



**LUNYX**

**PITCH DECK - LITE**

- 1 Homes contribute to 18% of the UK's carbon footprint, heating makes up 79% of a home's energy use. To reach net zero by 2050 this has to be met with renewable energy.**
- 2 We are experiencing an energy crisis, the average household now pays £1,971 on energy bills. With the introduction of the gas boiler ban for new homes and other wider factors this can only increase.**
- 3 Due to the current housing crisis the UK government is committed to building 300k new homes per year 145k of which are intended to be social/affordable homes. This combined with the building regulations and EPC requirements of new homes offers a large new market for our solution.**

# OUR SOLUTION

We are developing a sustainable energy system for heating, cooling, electrical generation and electrical storage for new build homes.



Makes a new build home net zero over the course of a year \*



Will save customers £2,800 per year \*\*



Heating, cooling, electrical all in one system

\* For a new build home that meets the minimum requirements of current building regulations

\*\* Compared to an in air source heat pump for the same house usage

# TECHNOLOGY

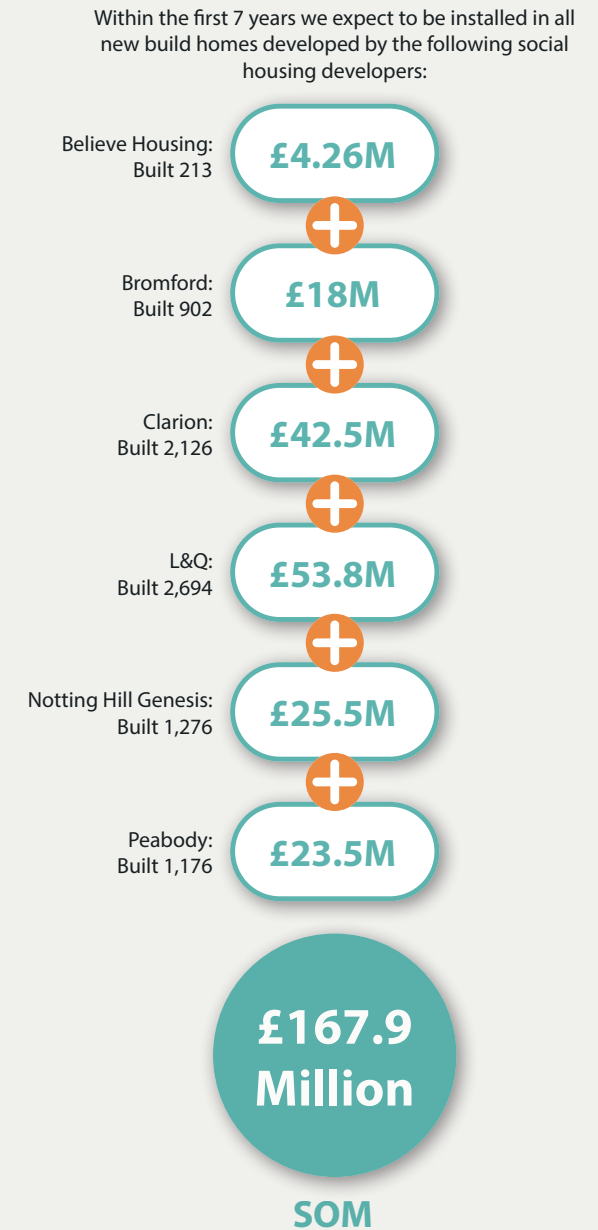
## Innovations:

- More effective solar thermal technology for temperate and cloudy climates
- Solar thermal in a form factor that is able to utilise more of the available space
- Novel system utilising state-of-the-art technologies together



We would love to talk more about our technology and innovations, however, we are still in the process of patenting and hence this information is confidential. We are happy to share under our NDA.

# THE MARKET



# OTHER APPLICATIONS OF LUNYX TECHNOLOGY



## EXISTING PRODUCTS

### **Cooling:**

- Data centres
- Fridge/freezers
- Domestic/business climate control
- Industrial process

### **Heating:**

- Replacement for current applications of flat plate collectors and evacuated tubes

# COMPETITORS



SOLUTION	GENERATE ELECTRICITY	SPACE HEATING	WATER HEATING	STORES ENERGY	MEETS COOLING NEEDS OF HOUSE	COST AND ROI
<b>LUNYX™ SYSTEM</b>	Generates clean electricity 	Using improved solar thermal technology and storage can meet space heating needs 	Using improved solar thermal technology and storage can meet water heating needs 	Stores energy for 13 days in a long lasting, low tech, thermal battery (if zero solar irradiance) 	Utilises a new, innovative technology to meet the cooling needs of a house 	Less than a 7 year payback £20,000 cost
<b>Solar Panels</b>	Can generate electricity only when conditions are right (link to stats) 	Do not generate heat, requires converting electricity to heat, would not meet space heating needs 	Do not generate heat, requires converting electricity to heat, would not meet water heating needs 	Can only store energy in conventional chemical batteries which require precious metals cost and have a low life span 	Can only generate cooling if connected to another appliance 	Greater than a 10 year payback £6k cost
<b>Ground Source Heat Pump</b>	Uses electricity to pump water 	Can do most of the heating requirements if you have underfloor heating 	While they generate heat current solutions are not set up to be able to meet water heating needs 	Some energy (very minimal) is stored in the system, but cannot be utilised for anything other than heat 	Can be used for cooling needs but at high electricity costs 	Greater than a 10 year payback £15-£19k cost
<b>Air Source Heat Pump</b>	Uses electricity to pump water 	Can do most of the heating requirements if you have underfloor heating 	While they generate heat current solutions are not set up to be able to meet water heating needs 	Some energy (very minimal) is stored in the system, but cannot be utilised for anything other than heat 	Can be used for cooling needs but at high electricity costs 	Greater than a 12 year payback £7.5-£12.5k cost
<b>Solar Evacuated Tubes</b>	Cannot generate electricity 	While they generate heat most current solutions are not set up to be able to meet space heating needs of a homes 	Generate heat only when conditions are right, stored in domestic boiler 	Able to store heat in domestic boilers 	Only generate heat, cannot generate any cooling 	Greater than a 20 year payback £5k cost

# OUR TEAM



## KEY PLAYERS



**ALEX BATURIN**  
CTO

**KEY SKILLS & EXPERTISE:**  
1. RENEWABLE ENERGY  
2. PHYSICS  
3. PROJECT MANAGEMENT

**EXPERIENCE:**

- Head of Renewable Fuels Department at ODOX Ltd with 15 years' experience in R&D roles
- MSc in Chemistry and PhD in Economics
- Experience in managing development teams of scientists and engineers in water treatment and purification



**DARREN FORREST**  
CEO

**KEY SKILLS & EXPERTISE:**  
1. PROJECT MANAGEMENT  
2. COMMERCIALISATION  
3. PRODUCT DESIGN/ENGINEERING

**EXPERIENCE:**

- Director at Optima Design since 1996
- Previously a Product Specialist at PTC
- Ran two small manufacturing companies
- Developed a varied range of products including automotive, aerospace, military, medical, consumer products, electronics enclosures and fabrications

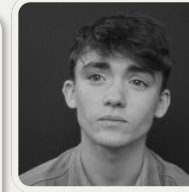


**IAN COWLISHAW**  
COO

**KEY SKILLS & EXPERTISE:**  
1. PROJECT MANAGEMENT  
2. COMMERCIALISATION  
3. PRODUCT DESIGN/ENGINEERING

**EXPERIENCE:**

- Director at Optima Design since 1997
- Previously a technical manager at a Pro/Engineer support service company, Senior Application Engineer at PTC and design Engineer at Siemens Telecommunications
- A fully Chartered Engineer with over 30 years experience in CAD design with a BEng in Computer Aided Engineering and Design
- Project management experience on two projects funded by Innovate UK



**DAN FORREST**  
CCO

**KEY SKILLS & EXPERTISE:**  
1. BUSINESS DEVELOPMENT  
2. SALES AND MARKETING  
3. INNOVATION INCENTIVES

**EXPERIENCE:**

- Founded and grew a company to £100k in yearly revenue
- Accessed over £1M in government incentives and funding for business

## ADVISORS



**PAULA CHADWICK**  
RESEARCHER

**KEY SKILLS & EXPERTISE:**  
1. SPACE  
2. COATINGS  
3. PHYSICS



**FURONG LI**  
RESEARCHER

**KEY SKILLS & EXPERTISE:**  
1. GRID STABILITY  
2. ELECTRONICS  
3. RENEWABLE ENERGY



**DR FARID AYRA**  
RESEARCHER

**KEY SKILLS & EXPERTISE:**  
1. ENGINEERING  
2. EVACUATED SOLAR THERMAL TECH  
3. RENEWABLE ENERGY

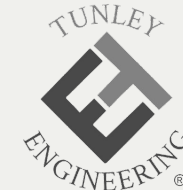
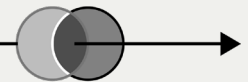


**LUKE LOVERIDGE**  
SOCIAL HOUSING EXPERT

**KEY SKILLS & EXPERTISE:**  
1. HOUSING  
2. BUSINESS DEVELOPMENT  
3. PROJECT MANAGEMENT

## PARTNERS

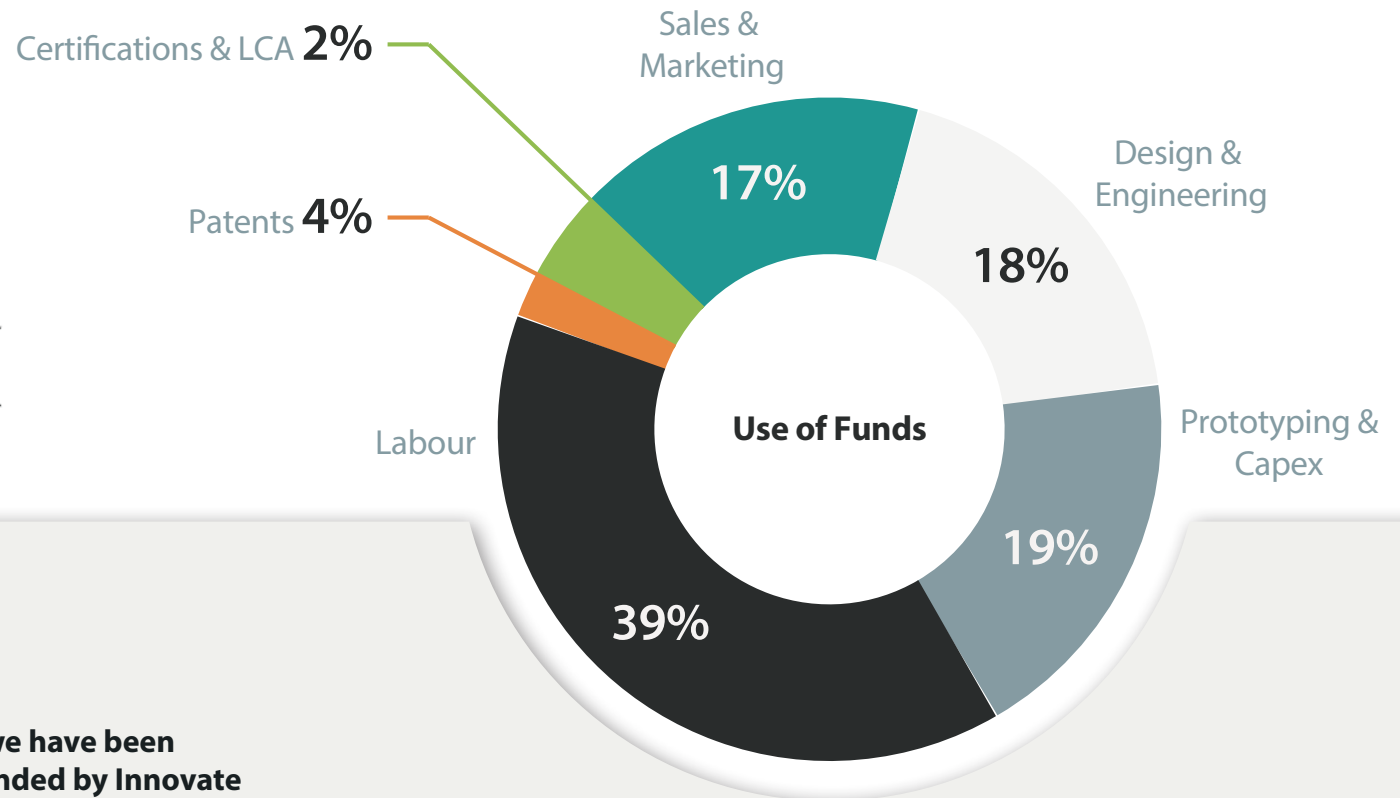
OPTIMA







## Innovate UK



After the success of our smart grant application we have been awarded a total project size of £272,339 - 70% funded by Innovate UK.

We are looking to raise £150k in seed funding for a 10% stake in the company with the SEIS scheme to match the private funding requirement of our Innovate UK grant.

The investment will unlock a further £191k in grant funding for R&D with an additional £30,000 from an R&D tax credit claim once the 15 month innovate UK project has completed.

In total we this will result in funding of £370,000 from private investment of £150,000.

# ROADMAP

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## ● Sept 2022:

- IUK grant project start
- Close £150k raise
- Full scale prototype
- Apply for more grant funding in collaboration with a social housing company

## ○ Nov 2023:

- Close £500k raise
  - » Trials on 5 houses with Bromford or Believe housing
  - » Testing with Energy House 2.0 for SAP Q
  - » Choose and validate manufacturing partner
- Production ready product to sell

## ○ Late 2025:

- £5m in revenue (2 clients, 5 developments, 250 homes)

## ○ Early 2027:

- £20m in revenue (4 clients, 20 developments, 1,000 homes)

## ○ Late 2028:

- £70m in revenue (8 clients, 70 developments, 3,500 homes)

## ○ Early 2031