



# **Aberdeen City Council**

## **Project DORIC**

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# Project DORIC

## Domestic Optimum Retrofit Innovation Concept

- Consortium-based approach to decarbonise solution houses
- Fabric first approach
- Renewable energy generation and storage
- Decarbonised heating and hot water
- Target Net-Zero Social housing portfolios



# Consortium Partners

Aberdeen City Council – Client

SMS Plc – principal consultant

Robertson Construction Eastern Limited – Principal contractor

MRT – Principal architect

IRT Survey Ltd – Energy surveyor



# Project Criteria and Outcomes

## 1. Improvement to EPC and carbon reduction

Baseline average = SAP of 67 (D Rating), Heat demand of 130kWh/m<sup>2</sup> and CO<sub>2</sub> footprint of 3.4 tonnes

Fabric First Approach = SAP of 75 (C Rating), Heat demand of 70kWh/m<sup>2</sup> and CO<sub>2</sub> of 2.3 tonnes

Plus renewables = SAP of 95 (A Rating) and a CO<sub>2</sub> reduction of 3.5 tonnes

Additional measures can potentially reduce the Heat demand by a further 15 kWh/m<sup>2</sup> per annum.

Thermal imaging revealed general inconsistencies across all property constructions and archetypes indicating poor / failed current insulation.



## 2. Reduced energy consumption for tenants and warmer home

- Tenants to benefit from warmer home due to the fabric improvements e.g. external wall insulation, cavity wall insulation, windows.
- Can help reduce energy consumption for heating and hotwater by utilising Solopower PV, Battery and ASHP.
- Due to the increase in energy costs, there may not be an obvious reduction in energy bills. Objective to ensure that tenants are not disadvantaged by participating in Project DORIC.



### **3. Demonstrate innovation in supplying renewable electricity to tenants and introduction of metering and billing agreements**

Tenants will continue to pay for general power through their chosen electricity supplier and pay ACC for electricity used by ASHP for heating and hotwater, at a lower rate than grid electricity.



## 4. Encourage LAs and Design & Construction supply chain to Retrofit to PAS 2035

- Learnings from Project DORIC to inform future housing strategy for ACC
- Consortium Partners to develop and encourage supply chain to adopt PAS2035 retrofit standard including training for Retrofit Designers, Installers and Coordinators.
- Learnings from Project DORIC to inform key energy stakeholders e.g. SSEN for readiness to engage with net zero pathways which includes unlooping domestic connections, upgrading of energy assets.



## Project Scope and Timelines

- Total number of houses Nos. 50 including various archetypes; bungalows, terraced, 1 bed – 3 bed houses.
- Scope of works include roofing, windows, doors, EWI, CWI, loft insulation, removal/repositioning of utilities, installation of solar pv, battery, ASHP, metering.
- Delivered in two phases. Phase 1 completed and Phase 2 currently expected to complete around March 2024.





**Thank you**

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