

Zoological Society of London Case Study for DECC

Our Profile

The Zoological Society of London (ZSL) is a charity devoted to the worldwide conservation of animals and their habitats. We have two operating sites:

- London Zoo – a 36 acre site in Regents Park, London
- Whipsnade Zoo – a 600 acre site near Dunstable, Bedfordshire

These sites combined consume approximately £900,000 of energy annually which results in around 7,500 tCO₂ emissions per year.

Our Objectives

To improve our overall energy and CRC performance by:

- Reducing energy consumption across both sites
- Seeking alternative low carbon energy sources

Working Together

Since 2010, we have been working very closely with energy consultants Inenco/NIFES to achieve our energy goals.

Developing our Energy Strategy

Inenco/NIFES developed a **CRC Compliance and Energy Reduction Strategy** for us.

They now manage our CRC compliance and data management, CRC reporting and compilation of the Evidence Pack.

Inenco/NIFES undertook a strategic review of our energy and environmental practices which led to the production of a CRC Strategy. This strategy identified a number of actions that we could take to minimise our CRC liability and maximise our league table position as follows:

1. A comprehensive review of site metering and energy data monitoring
2. Investigation into the feasibility of on-site renewable energy options
3. Instigation of a training programme to raise staff awareness of energy consumption
4. Engaging Inenco/NIFES to deliver a comprehensive three year **Energy Reduction Programme**

Delivering our Energy Strategy

1. Inenco/NIFES undertook an **Automated Meter Reading (AMR)** study and a metering, monitoring and targeting system is now planned for both our zoo sites which could potentially reduce carbon emissions by approximately 200 tCO₂. The system will allow problems to be quickly identified and corrective action taken, reducing the time required to effectively monitor and manage our energy consumption. The cost of installing an extended sub-metering system would be approximately £97,000 with recoument achievable in 3.7 years.

2. A number of opportunities to generate on-site **Renewable Energy** were identified for us by Inenco/NIFES including wind, solar and the generation of heat and power through biomass. A feasibility study has identified that a 330kW turbine could contribute 27% of Whipsnade Zoo's electricity demand, a reduction of approximately 400 tCO₂. The payback period for the turbine would be 2.92 years based on an investment of approximately £625,000.

Inenco/NIFES estimated that up to 5% of the natural gas consumption at London Zoo could be displaced by solid biomass fuel produced from the anaerobic treatment of compostable wastes (food and animal wastes) delivering a reduction of approximately 120 tCO₂.

3. We recognised that a key aspect of managing energy is ensuring that our staff have a good level of energy awareness and understand the steps that they can take to minimise energy consumption. In January 2012, Inenco/NIFES will be asking all our staff to complete an energy awareness survey. The information gathered will then be used as a basis for developing a bespoke energy training programme for them. An **Energy Awareness Campaign** will lead to a significant improvement in energy performance for us. Often reductions in excess of 5% of total energy consumption and carbon footprint can be achieved, with paybacks measured in months.
4. We have engaged Inenco/NIFES to deliver a comprehensive **Energy Reduction Programme** over the next three years, starting in November 2011. This programme will focus on the identification and delivery of low and no cost energy reduction measures at both our sites: London and Whipsnade Zoos. The project is expected to lead to a reduction in energy in the region of 10% over a three year term. This would result in a total reduction of our carbon emissions in excess of 2,000 tCO₂.

Achieving Results

Inenco/NIFES' Initiative	Expected Result for Zoological Society of London
Automated Meter Reading	› 200 tCO ₂ reduction
Renewables – Wind Turbine	› 400 tCO ₂ reduction
Renewables – Biomass	› 120 tCO ₂ reduction
Energy Awareness Campaign	› 5% carbon and energy consumption reduction
Energy Reduction Programme (three year term)	› 2,000 tCO ₂ reduction

Conclusion

By implementing these initiatives, we can potentially reduce the carbon footprint of our organisation by over 10%.