Ref. Ares(2019)7126298 - 19/11/2019

Final Pilot Sites Visits Report

D6.8

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Grant Agreement no 680511. This document does not represent the opinion of the European Union, and the European Union is not responsible for any use that might be made of its content.

PROJECT INFORMATION	
Project acronym	DREEAM
Grant agreement number	680511
Project title	Demonstration of an integrated Renovation approach for Energy Efficiency At the Multi building scale

DOCUMENT INFORMATION	
Title	D6.8 Final Pilot Sites Visits Report
Version	1
Release date	05/11/2019
Work package	WP 6
Dissemination level	Public

DOCUMENT AUTHORS AND AUTHORISATION	
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Authorised by	Chalmers University

Executive summary

This document lists and describes all pilot sites visits that took place over the course of the project.

Due to their different aim and purpose, these visits have been classified into two groups:

- Cross-site visits: the objective of the "cross-site visits" was to share knowledge between DREEAM Project Partners involved in different WPs. These visits represented an opportunity to share experience and provide feedback on the implementation of the approach developed in WP1.

- Open visits: the objective of the "open visits" was to show to an external targeted audience the real-life application of the DREEAM approach with specific insights from the building owners who tested the methodology. These visits served also to strengthen the dissemination of the project results, with focus on pilot renovations and lessons learnt from collaboration with various WPs.

The document concludes with some key lessons learnt by the three housing companies (Places for People, ATER Treviso and 1892) that applied the DREEAM approach in the renovation of their pilots.

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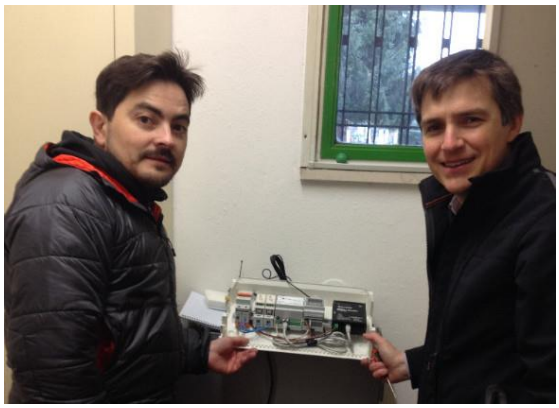
1 Cross-pilot site visits

At least three cross-site visits were organised per pilot site (see table below). All the visits were related to the DREEAM work implementation in collaboration with WP1 (Chalmers), WP2 (Exeleria), WP3 (RISE) and WP4 (Savills, SinCeO2, OpenDomo). These visits have been proved to be fundamental for the successful implementation of the project and the creation of a good working relationship throughout the project span.

Date:	Partner:	Pilot visited:	Reason of the visit:
February 2016	RISE, Savills, Chalmers, Exeleria, SinCeO2 and OpenDomo	Landskronahem Sweden	Gather the necessary information about the pilot and start the collaboration with relevant WPs.
August 2016	Exeleria and Chalmers	Places for People UK	Discuss the DREEAM renovation concepts.
January 2017	Exeleria and SinCeO2	ATER Treviso Italy	Collect data to generate the baseline for ATER's new pilot buildings (the buildings had to be changed at the end of 2016).
March 2017	SinCeO2	ATER Treviso Italy	Install the monitoring equipment for energy consumption monitoring during and after renovation.
February 2017	Savills	ATER Treviso Italy	Perform interviews with tenants as part of DREEAM tenant engagement programme.
September 2017	RISE	Places for People UK	Advise on renovation procurement work in line with DREEAM requirements.
January 2018	Chalmers, Exeleria, SinCeO2 and RISE	1892 Berlin	Gather the necessary information about the pilot and start the collaboration with relevant WPs.
February 2018	RISE	ATER Treviso Italy	Perform quality assurance work before renovation.
February 2018	RISE	Places for People UK	Perform quality assurance work before renovation.
June 2018	SinCeO2	1892 Berlin	Install monitoring equipment for energy consumption monitoring during and after renovation.
June 2018	Savills	1892 Berlin	Perform interviews with tenants as part of DREEAM tenant engagement programme.

RISE, Savills, Chalmers, Exeleria, SinCeo2 and OpenDomo visiting Landskronahem
February 2016

Exeleria and Chalmers visiting Places for People
August 2016



Exeleria and SinCeo2 visiting ATER Treviso
January 2017

SinCeo2 visiting ATER Treviso
March 2017

Savills visiting ATER Treviso
February 2017

RISE visiting Places for People
September 2017

Chalmers, Exeleria, SinCeo2 and RISE visiting 1892
January 2018

RISE visiting ATER Treviso
February2018

SinCeo2 visiting 1892
June 2018

Savills visiting 1892
June 2018

2 Open pilot sites visits

One open visit per pilot site was organised in 2019 in order to show to an external targeted audience the real-life application of the DREEAM approach with specific insights from the building owners who tested the methodology. These visits, which were always combined with workshops, served also to strengthen the dissemination of the project results with focus on pilot renovations and lessons learnt from collaboration with various WPs.

2.1 Visit to Places for People's pilot site

The first open visit took place on 5 February 2019 in Padiham, to the DREEAM pilot run by Places for People.



The visit was followed by a workshop to better allow Places for People's staff involved in the renovation of the pilot to understand the details of the project and engage in a proper debate with the audience. The workshop also represented the opportunity to discuss, besides technical details and measures implemented, also tenants' involvement strategies and financial aspects linked to the operations.


2.1.1 Description of the pilot site

The DREEAM pilot site in Padiham, Burnley, Lancashire, is a mix of 109 properties with different construction types (both terraced and semi-terraced) which are heated predominantly by electric storage heaters with 19 gas heated properties. The renovation works involved installing multiple energy efficiency measures, such as external wall insulation, solar panels, new efficient heating and hot water production systems, mechanical ventilation and new UPVC windows.

The energy consumption of 9 of the dwellings is being monitored pre- and post-renovation in order to measure the difference made by the implementation of the renovation measures. Work is also being done to inform customers so that they fully understand how the renovation works will affect them, how to operate all of the new technologies being installed, and how their choices in everyday home life can affect their energy consumption and therefore their bills.

This project is being undertaken to increase the standard of energy services to customers, reduce customer turnover, and make our scheme a neighbourhood of choice. Places for People view DREEAM as an opportunity to develop a low maintenance model for the UK social rented market and to find innovate ways to tackle the challenge of outdated and inefficient electric heating and hot water systems.

Main challenges and goals:

- Apply external wall installation for the first time in such buildings;
- Replace existing windows with UPVC ones;
- Install new systems for electrical heating, hot water systems and internal ventilation;
- Test electricity production by installing PV panels on the roofs;
- Monitor real-time energy consumption to understand real saving.

2.1.2 The audience

In agreement with the Project Coordinator, Eurhonet suggested holding this event on the eve of the so-called Eurhonet Sustainable Construction Topic Group. This secured the participation of a key target group to the event, meaning some 20 Energy and Sustainability managers working for Public and Social housing providers within the Eurhonet membership. In total, some 40 people from 9 EU countries and 20 different businesses attended the study visit and the workshop that followed.

2.1.3 Lessons learnt

- Work on the renovation has been completed for several months now and it is clear to us that a variety of factors made the renovation largely a success. Factors such as creating a designated project team that included all relevant stakeholders in the business, involving tenants in the

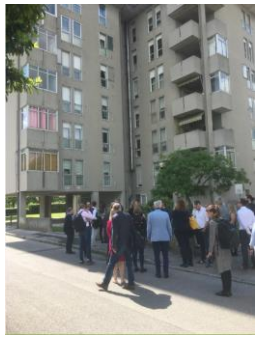
renovation process at the earliest opportunity and that a detailed and considered procurement process will ensure that contractors are able to complete the work to the required level.

- Whilst the renovations have been the main focus of the project, work was also undertaken in other areas such as monitoring dwellings pre- and post-renovation in order to see the difference made by the implementation of the renovation measures and educating tenants so that they fully understand how the renovation works will affect them, how to operate all the technologies that have been installed and how their choices in everyday life can affect their energy consumption and therefore their bills.

2.2 Visit to ATER Treviso's pilot site

The open visit to Treviso's pilot run by ATER Treviso took place on 16 May 2019.





The visit was part of the conference "Tools, technologies and cost-zero innovative financial models for nZEB renovations in social housing" that ATER organised in order to present the results of their experience with the DREEAM project. The conference represented also the opportunity to zoom-in into the contracts that regulate the relationship between ATER/ESCO and ESCO/tenant and data management and their implications in the light of the new GDPR Regulation.


2.2.1 Description of the pilot site

Treviso's pilot site "Borgo Furo" consists of two residential buildings with 18 dwelling each, located on the outer edge of Treviso in the Borgo Furo district. Before the renovation stared, the building had no insulation, single glazed windows with aged metal frames and PVC shutters. Space heating and DHW were produced by a centralised gas boiler.

ATER Treviso aimed at minimising the energy consumption through the optimisation of the passive systems (building envelope), the installation of condensing boilers to reduce the demand for natural gas and photovoltaic panels for the production of electricity from renewable sources. Decentralised controlled mechanical ventilation (CMV) systems with heat exchangers were also employed to reduce the demand of electricity during the warm/hot season in order to control hot temperature, and prevent humidity and moulds.

Main challenges and goals:

- Find the right balance between optimal renovation measures and affordability in line with ATER's environmental and economic objectives;
- Collect the right data for high-quality detailed calculations;
- Finalize the project despite the unstable context of the Italian construction sector and contracting companies;
- Eliminate issues, such as mould and moisture;
- Reduce the energy bills of the tenants by reducing the heat loss in the flats.

2.2.2 Audience

Both the conference and the site visit that followed were very successful in terms of participation. Some 130 people from the Italian Order of Engineers, Architects and Land Surveyors attended, including DREEAM project partners and the EURHONET Sustainable Construction Topic Group. The study visit to the pilot that followed in the afternoon was attended by some 50 participants, mainly from the EURHONET Sustainable Construction Topic Group.

2.2.3 Lessons learnt

- The innovation of the DREEAM project goes for beyond the technological aspect of the works, although some cutting-edge energy efficiency systems have been chosen. The project paved the way to a new model of energy contracts based on an ESCO involvement which will hopefully prove beneficial for both housing companies such as ATER and tenants.

- The benefits of DREEAM are numerous and mutual. ATER Treviso had the chance to test different business model to renovate its own buildings towards higher energy efficiency level, whilst tenants can live in a nearly zero energy building, resulting in drastically lower energy bills.

2.3 Visit to 1892's pilot site

The open visit to the Berlin pilot site run by 1892 took place on 3 September 2019 in Berlin as part of the DREEAM Final Event.


Day 1 (2 September), was dedicated to a recap on the work done, key outcomes, exploitable tools and lessons learnt, while Day 2 focused on the 1892 pilot and on the German legal framework thanks to a high-level panel discussion involving politicians, technicians as well as tenants' representatives to discuss barriers and way forward for the take up of large scale deep renovation projects.


2.3.1 Description of the pilot site

The Nettelbeckplatz pilot site run by 1892 is an experimental and innovative renovation of a cooperative housing estate from the 1970s. This project is the combination of several measures such as the refurbishment of former housing stock following energy efficiency standards, social and function-mix combining residential with art & crafts studios, shared spaces, and common facilities for seniors and students, involving the participation of the local community as well. 1892 provided additional 4,200 m^2 of living space generated through the re-design without affecting the size or the quality of the existing public areas in the court-yard. Residents have been involved and consulted all along the project.

Main challenges and goals:

- Realize ambitious renovations measures whilst keeping our affordable housing goals;
- Promote household diversity;
- Adapt existing dwellings for new tenants' needs;
- Create a landmark with new modern architecture for all;
- Prevent gentrification tendencies by supporting fair access to housing (including student housing).

2.3.2 Audience

More than 60 people attended the DREEAM Final event and study visit to the 1892's pilot site. The audience was mainly composed of project partners and policy makers.

2.3.3 Lessons learnt

- Experience in the field of "landlord-to-tenant electricity". In the future, 1892 will check the use of solar energy renovation and every new renovation and every new building. Accurate calculations are necessary to determine the best cost-benefit ratio.
- 1892 had intensive discussions with residents during the renovation phase; interviews carried out had as main focus energy-saving opportunities and social aspects. 1892 would like to apply this approach to future projects.

3 Conclusions

- On cross-site visits: pilot site visits by DREEAM consortium partners have been fundamental for the successful implementation of the project goals as most of the DREEAM work revolves around the pilots. At the same time, the pilot visits were a central moment for trust-building between project partners and for establishing a good working relationship.

- On open visits: it is advisable to link study visits to dedicated workshops to follow them up and provide more detailed information to participants, also with the help of traditional tools such as PowerPoint presentations. Dedicated Q&A sessions are also key to engage with the audience and make sure that the messages are conveyed successfully.