

ENLIVEN

Energy Networks Linking Innovation in Villages in Europe Now

The ENLIVEN project is a cross sector partnership led by Irish Rural Link. Partners are Offaly County Council, Feasta; the Foundation for the Economics of Sustainability, Dundalk Institute of Technology, Methanogen, EOS Architects, Martin Langton Developer. Pauric Davis and Assoc., Engineers, Michael Laydon, Community Energy Consultant, Sean Riordan Developer

Executive Summary

Historically, communities developed in places where resources were available. Today however, many rural communities are in decline because the use of fossil fuels has devalued their renewable energy sources, made the growing of many non-food crops irrelevant, and exposed their food products to price competition from places where land is more abundant.

This project is based on the premise that the tide may be about to turn. Restrictions on the use of fossil fuel in response to the threat of climate change and because of oil and gas depletion are about to make energy supplies scarcer and more costly. Handled correctly, this could create the circumstances in which rural communities will again be able to grow by developing their local resources, particularly those of energy.

The project focuses on what that 'correct handling' involves and breaks a lot of new ground. It takes two small neighbouring communities in rural Ireland, chosen only because largish housing and other construction projects were being planned, and assesses their renewable energy potential. It then looks at how that potential can be realised in ways that would benefit everyone living in the communities at present and those who might move there in the future.

It will establish the prototype of a model process to develop the renewable energy resources and link them to energy networks serving rural villages. The pilot projects in the two villages, Cadamstown and Ballyboy, will be developed with private sector partners projects to test the technical and financial aspects of the model. Later phases will demonstrate a new planning and development model, a partnership between the local authority, villagers, development agencies and private consultants. The project involves:

1. The construction of the first electrical minigrid supply systems in Ireland for the past seventy years.
2. The construction of the first district heating systems for a mixed development of private housing, visitor and recreational and commercial buildings anywhere in Ireland.
3. The erection of 2 wind turbines, one near each village, a wood-chip-fired CHP plant in one village and a biogas digester plus a biogas-fired CHP plant in the other in the First Phase.
4. The efficient management of these plants and the supply and sale of their heat and electricity output by Energy Supply Companies (ESCo).

5. The development of metering systems which allow customers to buy wind generated electricity whenever a surplus of it is available at little more than the opportunity cost of selling it into the grid.
6. The establishment of a pool of electrically-powered vehicles for use by the village businesses, residents and visitors.
7. The establishment of a community asset management company in each village to own and control the common non-energy assets created by the project.
8. The large-scale use of construction materials sourced from the local area in the construction of highly energy efficient buildings.
9. Research into ways of storing energy for convenient use such as small-scale hydro – a demonstration project will be investigated for Cadamstown - and the newest generation of batteries called flow batteries.
10. Research into ways in which savings of Co2 can be passed back to the communities which made them through green certificates, carbon emission permits, quotas or other grant or tax measures.
11. Research into ways in which increases in property-values due to the activities of the local authorities, community asset management companies and energy services companies can be better captured for those who created them.
12. Research into growing and harvesting methods for new non-food crops for construction such as hemp and for bio fuels such as rapeseed.
13. Funding the National Agreement Certification process for innovative ecological building construction systems to support its adoption anywhere in Ireland for social housing, first time buyers and in rural tax incentive areas.
14. The drawing up in Phase 2, in conjunction with the local county council and village residents, of Framework Plans for a further eight villages in addition to the Phase 1 projects.
15. The extension by the county council of the energy minigrids, plus the provision of the roads, water, and sewage systems under an Integrated Infrastructure Initiative described under the Framework Plan. The county council would recover the cost of this work under the provisions of Section 49 of the Planning Act. This is a novel way of handling village development.
16. The dissemination of this experience, through a dedicated Local Energy Advisory Agency and a Village Framework Plan Advisory Agency supported by a revolving fund, as a model for rural development.

