
# 'ALPHA-NEIGHBOUR' PILOT-PROJECT OVERVIEW

## In Heby Kommun Municipality

**BACKGROUND**

On May 26th 2014, ISSS were asked to create an 'Alpha Neighbour' project in the municipality of Heby Kommun to create awareness of waste management, renewable energy and energy efficiency.

During 2014 ISSS have been working on a bio-mass inventory study and the energy plan & strategy for Heby Kommun. During this period discussions between the municipality and ISSS have examined the requirement to create societal change in behavior through the dissemination of information.

**INTRODUCTION**

ISSS has identified an appropriate small-holding residence in the municipality of Heby Kommun, Sweden to conduct a pilot project for an 'Alfa Neighbour'. The location has four buildings including accommodation, barns and workshops. It is set in approximately 10,000 sq.m of land.

Phase I will be 'Residential Centric', to be followed by a Phase II 'Industry Centric' project – "Industry Alfa-Neighbour".

The identified residents have a significant interest in becoming more socially responsible, addressing the subject of waste, re-cycling, sustainable and renewable energy and becoming more self-reliant. Therefore, ISSS have proposed a broader project scope that would serve to encompass all of these aspects and enable of post-project show-case for the wider audience sharing in the results.

The broader objective is to align municipal and regional needs (derived through EU and national directives and initiatives) through behavior change at societal and industrial levels. The project would, therefore, examine the ripple effect through awareness, dissemination of information, show-case visits driving behavior change in comparison to traditional policy driven change in society. Early adopters are a key factor in the spread of awareness, uptake and behavior change in society (private and industry sectors).

A recent research study conducted by SLU University, Uppsala, Sweden, concluded that 'society is prepared to invest in traditional energy efficient hardware which has a proven economic benefit, however, they are less likely to change their own behavior and habits relating to energy and efficiency'.

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**PROJECT SCOPE**

**Energy**: The project will include an integrated energy solution created to be efficient in all seasons and climate extremes, i.e. wind power, solar, energy storage and smart control / monitoring. Habits, innovation and adaptation will be key indicators and metrics of behavioral change. Energy efficiency is an essential element of the project to minimize energy leakage and demonstrate maximum potential efficiency.

**Waste**: The project will examine food consumption and waste habits. Through awareness, monitoring and evaluation throughout the project the residents will be assessed on their ability to adopt and adapt to environmental and sustainable living. Habits, innovation and adaptation will be key indicators and metrics of behavioral change.

**Recycling**: The residents will be advised, monitored and assessed during the project lifecycle. Habits, innovation and adaptation will be key indicators and metrics of behavioral change.

**OBJECTIVE**

To bring awareness and knowledge to the wider community regarding municipality and regional energy plans for 2030 and 2050, the need for the society to change, adopt behavior and lifestyle to a more sustainable and environmentally-friendly lifestyle through show-casing 'Alpha-Neighbours' as role models and disseminating the project results.

Project effects and results will be measured and collected through:

- Spread of project **Awareness** information
- Escalation of **Interest** in 'residential' renewable energy, energy efficiency and waste management
- **Adoption** of renewable energy, efficiency and waste management


**AWARENESS** (Measureable)

- Project Brochure
- Show Case Invitations Friends, Family & Colleagues
- Community Networks
- Study Visits
- Webinars
- Energy Club
- Website Registration

**INTEREST** (Measureable)

- Register interest in project
- Information request
- Bi-direction communications
- Data collection
- Disseminate information

**ADOPTION** (Measureable)

- Project participation
- Follow-up project participation
- Adoption of renewable energy
- Waste Management Efficiency


The success of the project has a significant reliance on engagement and the overall experience of the residents. Therefore, it is proposed that, in the Phase I (residential) project, the project technology and systems should:

- Highest quality ´maximum efficiency, minimal environmental (physical and audio) footprint
- Highest specification in technology advancements
- On-site targeted energy use (as opposed to grid-tied system). Proposed use electric water pump system
- Minimal infrastructure, installation and set-up (enhancing the project experience through simplicity)
- System flexibility and grid-tie options
- Ease of integration with other renewable energy sources and scalable

**PROJECT TERM**

The project term will be 6 months, commencing autumn 2014, to capture seasonal climate changes relevant to energy consumption and efficiency in addition to waste management knowledge and habits.

**DISEMINATION OF RESULTS**

Project awareness will be pre, during and post-project lifecycle. Results will be disseminated through all available media including, but not limited to, Kommunen's website, local newspapers, social media, seminar / webinars and network groups.

**PROJECT OWNER, TEAM & RESIDENTS**

| | |
|---|---|
| Project Owner: | Municipality - Heby Kommun, Sweden |
| Project Management: | ISSS, Stockholm, Sweden |
| Project Team: | Uppsala University, STUNS Energi, Iversons, Erikssons |
| Residents: | Rickard & Maria Lundin, 740 46 Östervåla, Heby Kommun, Sweden |
| Interest Groups: | Regionförbundet, Uppsala, Sweden, STUNS Energi, Uppsala, Sweden |
| | RESOLVE / Uppsala University, Sweden, Sala Heby Energi AB, Sala, Sweden |


**PROJECT ACTIVITIES**

**The following is a Level 1 summary of project activities:**

**General**:

Identification of 'Alpha-Neighbour' resident (Completed)

Residential site survey

Present overview of sustainable and renewable energy solutions, Heby Energiplan 2030, carbon emissions, food and water consumption, habits and waste management.

Create project overview brochures and study visit invitations

Develop and implement project 'marketing' campaign

Create an online registration database for interested people & groups to register their interest and request further information regarding any aspect of the project.

Monitor dissemination of information, registration results and relevant trends.

Plan and prepare study visits for interested people, groups and networks.

Monitor and record uptake in registration from interested people, groups and networks.

Record previous consumption volume, weight and cost of food. 3 month period average.

Record previous volume, weight of food waste. 3 month period average.

Record previous consumption of water and cost (electricity for pumping from well). 3 month period average.

Record previous electricity consumption in KWh. 3 month period average.

Record previous general waste recycling and disposal. 3 month period average.

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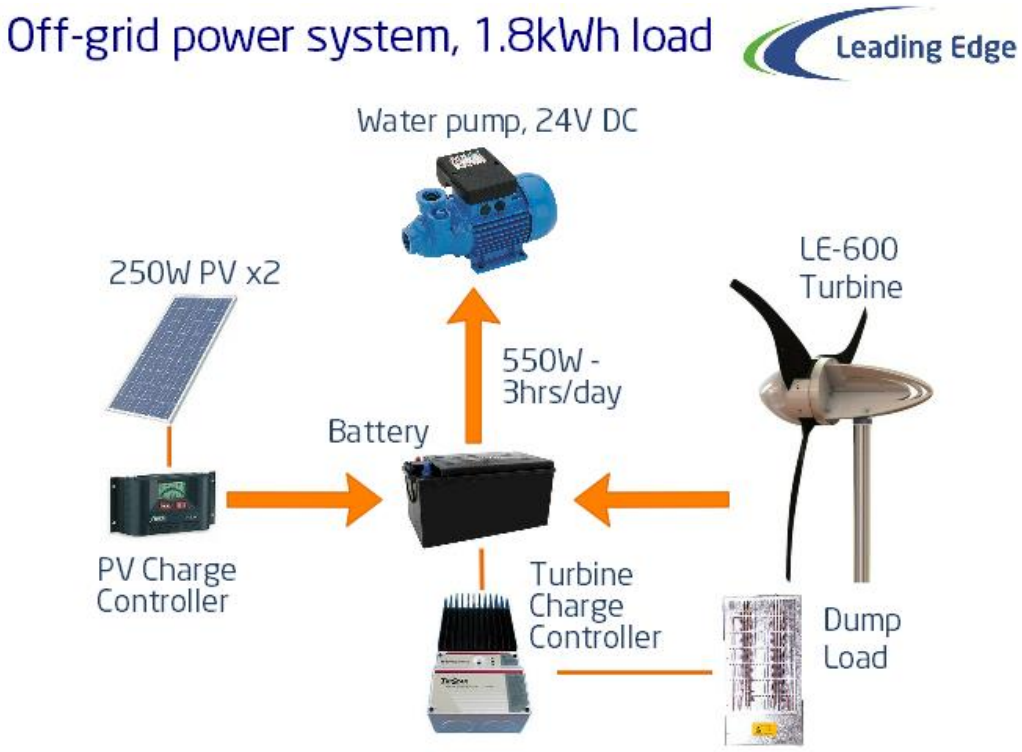
**Renewable Energy**:




Example Renewable Energy Source Pilot Project
Application & Power Ratings

**PROJECT ACTIVITIES**

Presentation in the benefits, use and monitoring of renewable energy source.

Provision of a 750 W wind turbine generator – for the duration of the project lifecycle.

Provision of a 250 W solar panel – for the duration of the project lifecycle.

Installation of a 750 W wind turbine, mast, stop / brake system, deep cycle battery storage group, DC/AC inverter system and charge controller system.

Installation of a 250 W solar panel, mast mounting, integration to deep cycle battery storage group, DC/AC inverter system and charge controller system.

Record weekly / monthly consumption volume, weight and cost of food. 3 month period average.

Record weekly / monthly consumption of water and cost. 3 month period average.

Record weekly / monthly electricity consumption in KWh. 3 month period average.

Record weekly / monthly waste (in categories) volume, weight and cost of food. 3 month period average.

Collect and collate final data. Analyse and assess. Produce final project report with conclusions and recommendations

**Energy Efficiency**

Present and discuss energy efficiency methods, technology (passive and active), behavior potential effect and results with residents.

Engage third party providers to present, discuss and demonstrate energy efficiency hardware and techniques.

(Results of efficiency will be recorded as stated in the General project activities section of this document).

**Project Effect**

Analyse recorded project data and results.

Discuss project successes, challenges, questions and thoughts with residents.

**FUTURE PROGRAM DEVELOPMENT**

It is envisaged that this 'Alpha-Neighbour' pilot project would lead to future up-scaled replication across several municipalities and regions under a broader program, with the objective of increasing the awareness, up-take and adoption of sustainable & renewable energy, lifestyle and behavior change, and a reduction in consumption and increased awareness regarding waste management.

An 'Industry Alpha-Neighbour has been identified in the same municipality where the project objectives would have a significant advantage and benefit. It is envisaged that the project could commence in the spring 2015.

*Regionförbundet, Uppsala, Sweden, have indicated that the project should be implemented across a, potential, additional 30 residential sites, across 5 municipalities / regions.