



# North Devon's Biosphere Reserve & Torridge District Energy Plan

Authors: Andrew BELL, Emilie LE HELLOCO & Rose STAINTHORP

## Executive Summary

This study has been commissioned by the North Devon UNESCO World Biosphere Reserves to establish a baseline for energy consumption and generation in northern Devon.

The assessment explores the differing energy types and their uses within the area for various sectors and ultimately explores the strategies for energy demand reduction and for appropriate renewable energy production.

The headline themes are:

- The amount of money spent on energy within the plan area each year is in the order of £300M. This is the equivalent of 15500 full time jobs. This expenditure is not held within the area but is instantly paid outside to energy companies.
- 20% of energy use is on private cars but accounts for 30% of the energy expenditure. Transport policies are better handled from a county and national level to reduce this especially in very rural areas, though local promotion of car share schemes can help.
- Approximately 9% of the homes in the area are described as being in fuel poverty according to the latest definitions. Most of these are in areas where there is no mains gas supplied to the house. Therefore reducing energy demand for expensive energy sources in these homes will support the alleviation of poverty in the area.
- 31% of the energy use in the area is on domestic heating and lighting and accounts for 27% of the area's expenditure. Therefore retrofitting energy efficiency and fuel switching will make a significant reduction in overall expenditure and leakage from the economy.
- 35% of the 79000 homes in the area use oil or electricity as the main heating fuel because they do not have access to gas. Switching to wood based biomass for these would require in the order of 25000 Ha of woodland that was dedicated towards sustainable fuel-wood production. (app 10% of the area)
- Almost half of the properties have inadequate loft insulation which if addressed would be the most cost effective reduction of energy use.
- 31% of homes have uninsulated cavity walls that would make a significant saving and relatively cost effective to deal with.
- 11% of homes have walls that are "hard to deal with".
- 141MW of renewable energy capacity has been installed in the area , onshore wind being the largest representative. This has an estimated base production of 7.1% of our total energy needs at the moment.
- There is much more resource available for wind, domestic solar PV, biomass, anaerobic digestion and waste to energy to meet the gap totalling 1,913,000,000 KWh potential.
- The most significant reduction is a 20% reduction in personal car use.
- Investment via and from local community initiatives will be the most economically effective way of recirculating funds and preventing leakage outside of the area.

More research is needed on resource assessments and improving the fine grain quality of the data relating to housing conditions.

Target area for community action in a rural area and an urban area should be identified from the current data sets for the next stage of the SEACS funded project.