

Red WoLF Kick Off Meeting

Day 1

The meeting have started with introductory speech from Dr Giuseppe Colantuono (Leeds Beckett University), where new members of the project were introduced. After that Prof. Dorothy Monekosso (Leeds Beckett University) introduced members of the meeting to the Leeds Beckett University with welcoming speech.

The next session was held by Laura Jörg (ARGE SOLAR). The talk was subdivided in a few sections. It had started with explanation of why communications are important for the current projects. Then it have introduced the obligation enforced by Interred North-West Europe regarding the project publicity standards including such things as temporary billboards, plaque and project logo. In addition to that various templates for project presentations as well as posters and billboards were presented. Moreover, the importance of communication was discussed as well as the ways to reach the required level of publicity presented. Finally, the interactive session about the interest and the relevance of the project to various organisations and groups was held.

The next session was held by Simon Gutteridge (Wakefield District Housing (WDH)). Simon Gutteridge, Sustainability Manager, WDH, introduced the organisation to the group and provided an update on progress made to date. Namely, that work was ongoing to appoint a FLC, including seeking information from the relevant central government department, as well as to identify pilot sites of properties to receive measures. In particular it was mentioned to the group that flats/apartments were to be the focus of the pilot and that this in itself would bring challenges. Next quarter to appoint FLC and engineer to develop electrical design and specification

The next session was held by Stevie Donnelly (IT Sligo). The Pilot sites in Ireland and the current stage of the project were presented. Cork City Council have identified 10 no. homes and Carbery Housing Association have identified 20 no. homes. The initial discussions with Solar PV/Battery/Storage Heater companies to get an idea of the various options that currently exist in the market, was hold. Carbery Housing Association have completed a draft Energy Master Plan for their homes (outside of RED WoLF project). The presentation at the meeting led to discussion with the other pilot sites in UK and France about the opportunities and challenges they face. It was agreed that each pilot site would seek to design a 'basic' electrical design of the initial RED WoLF system which would then be shared with the RED WoLF partners in order to collaborate and refine the final design for each pilot site. IT Sligo, Cork City Council and Carbery Housing Association have drafted a Request for Information for the design of a 'basic' RED WoLF system and have shared it with the project partners. The plan to publish this tender by the end of June 2019, was established.

The next presentation was done by Jamie Smith (First Choice Homes Oldham (FCHO)). In partnership with OMBC First Choice Homes have identified a site in the Sholver area of Oldham which has 32 number properties on. The mixed tenure development comprises of 11 nr 2 bed houses, 13 nr 3 bed houses, 6 nr 4 bed houses and 2 nr 2 bed apartments. RED WoLF will be utilised on 20 of the 2 & 3 bed roomed houses. The site s currently waiting to go to planning committee on the 5th June 2019 where it is being recommended for approval. In addition to that FCHO have recently appointed Crookes Walker a mechanical and electrical consultant from Manchester to assist us in the project. Crookes Walker are currently in the process of carrying out some design appraisals but his initial thoughts are... The first stage is to assess the anticipated space heating, hot water and general

electricity usage in the dwellings whilst assessing the generation of solar energy from onsite PV's with the 'typical' daily energy profile. The principle systems which will be considered at this early stage on the project are: PV array, Home Energy storage systems, Battery Storage (to store electricity), Heat Batteries, Thermal stores (to serve space heating and hot water) and Storage heaters. The above options analysis will look at combinations of the above to minimise reliance upon the electricity grid and negating the need for natural gas whilst also reducing fuel poverty within the UK's social housing sector.

The next talk was presented by Mihai Radulescu (EDF) regarding the pilots. One of the French pilot is located in Vernon town, Normandy. This site holds 15 houses built in the 80's with a useful surface between 80 and 170 m². The majority of these houses are not yet occupied, and there is a refurbish plan before putting them in use. All houses will be endowed with an electric smart meter. Next to these houses, there is a free land with a surface of 4900 m² for the PV on ground panels. Next step is to meet CDE in order to clear the technical requirements and the paper work for this pilot.

The next talk was done by Aymeric Bugnot (Neolia) regarding pilots managed by Neolia. Neolia is one of the largest social housing company in France. Sustainability is key in Neolia's strategy. Favouring renewable electricity while reducing customer bills and increasing inhabitants satisfaction appears as an obvious development track for Neolia. Neolia is intending to work with partner EDF to assess the Red WoLF solutions through a meaningful monitoring of performances. What is planned in Red WoLF's project appears to be innovative, a 1st of its kind for Néolia and for sure a 1st of its kind in the Franche Comté Region.

Pilot is targeting the residential sector, more specifically social housing. A set of 14 houses have been selected for the Red WoLF project. 4 houses (2 units of 3 bedrooms 84 m² each, and 2 units of 4 bedrooms 96 m² each) built in 2000 are located in VANDONCOURT (see map). The other 10 houses were built in 2002, located in MONTENOIS, which are 3 bedrooms units 85 m² each. These are semi-detached houses with garden and garage.

Houses are today heated with usual electric heater. These will be replaced with a system made of: PV panels on each roof, electric heater with electric storage embedded in each heater, as well as a centralized battery. The ambition is to charge batteries with PV electricity during the day and use the stored electricity to power the heaters in the evening and at night. Thanks to other partners, smart energy management strategies will be implemented and tested to assess the best algorithms to maximum the use of Renewable Electricity sources. Partner Neolia, the owner of the houses, is managing a portfolio of several thousands of houses in France, being thus very familiar with all processes related to any kind of renovation, including authorisations and administrative procedures. Expected planning is the following:

05/2019: Consultation with occupants

06/2019: Start of tender, investment committee meeting

07/2019: Suppliers selection, administrative declaration to relevant authority (city hall), grid connection contract with electricity Distribution System Operator (called ENEDIS).

09-10/2019: On site installations, grid connection

11/2019: Completion of works

This planning has been built benefiting from the extensive experience of Partner Neolia. It nevertheless allow 1 or 2 months potential delay without harming projects results while ensuring comfort to inhabitants.

The next session was led by Prof. Eric Rondeau (University of Lorraine). Eric Rondeau presented general approach for coding Red WoLF algorithms in WP T1. He started with a state of art in enumerating a list of academic works close to Red WoLF problematics and he explained that these works mainly developed solutions with the objective to optimize energy use and not carbon emission. Some contributions also recommended designing simple solutions for both reducing costs and facilitating their usage and the necessity to consider people in the loop. Then, Eric Rondeau proposed to code the Red WoLF software step by step in integrating progressively different factors such as indoor environment, weather prediction, carbon prediction, tenant behaviour,... with one goal : mitigate carbon emission. The objective of this approach is to achieve quickly a first prototype and to analyse the interest of adding complexity (factors) in comparing their impacts on system performance. Finally, the discussions were about the way for implementing Red WoLF algorithms in the different pilots using heterogeneous devices. Eric Rondeau indicated the crucial point is the devices must be open including communication interfaces to be remotely controllable.

The next session was hold by Andrew Hunt (Oldham Metropolitan Borough Council (OMBC)). The discussion about building standards and RED WoLF were presented. In the UK over the past decade or so, there have been a number of challenging targets put in place for building standards via the Code for Sustainable Homes, culminating in what should have been zero carbon homes (CSH Level 5/6). The UK Government scrapped this target, mainly due to lobbying from developers who claimed that the technological solutions and approach did not exist to make achievement of a zero carbon homes standard possible. Subsequently, the Greater Manchester Spatial Framework (a long-term plan to deliver housing requirements across the city region) has now set a target date of 2028 for all new developments to be zero carbon. The RED WoLF model will provide a technical solution to ensure that this new target can be achieved, and that developers will not be able to claim that the solutions do not exist. In other European regions, where zero carbon construction standards are already in place and being met, the RED WoLF system will provide a competitive solution, removing the need for unsightly heat pumps, and performing better than other electrical systems in terms of running cost to residents and smoothing out the demand profile on the local grid.

The next session was hold by Inge Keymeulen (Interreg North-West Europe Joint Secretariat). The talk was dedicated to specific goals and advices for Red WoLF project. The history of Interreg North-West Europe was presented as well as the projects requirements needed to be part of Interreg North-West Europe such as: territorial justification, the importance of cooperation, representation of public authorities, SMEs/private companies, and NGO's, a substantial demonstration and roll out phase, synergies with previously approved projects. In addition to that there was a brief explanation for necessity of project reports, with the main aspects: the ability of Joint Secretariat to monitor the project, collect information on project contributions to Programme output indicators, information also contributes to the Joint Secretariat report to the Commission and capitalisation at the Programme level. With the rest of the talk focusing on the style on needed reports: narrative repots, deliverables, financial reporting and FLC and risk monitoring. Finally the ways of how to seek help and support from Interreg North-West Europe were presented.

End of Day 1

Day 2

The first session was held by Charlotte Bonner (National Union of Students). Charlotte outlined why student engagement in the RED WoLF project was of benefit to the delivery of the pilots, the accompanying research as well as the communications, dissemination and long term impacts. She talked about NUS' work on student engagement to date, particularly focusing on the 'For Good' platform. The attendees then worked in break-out groups identifying particular opportunities specific to their roles in the project which were then fed back and harvested for use in the initial draft of the student engagement strategy.

The next session was chaired by Brian Cassidy (Cork City Council). In a long and fruitful discussion the technical specifications of the project were agreed on. In addition to that specific topology of an electrical circuit required for the Red WoLF project was created.

Finally, the concluding session was held by Dr Giuseppe Colantuono (Leeds Beckett University). There was a brief summary and conclusion of the meeting. After that the Steering Committee was appointed and the plan for future meetings and ways of communication was presented. Partners have agreed to have a teleconference every 3rd of each month to present the achievements in a short brief 5 minutes speech.

End of Day 2