

WCF Potatoes EMAS Statement 2002

INTRODUCTION

This is the first public statement prepared by WCF Potatoes as part of the company's environmental management system development. It contains information about the company, its main environmental issues and performance up to December 2002.

COMPANY BACKGROUND

WCF Potatoes is part of WCF Limited, a large multi-sited company owned by farmers and employees. The original business, West Cumberland Farmers, was an agricultural co-operative set up in 1911 that developed during the century to become a private limited company in 1989. The WCF group operates in the retail, fuel and produce sectors, with a turnover well in excess of £100 million per annum.

WCF Potatoes, established in 1981, wash and pack potatoes mainly for Tesco supermarkets. The business now operates from a 2-hectare site with 9,300 sq metres storage and packing facilities. It currently employs 97 staff, handles around 40,000 tonnes of potatoes per annum and in the last financial year had sales in excess of £9 million.

The potato packing operation is relatively straightforward: potatoes arrive on the site 'as dug' (still covered in soil) having been stored in temperature-controlled warehouses until required. Before processing begins, the potatoes are warmed to a minimum of 8°C thereafter any loose soil and stones are removed at grading, prior to washing. The potatoes are then sorted according to their size and quality. Each consignment is numbered to ensure full traceability at every stage of production from field to shelf.

Washed potatoes are transferred to the packing area, where any green, damaged or otherwise substandard potatoes are removed by hand. Those remaining are automatically weighed into bags or crates, according to customer specifications, prior to final delivery to Tesco composite depots.

SITE HISTORY

The site is owned by WCF Limited and has been occupied since 1983. Prior to this the main buildings was owned by J. E. England, who operated a seed potato business. A number of additional warehouses have since been erected and the main building has also been extended to house the packaging operations. Land adjacent to the site is now also owned by WCF Limited and is available for further development, subject to planning consent.

WCF'S ENVIRONMENTAL MANAGEMENT SYSTEM

WCF Potatoes have developed an Environmental Management System to meet the requirements of both ISO 14001 and Eco-Management & Audit Scheme. The scope of the system is the "management of the storage, processing and packing of potatoes". It is run by the company's Environmental Management Team:

Jim Aitken
Technical Manager
Project Leader & Environment Manager

Joan Goddard
Human Resource Manager
Deputy Project Leader

Kevin Imrie
Project Team
Site Manager

OBJECTIVES & TARGETS 2002

Objectives

Develop an Environmental Management System
Encourage environmental good practice among potato farmers
Waste minimisation
Energy efficiency

Targets

A summary of 2002 targets and performance are given in Figure 1, more information on each of these issues is included within the rest of the report.

Figure 1 Summary of Environmental Performance 2002

Target	Performance
Gain EMAS by April 2003	Developed an environmental management system to meet the requirements of both ISO 14001 & EMAS
Give 100% employees environmental awareness training	All employees have attended 'Green SPROUT' (environmental awareness) sessions
Assist all growers with Natures Choice Standard	Assisted growers with Natures Choice and of those accredited in 2002, 88% achieved gold standard
Set up monitoring systems for energy, water and waste	A monitoring system has been set up and Environmental Performance Indicators have been established
Reduce the amount of waste to landfill	Recycling approximately 1/3rd of waste previously sent to landfill Set up recycling facilities for fluorescent light bulbs
Set up a system to investigate any environmental incidents and complaints and to initiate corrective actions	A system has been set up and tested!, 4 relatively minor incidents have occurred.
Establish an internal environmental auditing system	System established but full cycle of audits not yet complete

POLICY

Policy (j-peg).

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PRODUCTION FIGURES

As mentioned, a number of potatoes reaching WCF Potatoes are 'out grades' and sent back to the farms as stock feed. Figure 2 details the number of potatoes sold as 'ware', the number sent as 'stock feed' and the annual production (ware) yield %. There has been a drop in % yield for 2002 which can be attributed to the wet weather causing more soil to stick to the potatoes and an increase in waste production (refer to the section on waste production, Figure 5).

Figure 2 Production Figures (all in tonnes)

	2001	2002
Total Potatoes In (including soil)	36575	38917
Potatoes Packed (Ware Potatoes)	31101	32587
Outgrade Potatoes (Stock feed)	4460	4659
Total Potatoes Out	35561	37246
Ware yield %	85.0	83.7

ENVIRONMENTAL ASPECTS

POTATO FARMERS

All the potatoes handled by WCF are grown by a relatively small number of local dedicated growers (most are within 30 miles of Perth). They have to avail themselves with the strict protocol: Nature's Choice, which involves annual independent on-farm auditing and adhering to the current Crop Management Specification for main crop potatoes. In addition all growers are registered with the Assured Produce Scheme that is administered by Checkmate International Plc, who incidentally carry out the on-farm audits.

WCF assist all their growers achieve the Nature's Choice standard, which is very comprehensive and covers the following:

- Rational use of pesticides
- Rational use of fertilisers and manures
- Pollution prevention
- Protection of human health
- Efficient use of energy, water and other natural resources
- Recycling and reuse of materials
- Wildlife and landscape conservation and enhancement

As potatoes and their wastes are completely biodegradable, the main environmental threats are associated production systems. The grower audits are designed to ensure risks are minimised through the application of best agricultural practice.

ENERGY

Electricity & Fuel

The burning of fossil fuels, indirectly to produce electricity and directly on site, create a number of gases which contribute to atmospheric pollution causing global climate change, acid rain and photochemical smog.

The main use of energy on site is gas-oil for heating and forklift trucks, and electricity for all other requirements including process machinery, refrigeration, office equipment and lighting. Small quantities of gas and diesel are used for supplementary and / or emergency heating and electricity generation. WCF Potatoes have set up a system to monitor energy usage and fuel consumption has been targeted as an area for improvement. Figure 3 contains summary details for energy consumption for the last two years and includes a calculation of carbon dioxide produced from each types of energy (conversion factors from DEFRA's Guidelines for Company Reporting on Greenhouse Gas Emissions). This information shows an increase in energy efficiency; from 30.87 kg CO₂ produced per tonne of potatoes in 2001 to 29.86 kg CO₂ produced per tonne potatoes in 2002.

Figure 4 illustrates the proportion of total CO₂ (kg) produced from each type of energy used on site.

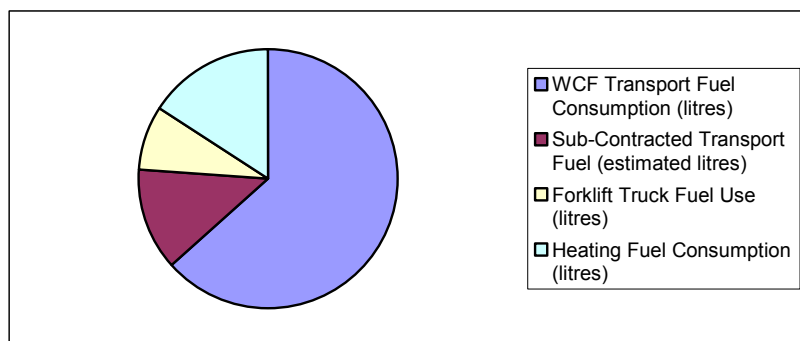
Figure 3 Energy Consumption

Type of energy	2001	2002
Electricity (kWh)	642879	681598
Heating fuel (litres)	58150	58213
Fuel for forklift trucks (litres)	27700	29300
Fuel for WCF Distribution Services Haulage (litres)	228736	231094
Sub-Contract Fuel Consumption (litres)	0	0
Total CO2 Production	1125957	1153770
Average CO2 production / tonne potatoes	30.87	29.86

Notes:

- Figures for distribution, heating and forklift fuel are delivered together and have only been monitored individually since June 2001, the figures prior to this are therefore based on estimated proportions of use.
- Figures for sub-contract fuel consumption have been estimated as 20% of overall fuel consumption

Figure 4 Fuel Used in 2002



Distribution

Most haulage of packed potatoes is undertaken by a sister company, WCF Distribution Services, but a number of sub-contract haulage companies are also used (approximately 16.25%*). Although distribution is an indirect aspect, three of the vehicles are based at Abernethy and use fuel bought and stored by WCF Potatoes. A large amount of diesel fuel is used emitting a large amount of carbon dioxide, nitrogen oxides and other pollutants that again contribute to global climate change. WCF Potatoes keep records of vehicle fuel efficiency (litres of fuel / 100km) and are considering introducing an incentive scheme for drivers with highest efficiencies. WCF Potatoes also ensure that vehicles are as full as possible prior to despatch detailed records of which are kept by the transport department. In 2002, the average loading for each 20 tonne lorry was 17.1 tonnes (on average 85.8% capacity).

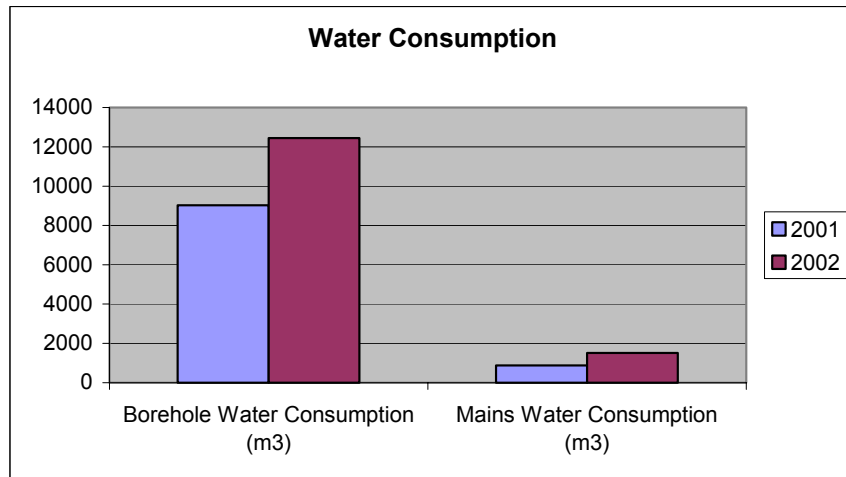
* no detailed monitoring system has been put in place for sub-contract haulage to date however this may be something WCF Potatoes will investigate in the future.

WATER & WASTEWATER

Water is one of the main inputs to WCF Potatoes processes. Although water use has a relatively low environmental impact in Scotland (where there is usually plenty rain) the impacts relate to use of a natural resource and the chemicals involved in the cleaning process required prior to and after use. The primary use of water on site is for the washing process and this is extracted from the company's own on-site borehole. There are five potato washers, three with capacity of approximately 6.5m³ of water and two with capacity of 5.5 m³, which when in use are re-filled daily.

During 2002, a system was set up to monitor water consumption. This has been successfully completed and now allows us to set a baseline for water consumption per tonne of potatoes (refer to Figure 5). This is highly dependent on the amount of potatoes washed per month but for 2002 gives an average of 323 litres of water used per tonne potatoes.

Figure 5 Water Consumption



WCF Potatoes have trade effluent consent from Scottish Water and run an effluent treatment plant to ensure pH and suspended solids are within consent limits. In 2002, WCF Potatoes had one consent failure due to a high, suspended solids reading, however there is now a target to reduce this to zero in future years.

WASTE

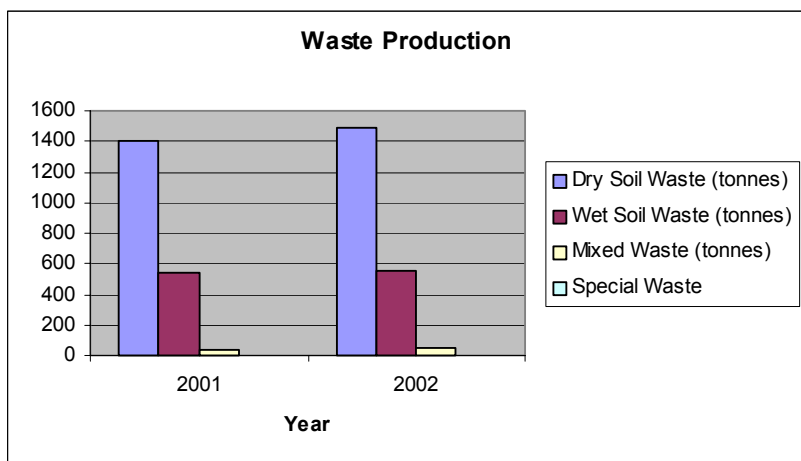
The environmental impacts associated with waste production are mainly associated with landfill and the transportation of it from site to final disposal site. All waste produced at WCF Potatoes is disposed of in accordance with the Duty of Care and by registered waste contractors. The main waste types produced by WCF Potatoes include:

- Inert materials including dry soil and stones from potato grading operation which is used as cover for a local landfill site
- Sludge from potato wash-water (separated out at effluent treatment plant) which is composted
- Out-grade potatoes which are sent back to farms for use as stock feed
- A small amount of waste lubricant oils which are collected as special waste
- Waste metal / obsolete machinery is either collected for recycling or re-used on site by engineers
- Fluorescent tubes collected for recycling
- All other waste (mixed) is sent to a local materials recycling facility

Prior to the development of the environmental management system, all mixed waste was landfilled. Now mixed waste is sent to a local materials recycling facility where at least 30% of the waste is recycled, the remainder going to landfill. WCF Potatoes have now set up a system to monitor waste more closely and are continually investigating additional reduction, reuse and recycling routes wherever possible.

Figure 6 shows the main waste types; dry soil, wet soil, mixed waste and special waste and amount collected for the past two years.

Figure 6 Waste Production



Notes

- Prior to May 2002 mixed waste amounts have been estimated based on an average of 2.4 skip uplifts per month and each skip weighing 1.46 tonnes (based on actual results for the period from May2002 to February 2003)
- Dry soil wastes are estimated at 10 tonnes per load (based on an average weight for 3 loads over a public weighbridge). Prior to August 2002 when a system of recording the number of uplifts was put in place, the number of uplifts has been estimated. These figures take account of the time of year and prevailing harvesting conditions. In other words, there is less soil waste during late summer when the soil is relatively dry and does not adhere to the potatoes, and when the main-crop harvesting is carried out under favourable weather conditions.
- Wet soils or sludge is the material left after 24 hours of settlement of the wastewater from the washing barrels.

Packaging Materials

Due to the nature of WCF Potatoes operations, a large amount of packaging material is used. As a group, WCF Limited is obligated under the Producer Responsibility Obligations (Packaging Waste) Regulations and has joined the Valpak compliance scheme.

At WCF Potatoes all incoming potatoes are stored in 1 tonne re-useable wooden pallet (potato) boxes. These sturdy boxes are mostly owned by the growers and are promptly returned for re-use after emptying. They have an average life span of approximately 14 years. Outgoing potatoes are packaged in a variety of containers, depending on customer requirements. The small retail polythene bag is still widely used at point of sale but, increasingly, outer bags are being substituted by reusable plastic trolley 'Merchandisable Units' or MU's. Additionally, Tesco also stipulate the use of returnable plastic trays for free-flow product.

Figure 7 Packaging Materials

	2001	2002
Total packaging used (tonnes) *	223.87	272.62
Non-reusable packaging (kg) / tonne potatoes sold	7.20	6.68

* Total packaging materials used for Producer Responsibility Calculations (which includes only one-trip packaging)

Figure 6 shows the amount of packaging used in 2001 and 2002, and although the total amount of packaging appears to have increased in 2002, this is due to a one-off purchase of 55 tonnes of new re-useable wooden boxes. The average amount of non-reusable packaging used per tonne of potatoes sold has decreased due to the increase of reusable packaging.

HAZAROUS SUBSTANCES

There is limited storage and use of chemicals on site. WCF Potatoes are in the processes of upgrading all their bulk storage tanks (for heating oil and fuel) in advance of the new oil storage regulations likely to be in place in Scotland later this year. Apart for domestic cleaning materials, the chemicals associated with the effluent treatment plant are stored within a bunded area and in suitable containers. Adsorbent materials are now available on site at appropriate locations for use in the event of a spill to prevent contamination of land and drainage systems.

Refrigerants

WCF Potatoes have three cold storage units that use refrigerant gases that are ozone-depleting substances. However these are on a service contract and comply with EC Regulation EC 2037/2000 on Substances that deplete the ozone layer.

LOCAL & COMMUNITY ISSUES

WCF Potatoes are aware of the potential environmental impact of statutory nuisance on the local community that could be caused by noise and dust. Due to the company's situation in a residential area of a village

there is potential for noise complaints from vehicles moving to, from and on the site. WCF kept the potential for this to a minimum by reducing the movement of vehicles in the year to between the hours of 7am and 9pm. The open dry soil bund located at the back of the factory, where wind created periodic dust problems, has now been covered to eliminate this local negative impact.

INCIDENTS AND COMPLAINTS

Over the last two years, WCF Potatoes have had 4 environmental incidents and 0 complaints. All of the incidents were relatively minor;

- A minor diesel spill from a fuel cap not fitted correctly on a vehicle
- A small oil spill from a sub contractors vehicle – the sub-contractors were charged clean up costs
- An over fill of the fuel tanks during filling – a maximum fill level has now been set so this should not happen again.
- A breach of trade effluent consent (refer to the Water & Wastewater section) which has been resolved

OBJECTIVES & TARGETS for 2003

Objectives

- Encourage environmental good practice among potato farmers
- Improve energy efficiency
- Water conservation
- Waste minimisation

Targets

- Provide advice and guidance to the Producer Group with Nature's Choice in order to achieve a minimum of 75% with gold standard
- Establish baseline for maximum application of active ingredient of pesticide / hectare of potatoes & benchmark against industry standard
- Reduce fuel consumption (for heating and forklifts) by 2% (based on 2002 figures)
- Reduce water consumption per tonne of potatoes by 2% (Based on 2002 figures)
- Ensure mixed waste production per tonne potatoes does not exceed 2002's figure
- Upgrade oil storage facilities in advance of introduction of oil storage regulations in Scotland

FURTHER INFORMATION

Our next full statement will be published next year, 2003, but until then if you'd like any further information about our environmental activities please email the Environment Manager (jim@wcf-potatoes.co.uk) or write to WCF Potatoes, Abernethy, Perth PH2 9RR

EMAS VERIFICATION

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