

## **Ibstock Environmental Report 2001**

*Produced in accordance with the BiE 10 parameters of environmental engagement - a model for environmental reporting along Government guidelines for FTSE 350 businesses and is strongly supported by Michael Meacher.*

This is the third in the series of Annual Environmental Reports by Ibstock Brick Ltd. The first report published for 1999 was only a basic analysis of our management of the environmental concerns of our business. The second report published for 2000 added to this basic analysis and included details of our commitment as shown by adoption of ISO 14001, it also included mass emissions data and environmental objectives and targets. This third report, for the first time, contains details of environmental complaints received and corrective actions taken as a result. It also contains details of those areas where we have failed to meet our environmental targets. It contains details of our attempts to move from environmental management towards sustainability.

*General Note: The environmental activities of Ibstock Brick Ltd during 2001 have been considerably distracted by work on the Climate Change Agreement (formerly Climate Change Levy). Several references are made in this report to the impact that the administration of such a complex agreement with DETR/DEFRA has had on our available resources and our ability to meet our own objectives and targets.*

### ***Environmental Management Systems***

- At the time of publication of this report 11 of our 24 sites have been assessed and awarded certification to ISO 14001 by BSI.

We had hoped to have 12 sites certified by the end of 2001, indeed this was one of our environmental targets for 2001. However, major development work towards meeting our Climate Change Agreement (CCA) energy saving targets has necessitated the temporary cessation of work towards ISO 14001 at the twelfth site, it was not possible to include another site before the end of 2001.



- Issue 3C of the Ibstock Group Manual is the current issue at every manufacturing site, this Manual has been assessed and approved by BSI as complying with the requirements of ISO 14001. This manual is the basic document used at every site, it is supplemented with site-specific environmental procedures tailored to each location working towards ISO 14001.

### ***Board Member with responsibility***

The Technical Director has executive responsibility for environmental matters. At the end of 2000 he dissolved the Company Environmental Targets and Objectives Working Group (ETOWG). He considered the original objectives behind the formation of this group and concluded that it had completed its task – the introduction of a formalised EMS within Ibstock Brick Ltd.

It is now considered more important to have a group focused on environmental continuous improvement, this has led to the formation of the Environmental Continuous Improvement Working Group (ECIWG) which contains two members of the Ibstock Brick Ltd Board. The ECIWG had intended to meet on two occasions in 2001. Unfortunately, due to commitments on other matters (mostly dealing with the Climate Change Agreement) this group only managed to meet once, however, at this meeting objectives were agreed for manufacturing activities and beyond including some on sustainable development. During 2001 the Ibstock Board had ensured that environmental targets had been met via instructions issued to senior managers (see below).

### ***Corporate Environmental Policy***

- This has been issued within Issue 3C of the Ibstock Group Manual.
- The policy is freely available for downloading on Company Internet site. [[www.Ibstock.co.uk](http://www.Ibstock.co.uk)] Choose Company menu from the home page, then environmental issues.
- It is also contained within the publication “Ibstock and the Environment”, which is available by contacting Ibstock it is also available as a download on the Company Internet site.

Our Environmental Policy is replicated below.

*Ibstock Brick Ltd is a UK based manufacturer of clay bricks and associated walling components for supply to the construction market. The principle focus for the business is in housing and commercial buildings together with the industrial and architectural sectors.*

*In the conduct of its operations Ibstock Brick Ltd is committed to continuous improvement in environmental performance. It will seek to prevent pollution of the environment by the adoption of processes, practices, materials and control mechanisms which maximise the efficient use of resources. It will seek to reduce emissions to the lowest level consistent with the Industry best practice.*

*Ibstock Brick Ltd will:*

*As a minimum comply with the requirements of all relevant legislation.*

*Regularly review and, where necessary, update its management policies and activities in the light of new information concerning the impact of its business on the environment, employees or neighbours.*

*Manage efficiently the consumption of energy and materials and the generation of waste in all its operations.*

*Keep the local public informed of any major new projects which we intend undertaking.*

*Provide relevant training for employees to assist them in better understanding how they and our company can achieve the goal of improving our environmental performance.*

### ***Review of Corporate Environmental Targets for 2001***

The Environmental Continuous Improvement Working Group met only once in 2001 due to the very heavy workload associated with the Climate Change Agreement (CCA), previously known as Climate Change Levy. A review of the 2001 targets derived from the objectives set during 2000 is given below:

- 12 sites to be certified to ISO 14001 with BSI by the end of 2001.  
**Almost Achieved:** 11 sites successfully registered by December. One site had to abandon formal certification of the EMS due to extensive work on a CCA energy saving project, it was not possible to substitute the site in the time available.
- Energy consumption targets to be set to achieve ~ 10% saving (throughout Ibstock overall as a Company) on specific energy consumption per fired tonne by 2010.  
**Achieved:** Individual site energy targets identified. £5.6 million capital expenditure allocated in 2001 to achieve ~ 1.7% overall saving in SEC per tonne before end of 2002.
- Work on process optimisation to continue to achieve kiln Fluoride emissions not exceeding 10mg/m<sup>3</sup> at Stourbridge.  
**Achieved:** Result obtained below 10mg/m<sup>3</sup> by the end of 2001, other two kilns on site to be fitted with this technology.
- Explore the possibility of using recovered rainwater to replace mains water used in the brickmaking process.  
**Achieved:** 24% of process water used overall within Ibstock is recovered rainwater, capital proposals have been submitted to the Board to extend this percentage requirement in 2002.
- All bulk liquid storage tanks at all sites protected by a combination of retaining bunds, diversion of site drains and the use of surface contours.  
**Achieved:** 2 underground storage tanks remain, one is scheduled for decommissioning in early 2002 to be replaced by double skinned tank, the other is now permanently closed.
- Awareness of environmental issues by office personnel.  
**Achieved:** Specific training package developed and available within Ibstock.
- Packaging:  
Ibstock will not knowingly purchase timber (for use in packaging) unless it is from sustainable forests under the Forest Stewardship Council (FSC) or equivalent schemes.  
**Achieved:** maintained throughout 2001, however disposal of pallets is becoming an increasing problem.  
Recycling of paper and plastic at administration sites.  
**Partially achieved:** maintained throughout 2001, however, not in use at all sites due to non-availability of collectors for recycle at rural sites.
- Research and development into energy efficient technology reducing kiln firing times and emissions.  
**Mostly Achieved:** The technology has been successful with some clay materials, others may not be suitable for this technology.
- Mapping site drains, both surface water and foul drains.  
**Achieved:** Mapping and colour coding has been introduced at sites preparing for ISO 14001 certification in the first months of 2002. A programme for all remaining sites has been prepared for implementation in 2002.
- Continue process of establishing data for KPIs.  
**Achieved:** Mass emission data are quoted in this report (see below) we have added recovered water to this set of data.
- Implement Environment Focused Supplier Scheme.  
**Not achieved:** It has proven difficult to readily obtain the information which we require in the format in which we can use it. Regrettably, this is the single largest casualty of the additional work brought about by the Climate Change Agreement, little progress has been possible due to lack of resources. Additional effort will be applied in 2002.

## ***Corporate Environmental Objectives for 2002***

*(to be reviewed in 2002 report when published – January 2003)*

The following are not in any order of priority. Ibstock will endeavour to achieve these targets but does not give an absolute binding declaration that it will do so. In some instances we may be awaiting further developments such as changes in legislation or approval of funds to enable the work to be completed. Absence from this list should not infer that a particular subject is not being addressed, it may be that a specific (relevant) target has not been identified.

- Energy consumption to be reported in future Environment Reports as Tonnes CO<sub>2</sub> emitted as well as kWh.
- Explore renewable energy sources for 7-day working factories (not applicable at all Ibstock sites):  
Photovoltaic cells and wind turbines to be thoroughly investigated.  
Generation of electricity from Mines Gas to be investigated at a selected site.  
Work to generate electricity from active Landfill sites at Dorket Head and Roughdales (Lord St Helens) to be progressed to completion.  
***NB*** This has progressed to date at a much slower rate than originally envisaged, mainly due to rationalisation in the Waste Management Industry and the need to re-submit proposals - ways must be found to complete this as soon as possible.
- Increase the amount of packaging materials consumed which incorporate known percentages of recycled materials.
- Return Fluoride scrubber waste into the brick body eliminating this disposal to landfill.
- 12 sites to have site condition surveys conducted in preparation for implementation of Integrated Pollution Prevention and Control Directive as PPC Permits (expected April 2004).
- Investigate use of “low emissions” tractor units within contract haulage fleet.
- Examine fully the potential for interactive networked software and videoconferencing to reduce the number of company meetings requiring personnel to travel, reducing car emissions and increasing available management time.
- Maintain an active development programme to reduce energy usage, raw material usage etc. A large number of research programmes have been allocated to achieve this objective, for reasons of commercial confidentiality none can be detailed in this report.
- Implement Environment Focused Supplier Scheme.

### ***Review of Discharges into the Environment***

Actual emissions to environmental media have been used wherever possible, where accurate data are not available best estimates have been used, all are represented below. Figures are cumulative for all operational clay brick factories.

The intermittent nature of the volume and concentration of very low levels of suspended solids in water at consented discharge points to controlled waters continues to make assessment of quantities discharged very difficult, these figures are still not available at the time of publication. Discharges to sewer are similarly not included at this point in time, however, no "Red List" substances are discharged at any Ibstock clay brick site:

### ***Average Specific Energy Consumption (SEC) as defined by Climate Change Agreement criteria:***

This is defined as the number of kWh (kilowatt hrs) of metered solid, liquid and gaseous applied fuels, together with electrical energy, per net saleable tonne of fired output.

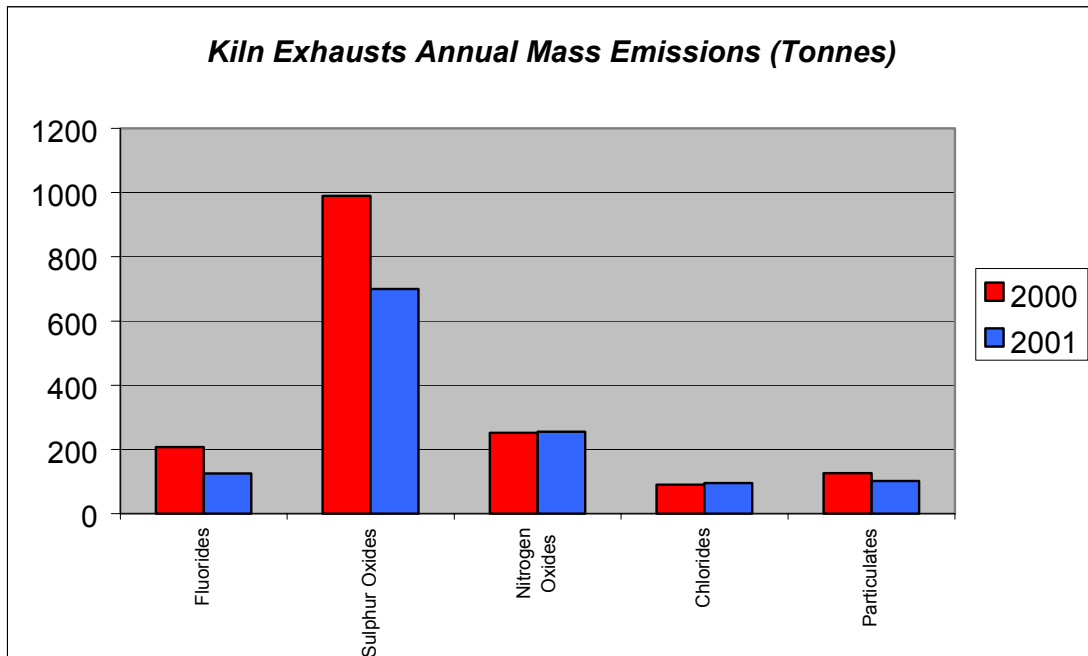
In consultations with DEFRA our SEC baseline figure has been established at 801.07 kWh / tonne using calendar year 2000 actual consumption figures. Our CCA target figure to be achieved in 2001 / 2002 is set at 791.51 kWh / tonne ie a saving of 1.19%.

### ***Emissions to air*** (main sources kiln exhausts, does not include emissions due to transportation) [all figures are cumulative for all 24 clay brick manufacturing sites]

#### **Substance in kiln exhaust stream**

#### **Mass Emission 2001 Mass Emission 2000**

Fluorides (expressed as Hydrogen Fluoride)	125 tonnes/annum	207 tonnes/annum
Oxides of Sulphur (expressed as SO <sub>2</sub> )	700 tonnes/annum	990 tonnes/annum
Oxides of Nitrogen (expressed as NO)	255 tonnes/annum	251 tonnes/annum
Chlorides (expressed as Hydrogen Chloride)	95 tonnes/annum	90 tonnes/annum
Particulate matter	101 tonnes/annum	126 tonnes/annum



The reduction in Fluorides and Sulphur Oxides is mostly related to the ~ £ 3 million investment in kiln flue gas scrubbing by Ibstock.

Carbon Dioxide CO<sub>2</sub> (*from combustion of fuels and electricity generation*) is a major source of Global warming, in 2001 we estimate that the equivalent of some 350,000 tonnes/annum of Carbon Dioxide was released by our activities as according to this breakdown:

290,950	Tonnes from the combustion of Natural Gas.
55,717	Tonnes from the generation and transportation of electricity for our processes.
1,500	Tonnes from the combustion of Liquified Petroluem Gases.
1,350	Tonnes from the combustion of Coke used in clamp firing.

The main source of CO<sub>2</sub> from the combustion of Natural Gas is the focal point of our Climate Change Agreement.

The additional abatement technology required to meet more stringent emission control limits eg Flue Gas Scrubbers etc often restricts the possibilities for reduced electricity consumption on many processes as inevitably either additional or larger electric motors are required. The most promising means of reducing CO<sub>2</sub> emissions from electricity generation is to use renewable resources. We have objectives and targets to use electricity generated from renewable sources in 2002 / 2003, we estimate that some 2 Megawatt hours of electricity should be continuously available from Landfill Gas.

We have environmental objectives to reduce consumption of LPG – by converting to Natural Gas at our Ellistown site, this will reduce CO<sub>2</sub> emissions overall for that site.

***Disposals to landfill*** (best estimate figures)

	<u>2001</u>	<u>2000</u>
Inert	8,930 tonnes/annum	12,000 tonnes/annum
Non-hazardous	3,135 tonnes/annum	5,000 tonnes/annum
Hazardous	201 tonnes/annum	25 tonnes/annum <sup>^</sup>

<sup>^</sup>**Note:** It is now accepted that the figure declared for 2000 (25 tonnes) was underestimated. However, most invoices received relating to this disposal have been for a minimum amount charged, which is usually 3 tonnes. We are unable to declare accurate figures for most sites, where these are not available we have used a figure of 3 tonnes, we accept that this is probably an overestimate in most instances.

***Recycling of materials / resources*** (estimated figures)

	<u>2001</u>	<u>2000</u>
Water	68,800 m <sup>3</sup> /annum	N/A
Metals (in addition to VALPAK obligation quantity)	1,240 tonnes/annum	625 tonnes/annum
Oils (various)	16,000 litres/annum	5,600 litres/annum
Wood (in addition to VALPAK obligation quantity)	200 tonnes/annum	[not available]

### ***Internal Environmental Audit***

An internal Environmental Audit has been conducted at each of the 24 manufacturing Ibstock sites. 9 of these were risk assessment audits conducted with external consultants. Audit results are divided into 4 key areas:

- Environmental Management System (includes controls, awareness and training)
- Emissions & Discharges (into all three environmental media air, water, land)
- Waste Management (includes housekeeping, waste minimisation and recycling)
- Storage (bulk and small quantities).

Scoring of each of the 4 key areas was from 1-5.

1 represents a totally unacceptable performance which requires immediate priority attention.

3 represents an acceptable level of performance (scores less than 3 are unacceptable).

5 represents a new standard of industry best practice.

In 2001 a total of 9 sites recorded an overall audit score of greater than 14 out of a maximum of 20 (or 70%) this is an increase from just 3 sites in 2000. These scores should be viewed against the implementation of best practice via our environmental continuous improvement programme which is on-going.

No site recorded an overall score (over the 4 key areas) of less than 11 which is considered to be unacceptable regardless of individual key area scores. Two sites have specific action plans to address issues of storage and emissions / discharges respectively. Neither is assessed as a significant risk to the environment.

### ***Environment focused supplier scheme***

It has proven difficult to readily obtain the information which we require in the format in which we can use it. Regrettably, this is the single largest casualty of the additional work brought about by the Climate Change Agreement, little progress has been possible due to lack of resources. Additional effort will be applied in 2002, to enable us to identify those suppliers who have an active environmental improvement programme, preference will be given (subject to supplied costs) for those suppliers with active schemes. Of particular interest is our contract haulage fleet and the possibility of investigating low emissions tractor units.

We continue to purchase timber from sustainable supplies derived from schemes such as the Forest Stewardship Council (FSC).

We have decided previously to identify suppliers by the value of the products / services supplied rather than the volume / weight supplied. We may revise this policy in light of the environmental impacts of the suppliers once obtained. This area will be fully reported in the 2002 Environment Report – due January 2003.

### ***Employee Environment Programme***

We had attracted some minor criticism from BSI during surveillance visits early in 2001 that we were not able to clearly demonstrate that all employees had received environmental awareness training. This was particularly difficult to demonstrate for office personnel. We have since constructed and implemented a training package specifically for office personnel to complement the training packages for production personnel.

- Environmental awareness training is included as a part of the induction training for new employees at the majority of sites. All contractors appointed to carry out work on sites are required to sign and return confirmation of the Company Contractors Rules.
- Environmental continuous improvement is structured through the Health and Safety groups throughout Ibstock, this is seen as the most productive way forward and builds upon the many common links between environmental matters and health and safety issues.  
A combination of Company environmental objectives is combined with local environmental objectives which have been discussed with local Team Leaders and other group members. Involvement with the setting of objectives is viewed as a useful means of involving employees in the environmental management system.
- A total of £ 682,000 was allocated to minor environmental improvement projects during 2001, many of these are in response to local environmental objectives such as £ 79,000 allocated for an improved lighting scheme in a factory which as well as providing better illumination also has lower running costs.

### ***Environmental Stewardship***

Despite the best endeavours of all employees of Ibstock situations have arisen from time to time during 2001. Detailed below is a list of such situations, these are reported as received. Brief details of all corrective actions are given, those shown highlighted in **Red Text** have been specifically designed to prevent recurrence.

Ibstock have not been subject to any prosecutions for pollution of the environment during 2001, in many instances the Environment Agency have been complimentary about the speed and manner of response in mitigating the effects of the incident. However, Ibstock is not complacent about the situation and we are constantly reviewing our procedures against established best practice.

In most instances involving human error retraining of operatives is the only fitting response. In some instances during 2001 it may not have been possible for Ibstock to meet the expectations of the complainant.

During 2001 Ibstock Brick Ltd received a total of 23 environmental complaints from all sources eg Ibstock employees, neighbours and regulators.

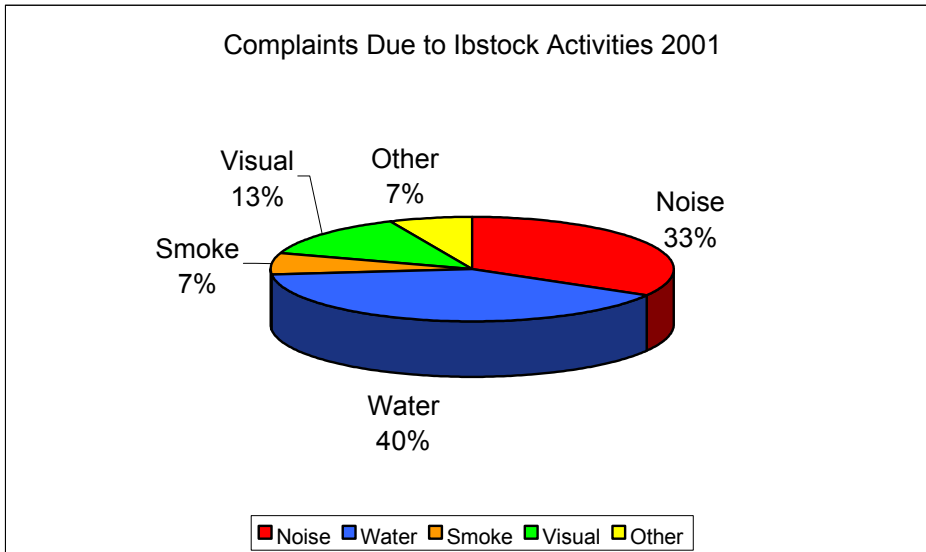
8 of these complaints (35%) were not attributable to Ibstock activities eg Fly Tipping. In 2001 we had 4 such major incidents involving considerable clean up costs.

Of the remaining 15 complaints attributable to Ibstock activities:

- 3 complaints concerned noise from reversing beepers, which are a Health and Safety requirement, we are investigating safe alternatives where feasible.
- 6 complaints concerned contamination of watercourses. In response to this 5 sites have installed design features to specifically prevent recurrence.

<b><i>Date (2001)</i></b>	<b><i>Nature of Complaint</i></b>	<b><i>Corrective Action</i></b>
January	Noise / visible impact.	New occupants across road from site, no complaints from other occupants. Site operated within conditions in planning consent - less than 10 weeks / year.
January	Dark smoke	None, source was adjacent site.

February	Traces of Diesel in watercourse.	Source was adjacent (non-Ibstock) site, owners informed and spill kit material donated to them.
February	Noise (Burglar Alarm)	Alarm de-activated.
March	Visual amenity	Trees obscuring view, trees pruned all costs met by Ibstock.
March	Broken Sewer on Ibstock property.	Tenant complained about sewage, 3 attempts were made to remove a blockage. Environment Agency informed immediately, Severn Trent Water reinstated sewer.
April	Oil and clay discharged into Brook	Concrete culvert over Brook had cracked and provided pathway, drainage removed from site by ONYX tankers whilst culvert re-sealed.
April	Noise	Source was Flare stack on adjacent (non-Ibstock) landfill site, owners informed.
April	Fly Tipping on site.	Engineering waste illegally dumped. Contractor appointed and removed at Ibstock's cost.
May	Noise (Reversing Bleeper)	Bleeper usually disconnected outside normal working hours, Forklift operators re-trained
May	Dye particles in stream	Spillage from "washing out" on site had entered surface drains. Purpose made washing down area constructed with consented discharge to sewer.
June	Fly Tipping on site.	Contractor appointed to remove at Ibstock's cost.
June	Fly Tipping on site.	Contractor appointed to remove at Ibstock's cost.
June	Window etching	Local Authority has investigated claims and considers that there is no case for Ibstock to answer.
June	Irritating smoke from site	Claim investigated, unable to trace any such discharge from site. Process has not altered in any way. If evidence can be established source will be investigated, ongoing discussion with Parish Council.
June	Noise (Reversing Bleeper)	Risk analysis conducted on requirement for Bleeper, decision made that it must remain on. Hours of work changed to alleviate problem.
July	Discharge from quarry in excess of limit. Potential to pollute Sussex River Ouse, a valuable spawning ground for Sea Trout and others.	Discussions with Environment Agency and Sussex Ouse Conservation Society. Agreements to recycle quarry surface water into process and to minimise discharge during spawning season for Sea Trout.
July	Visual amenity	Trees obscuring view, trees pruned all costs met by Ibstock.
July	Clay particles in stream	Pump in quarry not shutdown after heavy rainfall. Operatives retrained.
August	Clay particles in consented discharge into lake.	Discharge pipe had fractured, sediment at edge of lake was disturbed, Environment Agency confirmed no pollution had occurred, pipe re-instated.
September	Fly Tipping on site.	Contractor appointed to remove at Ibstock's cost.
September	Minor oil pollution of watercourse during bulk Diesel transfer.	Failsafe had failed to operate during transfer. Second failsafe installed, prompt action resulted in minimal contamination.
November	Noise (Reversing Bleeper)	Procedures allow Bleeper to be disconnected outside normal working hours, Forklift operators re-trained



During 2001 Istock Brick Ltd had a total of 5 contained spillage incidents involving fuels or chemicals all of which were promptly dealt with on site. In each case the integrity of the drainage system was maintained and no pollution left site to any watercourse or sewer.

- Istock together with Cory Environmental have founded the Istock Cory Environmental Trust (ICET) to use funds available via ENTRUST Landfill Tax rebates for qualifying community projects. As indicated in the Istock 2000 Environment Report some £600,000 was potentially available to be allocated.

It has proven to be more difficult to operate the scheme than had been originally anticipated, the resignation of the Secretary to ICET during the year and the need to replace this post further delayed the process of allocating funds. However, funds allocated as of 8<sup>th</sup> November 2001 (the last meeting of the Board of ICET) are as follows:

St Martins Church Walsall	£ 30,000
St David Church, Carr Mill, St Helens	£ 7,000
St Johns Church, Bloxwich	£ 10,000
De La Warr Pavillion Trust Bexhill on Sea	£ 10,000
Wrens Nest Play Area, Himley, W Mids	£ 12,600 (provisional)
Halesowen Research Project on Waste Recycling, Dudley, W Mids	£ 17,580

Total to date in 2001      **£ 87,180**

- Istock have an on-going active policy of community liaison and during 2001 many contacts with local schools and colleges continued to be made.
- During 2001 as a part of restoration work:  
A total of 8192 trees were planted  
5.87 hectares of land were restored (*an increase from 1.4 hectares in 2000*).
- During 2001 there have been at least 14 public consultations in support of Planning Applications for the development of sites.
- During 2001 over 40,000 tonnes of “waste” materials were recycled through our processes. The most significant materials are Pulverised Fly Ash (PFA), Coke Breeze and Froth Flotation Fines (FFF).

### ***Stakeholder Communication***

- Istock continues to actively participate with Trade Associations to offer comment in the consultation of many papers issued by the Department of Environment, Food and Rural Affairs (DEFRA). The bulk of the time in 2001 has been spent on the details of the administration of the Climate Change Agreement – formerly Climate Change Levy (CCL) which has been introduced in the 2001-2002 Tax year. This has an immediate impact on Istock of approximately £ 500,000 / annum with a potential for over £ 2.0 million / annum if incorrectly administered.

Many details still remain to be resolved, the most prominent being the differing energy requirements for different clay types. Our customers require and demand the maximum choice of colours and textures and some of these involve higher energy use. The exact energy usage for the year is therefore ultimately dictated by our customers requirements. We are negotiating with DEFRA on a suitable means of determining energy usage according to product mix, this has proven to be extremely difficult and has yet to be finalised even though the CCA levy is now in force.

- Istock Brick Ltd Leicester site has assisted DEFRA and the Environment Agency with a trial on the Pollution Prevention and Control Act (PPC) draft A2 application.

Whilst 6 industries were asked to assist only 3 industries (including ceramics) actually completed the draft permitting process.

Our input has been to request a simplification of the application form (this was identical to the comments from the other 2 industries) and was accepted in principle by all regulatory parties. Additional comments were to relate the detailed environmental controls to a risk-assessment methodology, again these comments appear to have been accepted.

- During 2001 3 detailed seminars were delivered to customers on subjects of sustainability and the approach being taken by Istock. This is a part of a developing programme.
- The Internet site is subject to constant update and continues to be the source most initial contacts for information are directed to by Istock personnel.
- Neighbourhood liaison is available for any Istock site where residents / neighbours are prepared to give some of their own time. Unfortunately, an invitation to participate was declined in at least two situations during 2001, however, liaison continues (either on a formal or informal basis) at Himley, Lodge Lane (for Redhurst Quarry), Ravenhead and Cattybrook.

For further information contact:

Dr David Hills

[d.hills@ibstock.co.uk](mailto:d.hills@ibstock.co.uk)

Jim Calder

[j.calder@ibstock.co.uk](mailto:j.calder@ibstock.co.uk)

