1 Introduction

The Tipperary Energy Agency has specified, project managed and procured an energy efficiency and renewable energy project at Coolbawn water treatment plant and offices, North Tipperary by utilising an Energy Services Contract (ESCO) approach.

2 Description of Works

The project was identified and specified by a detailed energy audit conducted by the Tipperary Energy Agency as a part of its energy management service to the Local Authorities of County Tipperary. The building was constructed in the mid 90's, the floor area is 860m^2, the construction is cavity wall brick externally and block internally with 40mm of polystyrene board insulation. The roof is flat construction with low insulation levels, (however this was not deemed financially feasible to be included in the retrofit).

The project works are:

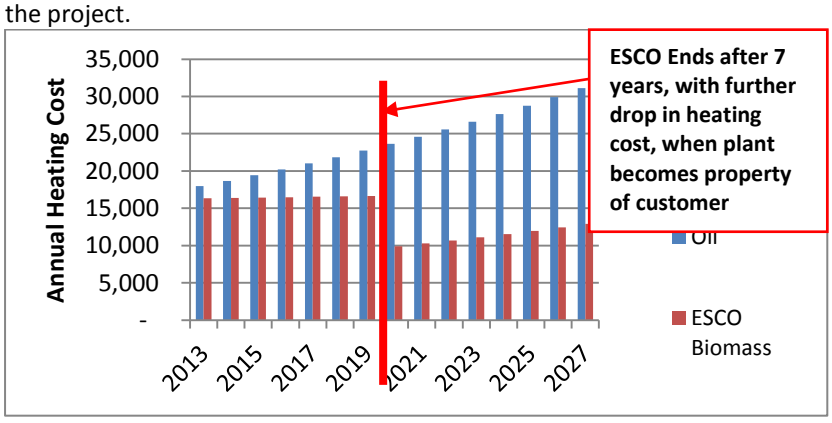
1. Replace the heat supplied by the oil boiler in the main building, with a wood pellet boiler provided under a fixed seven year ESCO (Energy Supply Contract), under which the local authority is sold heat by the ESCO. After the 7 year contract ends the boiler, building and plant become the property of the local authority.
2. Install energy efficiency measures:
   a) Heating controls giving time, temperature and zone control
   b) Cavity wall insulation & air tightness works to the main building

Fig 1. Heating Controls

Fig 2. Biomass Boiler

3 Evaluation of Project

The project works were specified and energy savings calculations were done to calculate the savings. Following a competitive public procurement process the most economically advantageous proposal was chosen and evaluated as follows. The following figure and graph illustrate how the savings will be achieved over the life of the project.



Savings over 7 yrs. of ESCO	€20,300
Annual Savings after ESCO ends	€13,700
Capital Investment by client	€0
7 year NPV	€18,500
10 year NPV	€39,900
15 year NPV	€93,000

Fig 3: Annual savings as a result of ESCO over 7 years of ESCO and following 8 years

It can be seen above that the project has cost the customer no upfront investment and after the 7 year contract is over all the upgrade works will be paid for.

4 Contract Structure

The works were procured on a design, supply, install and operate basis. The operational phase of the contract is where the contractor supplies the building with all heat; this has the benefit of creating one point of responsibility for successful operation of the biomass boiler and its integration into the existing heating system on site.