

Automated Energy (& CO₂) Monitoring Platform

Introduction

As of **9th January 2013** Ealing Council requires all applicants / developers submitting major development proposals to undertake monitoring post-construction to demonstrate compliance with the energy policies of the Local Plan¹. To assist developers / applicants in satisfying this requirement, the Council have procured a platform/mechanism in the form of an **Automated Energy (& CO₂) Monitoring Platform [AEMP]**.

Background Information

Applications for development will be assessed against the policies of the adopted London Plan and the emerging Local Plan. For major developments the London Plan requires applicants to employ measures in the design of buildings to achieve carbon emission savings beyond current building regulations. To achieve these savings, the applicant will typically need to utilise/deploy various renewable and/or low carbon energy technologies, such as solar panels, turbines, heat pumps, CHP etc.

Presently the vast majority of applicants/developers demonstrate compliance with the policies through their energy assessments. In preparing these assessments, the applicant (or the appointed energy consultant) would typically employ accredited modelling software tools to demonstrate compliance with the energy planning policies. Whilst such modelling should continue to form a key part of the assessments, and is particularly important in relation to those measures proposed higher up in the energy hierarchy, such software tools do have recognised limitations; primarily that compliance is demonstrated through predicted energy output, rather than actual energy generation. Under such arrangements it is therefore impossible to verify with certainty compliance with policy.

To redress this uncertainty the Council now attaches a condition to planning consents, requiring that monitoring devices are installed to monitor the renewable/low carbon energy generation, with information being required to be fed back to the Council. To assist applicants/developers in satisfying this condition, the Council have developed a turnkey monitoring framework/platform which can be provided at minimal cost. In addition this condition will also require applicants to submit their Energy Performance Certificates [EPC's] and the SAP/SBEM modelling output reports from the "as built stage" to confirm compliance in terms of savings achieved through energy efficiency measures.

The benefits of monitoring

Whilst the overriding objective of the AEMP is to confirm compliance with energy policies, the benefits of such a monitoring system extend well beyond this. For the applicant/developer these include:

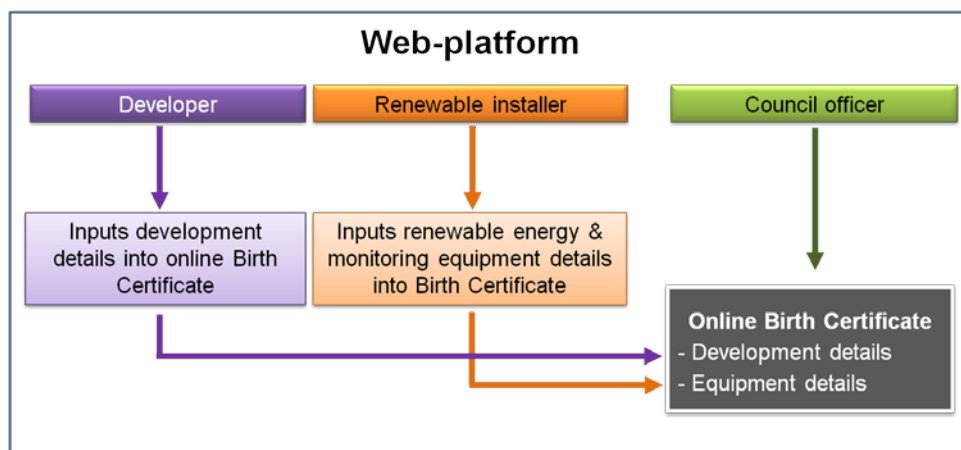
- To check if the renewables are generating as much energy as expected
- The ability to confirm that the equipment is working and providing energy to the development on a day to day basis. The equipment incorporates an automated failure alert.
- To confirm energy generation rate for FIT and RHI.
- To establish an evidence base on the performance of different types of renewable technologies installed in different configurations

- Access to a simple turnkey solution for monitoring.

How it works

The system is implemented through the planning application process as follow:

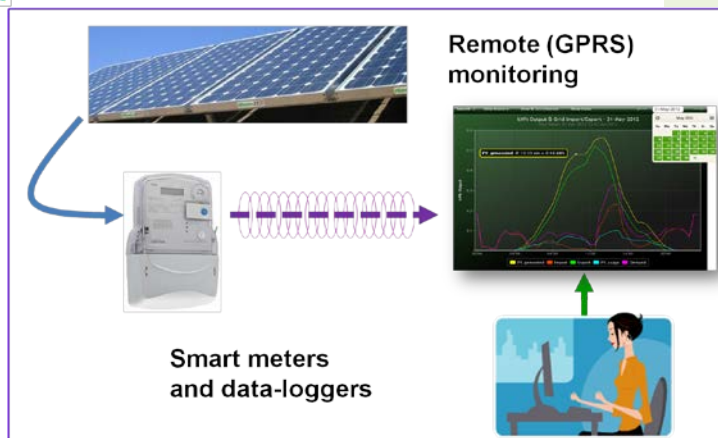
1. Submission of Planning Application to the Council
2. Registration of the application on the monitoring platform
3. Key development data including preferred energy solution, predicted calculations recorded on platform and creation of Birth Certificate for the building
4. Planning application determined – conditional consent granted
5. Section 106 agreement signed or appropriate condition attached.
6. Funding Secured
7. Construction of development including installation of monitoring equipment
8. On-going monitoring for a period of 3 years
9. Data fed back to Council and applicant/developer to confirm compliance with policy.



Birth Certificate

The developer's consultant needs to create an online Platform user account for themselves and register a Birth Certificate for the building. Basic information about the building(s) and energy equipment need to be input to the Birth Certificate.

Technically the system is programmed to understand all types of renewable and low carbon technologies. The technology energy generation is monitored using a meter (heat or electric) and a datalogger transmits the data to the energy monitoring platform using a wireless signal. Please see figure below.



How it's paid

Whilst the system has been designed to be simple and labour saving, there are some costs associated with its implementation/management. The system has however been carefully designed to keep these to a minimum. These costs are paid for through monies secured from a S106 contribution levied on the applicant/developer. Payments will be processed at pre-commencement stage.

Costings are estimated per development under five headings:

1. Provision of the web-platform and associated service provider officer time per development.
2. Associated Council's officer time per development
3. The cost of monitoring equipment. There are essential and optional components of the equipment kit.
4. Annual cost of data telemetry (SIM cards).
5. Installation costs.
6. Multiple technology and complex monitoring.

A more detailed description of the monitoring system and explanation of associated issues is available for developers and planning officers from Ealing Council or Energence Ltd.

A calculator is provided on the Council's web page to assist you in calculating the likely costs for the provision of this platform.

In developing/procuring this platform/system the Council has sought to provide a reliable, simple and cost effective solution for applicants to satisfy the requirements of the energy policies in respect of monitoring information. In the event that you choose to employ a different platform or third party monitoring equipment, this data will need to be provided in an appropriate format. The format required is Comma Separated Variable (CSV) files which need to be transmitted to the Energence database via FTP once a day at a specified time. Energence officers will liaise with the developers IT consultants as appropriate.

ⁱ Policy 1.1k, 1.2f, 1.2m, 6.1 and 6.2 of Adopted Development Strategy 2026 (April 2012), Emerging Policies within Emerging Development Management Document
London Plan 2011 Policies in Chapter 5 – London's Response to Climate Change and in particular, 5.2, 5.3, 5.6, 5.7, 5.8, 5.9.