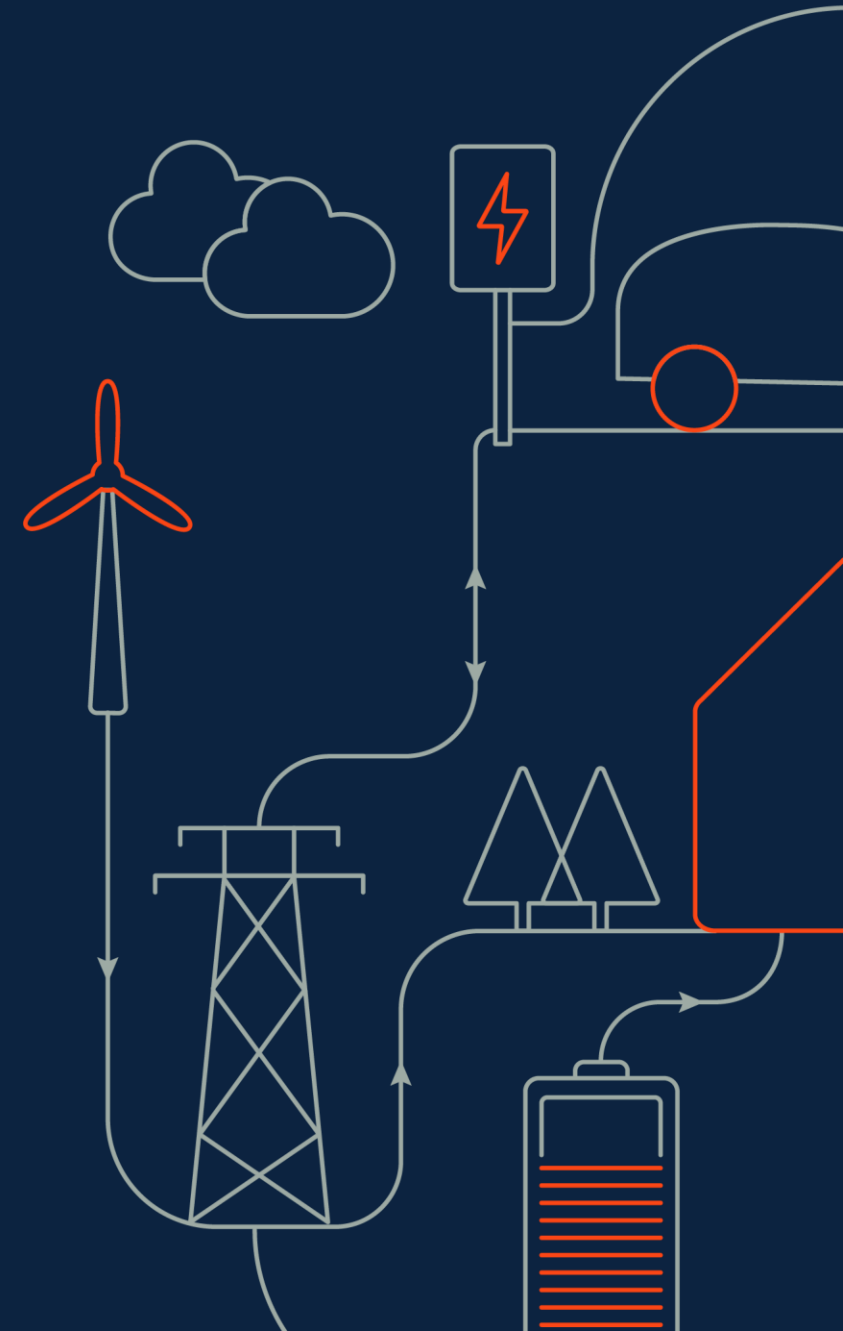


Introduction to Sero

Matt Kane – Infrastructure and Digital Manager

2020

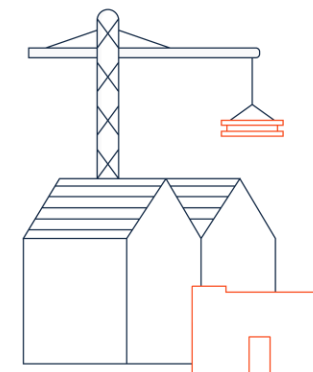




Sero Projects partners developers and property owners to support their journey to zero carbon from brief to handover and beyond, taking on all the unfamiliar aspects to help ensure a practical, cost-effective solution that fits our partners' needs now, and for future generations.

New Build Homes

We collaborate with our partners, usually by joint venture, to ensure new homes are as low carbon as they can be at construction, and that they have a route to continue to become operationally zero carbon in future. We even help forecast when those homes will become zero carbon, if they're not when they are built. To achieve this, we help across brief, design, fabric and technology specification and procurement. Critically we don't stop there, and we monitor 'performance gap' on site and provide a whole house energy system commissioning to sign-off practical completion. As if that's not enough, through our Sero Life offering, we can also provide our partners with 'top-up' finance to help tackle any increase in capital construction costs.



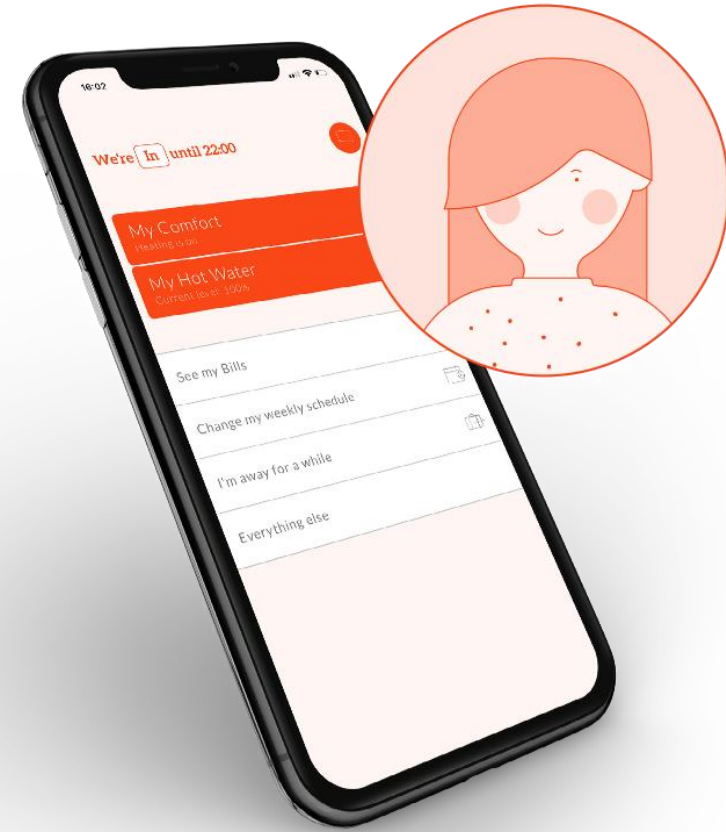
Refurbishments

We work with landlords to support Optimised Retrofit - our solution to decarbonising existing homes. This approach treats every home as unique, starting with a Whole House Survey to recognise this. We then identify all the possible blends of fabric improvements, low/zero carbon technologies and intelligent home management that can be applied. Alongside this, we help to identify grant and private funding opportunities, including offering our energy bill tithe to provide financial input ourselves. As a result, we enable our partners to have the best choice of all technically appropriate options and funding opportunities for every home - and then we help them to implement their decision in as many steps on their 'Pathways to Zero' as they wish to take.



Sero Life is our customer platform that offers intelligent home optimisation services to residents.

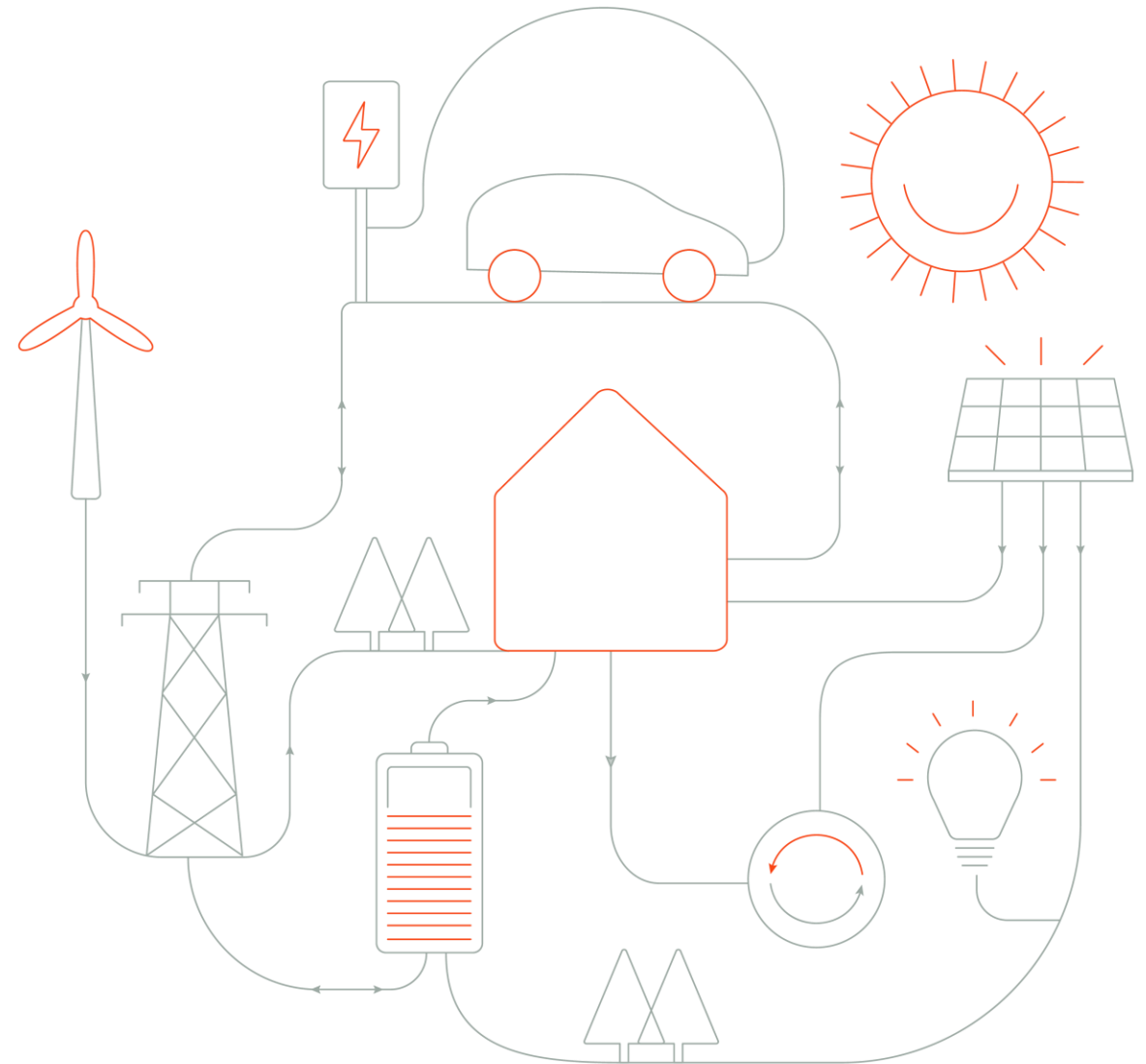
Through our App, website or call centre, you give us your personal preferences, such as when you need your electric vehicle to be charged or when you want your living room to be warm, and then we ensure those requirements are met in the cheapest and lowest carbon manner. Because Sero Life isn't a regulated energy supplier, we're also free to find the best energy pricing deals and can use the power of bulk buying across all our homes to get great rates. This means we're on the side of our customers, and pass all the benefits of the cheapest costs through to them. In return, we charge a flat charge for the service, which is always less than the money we save our customers. Saving money, saving time, and saving the planet.





Our customers all form a community of intelligently managed homes. Where Sero Life ensures every one of them gets the comfortable home lifestyle they want, Sero Energy aggregates the homes to build a Virtual Power Plant - the whole really does become greater than the sum of its parts.

Through acting collaboratively, we manage this digital network of homes to secure not just bulk energy pricing, but provide Demand Side Response services to the electricity network. These services support the grid to increase the proportion of large scale renewables, because our homes can draw energy when the grid renewables are generating, and run from storage when they're not. The electricity grid therefore wins through demand adjusting to align with generation, whilst for our customers we're seeking out the greenest electricity to reduce their carbon footprint.



Our belief that we can make decarbonisation feel like progress drives us to always look to innovate, and wherever we can we work with like-minded and influential partners to help not just move Sero forward, but to help all the sectors' we're involved with move ahead too. Some of our current work includes:

FLATLINE

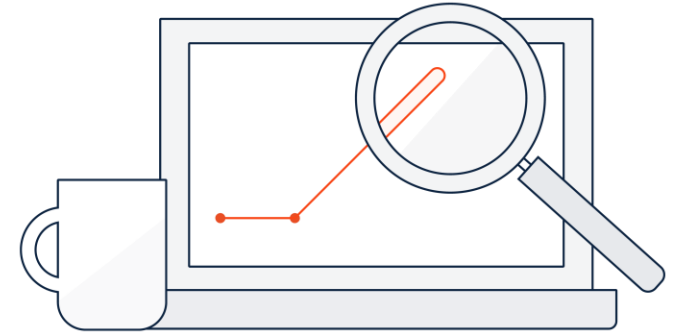
**Department of Business, Energy
& Industrial Strategy funded**

FLATLINE is research project to investigate and pilot Demand Side Response activities in domestic settings, initially on three pilot homes at The Mill in Cardiff and extending on to all 225 homes at our Parc Eirin scheme. The project is helping BEIS and the energy networks to understand how homes that can adjust demand to align with grid-based generation can form a key part of the UK's future energy infrastructure, and will be the largest known example of domestic Demand Side Response in new homes in the country.

HEDGEHOG

**Welsh Government Innovative Housing
Programme (Year 3) funded**

HEDGEHOG is enhancing the level of detail and accuracy in our assessment of potential savings that can be delivered to residents through the implementation of grid-linked optimisation. It will soon be freely available via Sero Project's website, enabling all developers and landlords to assess how much they will benefit from adopting optimised home management, how much lower their energy bills will be, and how much sooner those homes will become Zero Carbon as a result. It will also help understand how much "top-up" funding might be available from Sero too.



VALUER

**Department of Business, Energy
& Industrial Strategy funded**

VALUER is working to identify differences in home valuations between high and low energy properties, and is integrated with pilots of energy bill capital cost recovery for both new build and existing homes. The scheme is also supporting valuation tool development within Rightmove to help understand how energy reductions such as home energy management and Optimised Retrofit can create value. In turn, this will aid Sero's capacity to support more new build and refurbishment activity by evidencing gains in capital values.



We also build true zero carbon homes ourselves. Sero Homes is a homebuilder and landlord that practice what we preach – building homes that lead the way and form exemplars and test-beds for the rest of the industry to follow. Our homes are zero carbon in operation from the outset, and are working towards zero construction & embodied carbon as quickly as we can.

Once completed, our homes are normally offered on a long-term index-linked tenure that gives our residents the security to make them their homes. This is backed by a professional landlord offering that ensures smooth operation of their homes, as well as the neighbourhood places and spaces we build with them. This allows our residents to live a healthy and happy lifestyle in tune with nature. All helped by normally having no energy bills, no huge mortgage deposit, and no home maintenance to have to contend with!





What we're currently up to



Parc Hadau

serohomes



Parc Eirin



Tirion



Penderry





Technologies

Sero Energy have led the selection and specification of low carbon technologies for more than 1000 homes so far, including;

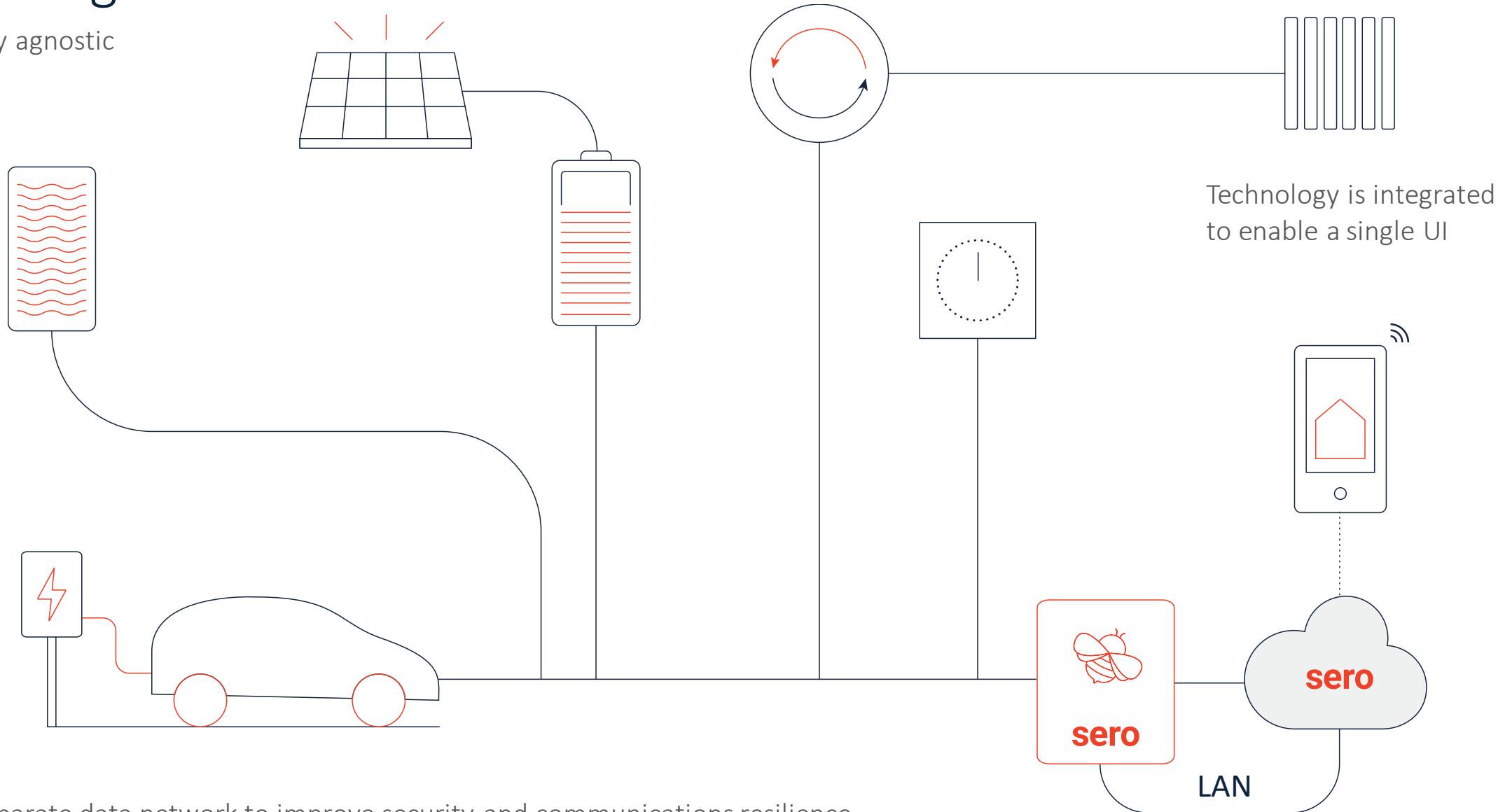
- Ground source (borehole) heat pumps
- Electrical battery storage
- 'Smart' thermal storage
- Roof-inset PV arrays
- Electric vehicle charging points
- Underfloor heating
- Metering & control components





Sero Integration

Technology agnostic





What do we want from the IQRF partners

We want technology partners that can help Sero with:

Solutions to provide connectivity to appliances and peripherals within the home.

- Data collection (sensors, thermostats, metering)
- Device control (batteries, heating, actuators, smart devices, relays etc.)

Innovative manufacturing and production of devices to support the Sero model.

- Sensor integration into existing peripherals

www.sero.group