can erect a typical superstructure within two days. Less time on site means reduced resource requirements and lower costs.



#### FUTUREPROOF

Exceeds the proposed Interim and Future Homes standard (2021 and 2025) and future-proofs homes from potential costly retrofits.



#### DESIGN FLEXIBILITY

Using the latest in BIM technology, our in-house team can rapidly create brand new schemes or panellise existing schemes.



### ETOPIA SYSTEM BENEFITS

1. A structural panel that has a loading strength of up to 80 tonnes.
2. Ease and speed of delivery and installation. A typical house is erected in 2 days.
3. Factory-made panels reduce waste on-site, and therefore fewer skips are required.
4. Our walls are thinner, typically 275.5mm (total through wall thickness from internal to external finish). This will increase GIFA by 8-12%.
5. We can easily and rapidly convert your existing designs into our panellised system.
6. Any material can be used on the façade of a home constructed with the Etopia system.
7. Energy efficiency homes get lower fuel bills than less efficient homes.
8. Precise surfaces, making it easier for follow-on trades to achieve a high quality finish.
9. Renewable and smart technology is easily integrated.
10. Eliminates wet trades, leading to tidier sites, minimal waste, and reduced H&S risks.
11. No reliance on membranes or tapes that can fail over time.
12. No movement/flexing in the structure.
13. Can be installed in all weathers.

### SERVICES

## Designed. Manufactured. Installed.

#### 01

##### Digital superstructure panellisation and design

We can work with any external architects or in-house design teams to create new schemes or adapt exiting schemes into our panellised system.

#### 02

##### Off-site manufacture of hyper-SIPs (panels)

We can manufacture and deliver at the volume and rate you require for any programme. Final designs can be edited up to six weeks before delivery.

#### 03

##### Delivery and installation of panels on-site

We collaborate with your preferred contractor to train them on our system and how to install it using our approved installer scheme.

#### 04

##### End-user sales and after-care support

We provide optional sales and marketing collateral to help sell your homes to your customers and offer after-care support and advice.

### WORKING WITH YOU

## Maximise your project's efficiency with our collaborative process.

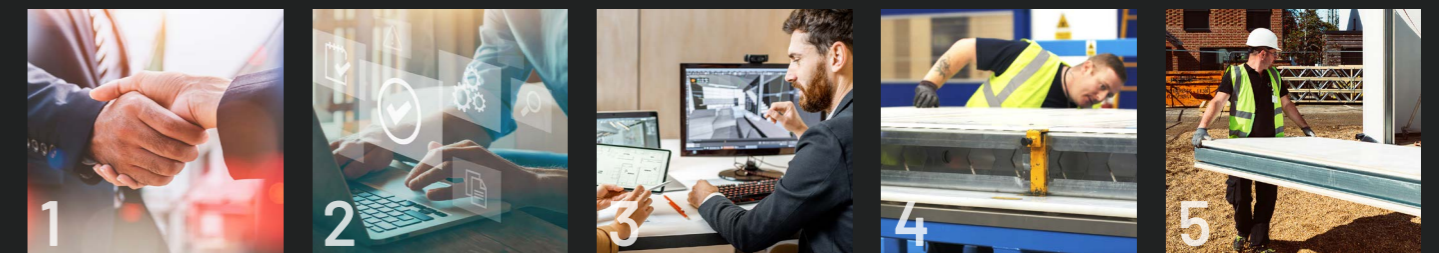
Engage with Etopia at the earliest possible stage to maximise savings cross carbon, time, transport, labour and materials.

#### SAVINGS WITH OUR SYSTEM:



#### COLLABORATIVE PREPARATION

#### ETOPIA DESIGN, MANUFACTURE AND BUILD



| ETOPIA ENGAGEMENT                                | REQUIREMENTS                                      | ESTIMATION/BIM MODEL   | MANUFACTURE  | DELIVERY & ASSEMBLY  |
|--|---|--|--|--|
| New/existing schemes<br>New/existing house types | Planning<br>Specification<br>Performance<br>Speed | BIM design<br>Cost breakdown<br>Delivery assessment<br>Assembly requirements | Etopia Hyper-SIPs<br>Intermediate floors<br>Internal walls<br>Internal battening<br>Roof trusses | Delivery of materials<br>Installation of system<br>Supporting follow-on trades<br>Project evaluation<br>Future schemes |



## GREEN FINANCE

# Reducing the cost of borrowing.



EDGE stands for Excellence in Design for Greater Efficiencies. It has the goal of reducing the environmental impact of buildings. EDGE requires a minimum projected reduction of 20% in energy use, water use, and embodied energy in materials as benchmarked against a standard local building.

Our homes will qualify for green mortgages, and all schemes constructed with Etopia will be eligible for EDGE certification, providing the potential to reduce development finance costs. We are currently working with several global lenders, including large UK-based institutions that we can put you in contact with.

## POPULAR WITH BUYERS

# Home buyers prefer an Etopia home



Reduces ongoing utility, maintenance and repair costs



Commands a higher re-sale price



Creates a more comfortable living environment



Inspires greater pride of ownership



Produces less carbon, which helps protect the planet



## SPECIFICATION

# Included in the cost of the Etopia system.

### Design

- Design development (Royal Institute of British Architects [RIBA] Stages 2-3)
- Detailed design (RIBA Stages 3-4)
- Construction (RIBA Stage 5)
- A structural engineer to provide full and comprehensive structural calculations and drawings

### External Walls – U-value 0.14 W/m<sup>2</sup>K (223mm for SIP and battens)

#### The final U-value will be dependent on the full wall specification

- 38x45mm battens to form service void – 38mm
- Hyper SIP 185mm
  - » 12mm CBPB
  - » 161mm PUR foam
  - » 12mm CBPB
- Hyper SIP ancillaries
  - » CBPB splines to connect panels
  - » Soleplate to receive SIPs
  - » Headbinder/wallplate to receive roof trusses
  - » Window Wraptite (achieve air tightness)
  - » DPC
  - » Fire silicone to seal panel joints
  - » All fixings and glue to connect panels

### Separating/Party walls

- 38x45mm battens to form service void – 38mm
- Hyper SIPs 185mm
  - » 12mm CBPB
  - » 161mm PUR foam
  - » 12mm CBPB
- 38x45mm battens to form service void – 38mm

### Internal Walls

- Panellised 38 x 89mm CLS internal stud walls
- Timber soleplate and headbinder
- 9mm OSB for wind wall/racking walls where required
- Load-bearing walls where required
- All fixings required to secure panels

### Intermediate floor (276mm, subject to engineering design)

- Metal web joist deck/metal web joist floor cassette 254mm
- Joist-bearing timber (fixed to intermediate floor SIPs panel)
- Flooring with adhesive 22mm

### Roof (subject to engineering design)

- Prefabricated roof trusses or cut rafter with steel/glulam ridge beams
- All timber bracing
- All metalwork included for installation (e.g. truss clips, fixing nails)

### Structural members, as specified by our structural engineer (if required)

- Glulam beams
- Steel posts/sway frames
- All connection plates and bolts
- Resin anchor connection bolts

### Installation and delivery

- Building install (labour)
- Crane
- Delivery
- Access equipment (scaffold towers, crash deck, harness, etc.)
- Lifting beam
- Management
- Quality control

### Exceeds the interim Part L standard from June 2022

- Field View system allows for photographic recording of build at every stage
- Additional membranes or layers are not required with the Etopia system
- Airtightness requirement of 8.00 m<sup>3</sup>/(hm<sup>2</sup>) at 50 Pa. We can achieve 0.32 m<sup>3</sup>/(hm<sup>2</sup>) at 50 Pa.
- U-value of walls is 0.14 W/m<sup>2</sup>K (223mm) – the requirement to meet Part L standard is 0.18 W/m<sup>2</sup>K



## OUR SYSTEM, YOUR PROJECT

Our system significantly reduces your programme and the need for many common construction elements.

We understand that our customers need to integrate our system with their existing programmes, supply chains and resources. We will support you through the integration process, from design through to providing information for marketing materials and homeowner manuals.



The table below lists the specific on-site benefits of our system.

| ITEMS  | DESCRIPTION  | BENEFITS  |
|--|--|---|
| <b>Brickwork and Blockwork</b>                         | Not required   | Results in a cleaner site and reduces time lost due to potential poor weather conditions.                         |
| <b>Silos for cement</b>                                | Not required   | Cost saving   |
| <b>Foundation Dig and Pour</b>                         | The system is lighter and thinner than traditional block and brick work, reducing the required depth and width of foundations, depending on the ground conditions. | Cost Saving. Reduction of cart-away from the site resulting in fewer journeys and reduced carbon.                 |
| <b>Scaffolding</b>                                     | Single lift required per floor with no adaptations. Only require scaffold for the 2 days of installation.  | Cost saving   |
| <b>Prelims (porta cabin hire, road sweeping, etc.)</b> | Speed of installation drastically reduces the amount of time on site, allowing the internal works to start sooner and complete faster.                             | Cost saving   |
| <b>Skips</b>   | Virtually no waste means the number of skips required is significantly reduced.  | Cost and CO <sub>2</sub> saving   |
| <b>Superstructure</b>                                  | Our Net Zero Ready building system provides the shell of the home.   | Can be installed in all weathers. Our fast installation allows internal works to commence sooner.                 |
| <b>Brick slip/Render/Cladding</b>                      | Can be installed directly into the system or with a small cavity required.   | Quicker installation than brickwork and cleaner with less waste. Not impacted by skills shortage for bricklayers. |



## FREQUENTLY ASKED QUESTIONS

### What is your minimum order?

At Etopia, we do not have a minimum order requirement; however, to maximise the efficiency of our two factories and reduce out-turn costs, it is beneficial to have repeated house types. This facilitates reduced design and installation costs and allows stocks of panels to be maintained, further reducing lead times.

### Do you provide a turnkey solution?

At Etopia, we can provide a turnkey solution through our partnership with main contractors. If you require a turnkey solution, we can introduce a Main Contractor that best fits your requirements; this may be a geographical, capacity or framework approval-led selection. Alternatively, we can provide a list of main contractors we work with. Etopia will be a named subcontractor in this process, ensuring project success as we deliver what we specialise in, and the Main Contractor delivers what they specialise in.

### What contractual routes are available?

Etopia can offer a turnkey solution when we work in partnership with main contractors. We act as a named supplier or subcontractor to a main contractor or developer. We have our own subcontract suite if required, or alternatively, we can work with most contract types such as JCTs, NECs or Domestic subcontracts.

### We already have planning permission. Is it too late to use Etopia?

If you already have planning permission, we can still panelise your designs with a minimal (if any) change of position to fenestrations and doors.

We can panelise a building at any stage of the construction process. The sooner we are involved, the sooner we can work with you to rationalise or value-engineer your designs to make the most efficient and cost-effective use of the panelised system.

### What are Etopia's lead-in times for orders?

We require a minimum of 6 weeks for the design of all house types or blocks of houses on a development and another 4 weeks to produce the panels at our UK factories.

The construction industry is suffering from material shortages, and we are finding that our timber suppliers (for trusses and joists) currently have a 12-week lead-in time. If the customer has another supplier they prefer to use, we will gladly collaborate with them, although this may impact costs.

### What range of services do Etopia offer their clients?

Design Development (RIBA [Royal Institute of British Architects] Stages 2-3) - this service is free of charge.

- Initial costing exercise to identify a guide price for the superstructure building fabric, including but not limited to Etopia system, intermediate floors, internal walls (excluding dry lining) and roof structures.
- A structural engineer will provide a general guide on additional structural requirements (steel beams, sway frame, etc.)

Detailed Design (RIBA Stages 3-4) - Detailed design costs will be determined on a scheme-by-scheme basis, confirmed by a letter of intent or PCS. If the scheme does not progress to contract, the agreed costs will be payable. If the scheme progresses to contract, the design costs will be absorbed into the contract cost.

- Provide support to the architect in the development of their technical design package in the form of:
- Co-ordination of interface details with; doors, windows, floors, roof, and substructure.
- Etopia construction set drawings to include plans, elevations, and sections for tendering purposes.
- Specification of the Etopia system.
- Full costing of the Etopia system.
- Structural Engineer to provide full and comprehensive structural calculations and drawings. Review of panelised building to check construction details, determine point and line loads to allow for calculation of foundation requirements (validated by client's own engineer)

### Payment terms

Payments will be requested at the following intervals:

- When the order is placed (10%).
- Approval of designs (formal customer sign off) (10%).
- On call off (30%)
- Completion to joist level (25%)
- Completion to trusses (25%).

### Do you design in BIM (Building Information Modelling)?

Etopia is BIM level 2 ready. We will produce a Revit model shared with the architect and other appointed consultants to assist with co-ordination and the production of a federated model. We will collaborate with the contractor and consultants to ensure we comply with the BIM Execution Plan (BEP) and the employer information requirements (EIRs).

### What renewable technology can you provide?

Our partnership with Samsung means we can supply you with ASHP's. The pump can then be installed and commissioned by your M&E contractor.

### What project management does Etopia include?

Each scheme is assigned a project manager from concept to completion to assist you in your transition to zero carbon ready MMC homes. This includes support with:

- Assimilating the Etopia system into your standard development programme
- Designing homes using the Etopia system and suggesting changes to the design to maximise the benefits of the system. Most changes are minimal to a maximum of 10-20mm - not affecting existing planning permission.
- Rationalising costs to consider the add/omits for the Etopia system
- Co-ordinating call down/delivery/installation/quality
- Managing the installation process, including deployment of our digital quality assurance process.

### Who installs the system and remainder of the superstructure?

We have developed our own accreditation scheme for installers to certify their competence to erect homes using the Etopia system. To be accepted on the scheme, installers must attend approved training courses and be assessed on their skills and competence throughout the erection process. Our installers use state-of-the-art technology, including laser alignment to ensure that the system has been installed correctly. These systems also increase the speed that panels can be erected, tracking each panel from manufacture to site and installation. Producing a fully auditable digital review. The system also captures geo-located photos of the install as part of the QA process. These photos can also be used to satisfy the requirements of the new Part L regulations.

### Are you proposing any changes to the Etopia system?

Our initial interactions with the market have helped us identify ways to make the Etopia system even faster, easier and more cost-effective. Within our existing factories, we will combine our smaller panels into larger panels. Through this method, we could provide the walls for the average three-bedroom house with only 12 lifts. The quality control and accuracy on these builds is exceptional as all components are laser aligned. All internal battening can be fitted prior to delivery with the same laser-aligned accuracy meaning that placement of interior finishes is simpler, quicker and more cost-effective.

We are developing the Etopia Management System (EMS), which allows full integration of project management and quality control, from raw materials to final delivery on-site.

### What accreditations does the Etopia system have?

Etopia achieved BOPAS accreditation in April 2022 for Project Management of Design, Manufacture and Construction and 60-year durability and maintenance. We can deliver with NHBC. The system will require a small (15mm) cavity between the panel and the external façade in the short term. We are working with NHBC to secure NHBC Accepts on our system without a cavity for the façade soon.

We have secured warranties with other providers and can assist you in finding the right cover for your development.





**Nicola Clayton**  
Head of Business Development  
nicolaclayton@projectetopia.com  
+44 (0) 7931 539 549



**Ben Burge**  
Sales & Marketing Director  
benburge@projectetopia.com  
+44 (0) 7535 266 710



**Russell Brooker**  
Managing Director  
russellbrooker@projectetopia.com  
+44 (0) 7498 218 006



**Alex Fink**  
Chief Strategy Officer & Executive Director  
alexfink@projectetopia.com  
+44 (0) 7782 308 776

