



**Institute of  
Cancer Research.**

**Annual Energy  
Report  
2009-2010.**

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(Signature)

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## 1.0 INTRODUCTION

The purpose of this document is to review and report on the annual energy consumption of the Institute and in addition to advise on the actions being undertaken by the Institute to reduce energy consumption.

### **Government Energy Policy**

Since the last issue of the Institute's Energy policy and guidance in February 2008, legislative changes have taken place whereby the Climate Change Act (CCA) 2008 has been introduced. This Act required CO<sub>2</sub> emissions to be reduced to 26% of 1990 levels by 2020 and to 80% of 1990 levels by 2050. The 2020 figure of 26% was subsequently increased in the 2009 budget to 34%.

The CRC Energy Efficiency Scheme has been introduced and is mandatory for organisations consuming in excess of 6,000 MW Hr of electricity annually. As the Institute exceeds this figure we are required to participate in the scheme.

Essentially each participating organisation will be required to purchase allowances from the Government for each tonne of CO<sub>2</sub> that they emit. The current cost of the allowances has been set at £12 per tonne which based on current estimates will require the Institute to purchase approximately £100,000 of allowances on an annual basis.

The scheme has now commenced (from the 1<sup>st</sup> of April) and the initial year will be a monitoring and reporting year with purchases required in subsequent years following this period. It is estimated by the Government that the additional cost of the requirement will equate to approximately 7% of the annual energy bill.

HEFCE have announced that from 2011, capital grant allocations will be linked to carbon reduction and that the Higher Education sector must commit to a minimum 80% reduction in emissions by 2050.

### **HEFCE Requirements**

HEFCE have advised that as an innovative sector, we should look to improve on the Climate Change Act reduction figure of 34% and attempt to achieve an overall reduction across the sector of 43%.

The Institute has been advised that for the purpose of reporting and funding our performance is to be grouped and therefore evaluated with the University of London and its associated Colleges.

HEFCE have established a set of criteria that have to be met for the next round of Capital Investment Framework funding and these are:

- Establish a Carbon Management Policy.
- Collate 2005 baseline CO<sub>2</sub> scope 1 and 2 emissions data for 2005.
- Establish 2020 reduction targets against the 2005 baseline data and make these targets publicly available.
- Establish an implementation plan for; absolute reductions, timescales, resources, corporate strategy and awareness training.
- A commitment to monitor progress towards the published targets.

The Institute is currently working on all aspects of the above and anticipate having the Carbon Management Plan in place by June 2010

## 1.1 CURRENT CONSUPTION FIGURES

The following table shows the most current annual data for the 2008-2009 year as reported in the Estate Management Statistics (EMS returns).

**Table 1:  
Energy Consumption Cost and Data Summary 2008-2009**

<b>Utility</b>	<b>Cost (£)</b>
Total Gas Cost	£240,580
Total Electricity Cost	£1,226,147
<b>Combined Energy Cost</b>	<b>£1,466,727</b>
Total Water Costs	£35,519
<b>Energy Consumption</b>	<b>kWh</b>
Total kWh Gas Consumed	10,388,830
Total kWh Electricity utilised	12,346,357
<b>Total energy consumption: kWh</b>	<b>22,735,187</b>
<b>Emissions</b>	<b>Tonnes</b>
CO2 emission due to gas consumption	2,117
CO2 emission due to electricity consumption	6,674
<b>Total CO2 emission (tonnes)</b>	<b>8,791</b>

**Table 2:**

Provisional Lab Benchmarks based on 2004-05 and 2005-06 data as collated by HEFCE and **ICR 2008-2009 Actual Energy Performance Data**

Laboratory Type	Typical Practice Energy Performance (kWh/m <sup>2</sup> )		Good Practice Energy Performance (kWh/m <sup>2</sup> )		Best Practice Energy Performance (kWh/m <sup>2</sup> )	
	Fossil Fuel	Electricity	Fossil Fuel	Electricity	Fossil Fuel	Electricity
All Labs	296	312	135	227	79	143
<b>ICR Premises</b>	<b>368</b>	<b>438</b>				

It should be noted that the HEFCE data relates to mainly teaching laboratories within the higher education sector whilst the ICR data relates exclusively to our portfolio of buildings and laboratories.

A direct comparison of the energy use cannot be made, since the laboratories in the University sector are mainly in use during term times only, whilst the ICR laboratories are in use throughout the full year and in some cases on a 24 hour basis.

## 2.0 PROGRESS SUBSEQUENT TO THE 2008 RECOMMENDED ENERGY ACTION PLAN

The following actions have been undertaken in response to the recommended action plan

### 2.1 Make a corporate commitment to energy conservation.

The Institute has undertaken various studies in to the energy consumption of the building portfolio and are participating in number of Government funded schemes (including the Salix Revolving Green Fund) which have provided capital for energy conservation projects.

These projects are due to commence shortly and all energy savings will be recorded and the money saved through these initiatives will be re-invested into further energy saving measures.

**2.2 Expand the energy monitoring systems that have been installed to all buildings in the Institutes property portfolio.**

The majority of the energy use within all of the buildings is now monitored electronically and a program of sub-metering of larger equipment is currently ongoing.

**2.3 Carry out an energy audit for each of the Institutes buildings and set appropriate energy consumption targets.**

Energy audits for all of the buildings have been undertaken and appropriate realistic targets are being calculated in relation to specific use. Display Energy Certificates and Energy Performance Certificates have now been placed in all buildings.

**2.4 Carry out all 'new build' and refurbishment projects to HEFCE guidelines, where economically viable.**

All projects are required to have life-cycle costings and energy saving measures included where applicable.

**2.5 Set up local energy user groups.**

The Institute holds monthly energy meetings which advise on current initiatives and projects being undertaken. These meetings are reported to the Environmental Implementation group which in turn reports to the Health Safety and Environment Committee.

**2.6 Publish monthly energy consumption reports.**

The annual energy consumption reports and minutes of the Energy Meetings are published on the HSEQ Intranet site, 5 yearly building by building data is due to be published on the site shortly.

**2.7 Undertake an energy awareness and good housekeeping campaign.**

Workshops and awareness campaigns are to be arranged at both Sutton and Chelsea, these will deal with all aspects of energy and environmental impacts.

**2.8 Develop a list of energy conservation projects prioritised in terms of simple payback period.**

These projects have been defined as part of the Salix funded initiative as noted earlier.

**2.9 Establish a ‘ring fenced’ energy conservation budget with the aim of making energy conservation schemes ‘self funding’.**

The energy conservation budget has been “ring-fenced” by the Finance Department.

**2.10 Publish a fully detailed energy report once a year for approval of the CMG.**

This report constitutes the 2009-2010 requirement.

**2.11 Actively seek to reduce energy consumption by ensuring all buildings operate in an efficient manner.**

Analysis of the buildings is continually ongoing and improvements to the efficiency of operations are being undertaken.

**2.12 Review the HEFCE Revolving Green Fund and where applicable, formulate bid submissions for the funding of energy reducing measures and projects.**

The Institute is participating in this scheme as reported earlier.

**3.0 MANAGEMENT OBJECTIVES**

3.1 The Facilities Department to be pro-active in development and implementation of the corporate Energy Policy and Carbon Management Plan.

3.2 Publish and regularly review the corporate Energy Policy.

3.3 Continue to set and publish targets against which performance can be measured.

3.4 Continue to provide regular management reports on performance.

3.5 Continue to produce timely and accurate budget information for financial planning.

3.6 Provide information and assistance in the negotiation of competitive energy supply contracts.

3.7 Devolve energy budgets, where opportunities arise, to develop local accountability and responsibility.

#### **4.0 ENERGY POLICY**

The ICR Energy Policy is contained within appendix A of this document as it was due for review in February 2010. There have been no changes made to the policy.

The CMG are requested to note the contents of the 2010 Energy Policy and approve the reviewed policy accordingly.

#### **5.0 CURRENT ENERGY AND ENVIRONMENTAL INITIATIVES**

In line with HEFCE requirements, the Institute have enrolled on the Carbon Trust Higher Education Carbon Management Plan. The aim of the scheme is to assist in establishing the carbon footprint of the Institute, the formulation of carbon reduction strategies and the development of a comprehensive carbon management plan. The Institute is well underway with these initiatives and will be actively increasing the profile of environmental issues and the opportunities to reduce energy use.

The Institute have participated in the HEFCE funded Eco-Campus award scheme which specifically looks at total environmental management of the organisation and have achieved Bronze accreditation. A silver award accreditation assessment is due within the next two months.

The gas supply contract has been successfully re-negotiated and we have secured a reduced purchase rate and will realise an estimated annual cost saving of £34,700 with the new contract.

Historical energy consumption data has been attached to this report as appendix B.

This data shows an increasing trend in consumption which mainly has been due to expansion of the estate and the increase in use of the facilities.

Of specific interest is the cost of energy, it can be clearly seen that there have been significant increases in the purchase costs whilst the consumption has not generally increased by a large margin, thus indicating that energy reduction measures will provide financial reward in addition to environmental benefits.

## **APPENDIX A**

### **ENERGY POLICY**

#### **INSTITUTE OF CANCER RESEARCH: ROYAL CANCER HOSPITAL**

#### **POLICY STATEMENT**

#### **ENERGY POLICY**

The Institute of Cancer Research employs 1,000 members of staff and educates 300 postgraduate students in a number of laboratories and support buildings on two major sites in Chelsea and Sutton. In providing excellent premises and facilities for research and education the Institute recognizes its responsibility to the environment and commits, as far as is reasonably practical, to promote protection of the environment and to minimize the impact of its activities upon the local, regional and global environment both directly and through what influence might reasonably be brought to bear on other organizations.

The Institute will demonstrate its commitment to continuous improvements in energy usage by implementing the following measures where reasonably practical:

- Minimise energy consumption and costs.
- Minimise water consumption and costs.
- Reduce dependency on finite fossil fuels.
- Reduce emissions of pollutants such as CO<sub>2</sub>.
- Give high priority to energy efficiency investments.
- Increase investment in clean technologies.
- Promote sustainable sources of energy use where practical.
- Reduce significant environmental impacts arising from energy and water consumption.

The Institutes Board of Trustees and the Chief Executive have ultimate responsibility for its environmental performance. All staff and students share this responsibility. They are supported by the Institutes Facilities Directorate who will promote best practice and continual improvement and monitor performance.

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Chief Engineer.  
April 2010

*Approved by the Corporate Management Group 3<sup>rd</sup> March 2008*  
*Facilities Service Controlled Documents Reference No \_\_TBA\_\_*

*To be reviewed on or before February 2010*

## APPENDIX B

### Historical Energy Consumption and CO<sub>2</sub> Production Data



