

CEMARS

Certified Emissions Measurement And Reduction Scheme

Emissions Management and Reduction Plan

GPS PE Pipe Systems



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1 Introduction

This report is the annual greenhouse gas (GHG) Emissions¹ Management and Reduction Plan prepared for GPS PE Pipe Systems and forms the **manage step** part of the organisation's application for CEMARS certification.

2 Rationale

GPS PE Pipe Systems is committed to adopting and promoting environmental good practice throughout its business in order to operate in a sustainable manner. GPS is committed to reducing its environmental impacts and continually improving its environmental performance as an integral part of its business strategy and operating methods.

Since 2008 GPS has been working with the Prince of Wales' May Day Network and the East of England Business in the Community (BITC) in declaring its carbon emissions and making pledges to commit to further reductions. In 2010 GPS received the East of England BITC Carbon Positive Award in recognition of significant reductions in energy usage and waste reduction activities.

In 2010 GPS also took part in the Carbon Disclosure Project at the request of a major customer. GPS is also a participant in the Carbon Reduction Commitment Scheme with other UK based Aliaxis companies.

Throughout 2012 GPS has continued to work with its major customers in reducing emissions by developing new products and processes.

3 Top management commitment

Graham Chadband (Operations Director) has approved this emissions management plan and the company emissions reduction targets.

4 Person responsible

The Operations Director has been made responsible for leading the GPS PE Pipe Systems emissions reduction activities and for reporting to the Senior Management Team.

¹ Throughout this document 'emissions' means 'GHG emissions'.

5 Awareness raising and training

GPS hold a quarterly Energy Forum with representatives from departments across the business attending. The Forum discusses energy saving initiatives and reviews emissions reduction activities and performance against targets. A yearly Environmental Awareness day is also held for all employees to attend.

Investment in training is on-going. All employees go through environmental awareness training as part of their induction. A program of Environmental Awareness Training of Team Leaders has been carried out.

Environmental performance is communicated through notice boards and through company newsletters.

In 2012 we produced a Corporate and Social Responsibility Report which detailed our environmental commitment and our performance against targets.

6 Significant emissions sources

The main sources of GHG emissions are discussed in the emission inventory report and a summary is shown in Figure 1 below.

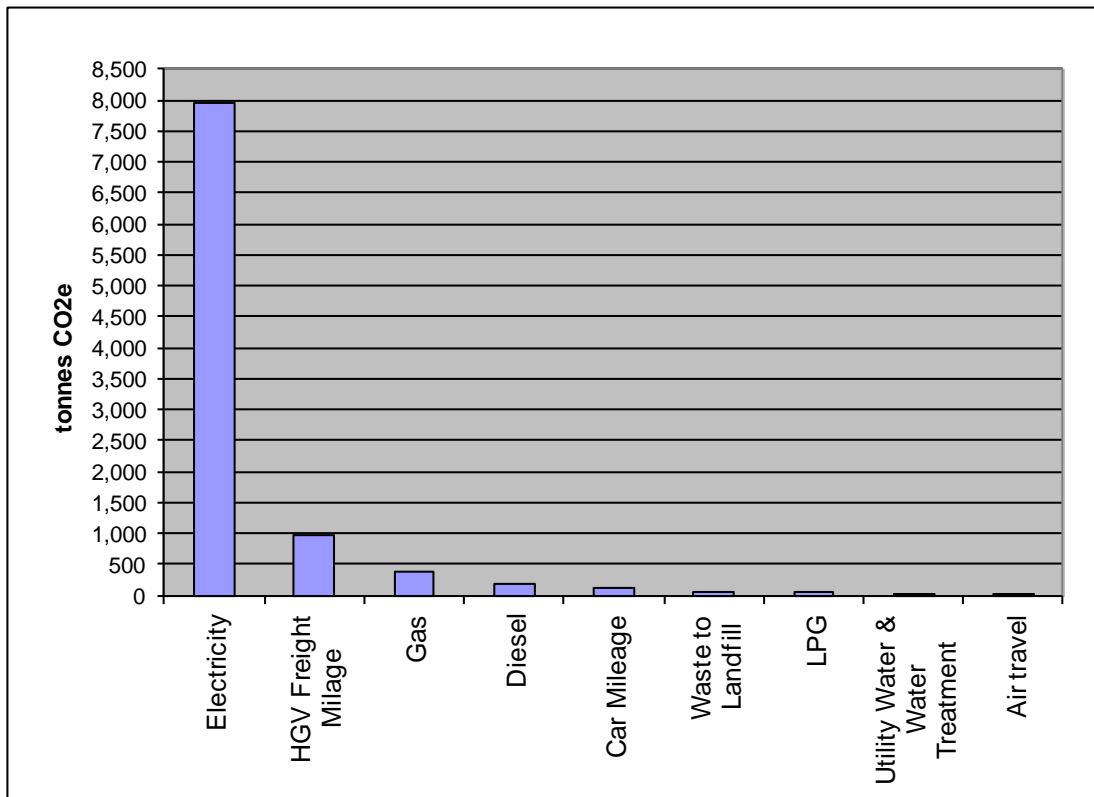


Figure 1: Top GHG emissions sources

As shown in Figure 1 above, electricity use is the key source of reported GHG emissions in the 2012 reporting period. This accounts for 7,942.66 tCO₂e or 82% of our emissions.

Pipe extrusion is an energy intensive process. It accounts for approximately 78% of our electricity usage. Through our Energy Forum we have implemented a number of activities to reduce consumption, primarily by implementing procedures to turn off machines and lighting when not in use. Although these have produced some improvements it is generally accepted that further significant reductions can only be achieved by the installation of energy efficient processing equipment. The Emissions Management and Reduction Plan includes a program for replacing older extruders with new energy efficient models. To date we have replaced 6 extruders. The Extrusion Area will be the main area of focus for future reduction activities.

We are continuing to improve our data collection. For our logistics operation we now have the ability to report mileage data for each delivery. This will improve the accuracy of our second largest emission.

We have established 2008 as our baseline against which future targets will be set.

7 Targets for emissions reduction

GPS PE Pipe Systems is committed to managing and reducing its emissions in accordance with the Programme requirements. Table 1: provides details of the emission reduction targets to be implemented. These are 'SMART' targets (specific, measurable, achievable, realistic, and time-constrained). Through participation with CEMARS GPS will:

- **Reduce its own greenhouse gas (GHG) emissions and improve its energy efficiency** – GPS has committed to reduce its own GHG emissions by 5% by 2012 (Scope 1 & 2 emissions) and the intensity of its GHG emissions by 3% by 2016 (both compared to 2008).
- **Introduce services** that help customers meet their environmental goals – GPS will provide regular Corporate Social Responsibility Reports that will include verified greenhouse gas emissions.
- **Keep the public informed** – GPS will pledge to regularly update its website to report progress in meeting its emissions targets.

Long Term Target

GPS PE Pipe Systems has a long term target to reduce emissions attributable to our organisation by 8% of the base year emissions by 2020.

Table 1: Emission reduction targets.

GHG emission reduction initiative	Target	Baseline (tCO ₂ e)	Target date	Metrics/KPI	Responsibility	Rationale
Reduce purchased electricity emissions	3%	8,703	31/12/12	Total purchased electricity per annum	Special Projects Manager	Achievable through consolidation of current projects.
	(4%)		(31/12/14)			
	(5%)		(31/12/16)			
Reduced purchased gas emissions	3%	502	31/12/12	Cubic metres of gas used for heating and tool cleaning furnace	Energy Manager	Achievable through the use of the Factory heating Energy Management System and efficient use of the Fluidised Bed Tool Cleaning Furnace.
	(4%)		(31/12/14)			
	(5%)		(31/12/16)			

8 Specific emissions reduction projects

In order to achieve the reduction targets identified in Table 1: specific projects have been evaluated to achieve these targets. These are detailed below.

Table 2: Projects to reduce emissions.

Objective	Actions	Responsibility	Completion date
Reduce purchased electricity	Replace 50% of current extruders with energy efficient models – rolling programme of 2 replacements per year up to 2016.	Special Projects Manager	December 2016
	Extruder barrel insulation – preventing heat loss to minimise energy usage for melting polymer granules.	Special Projects Manager	December 2017
	Extruder tool insulation – reduce heat loss and reduce energy required to heat tooling.	Special Projects Manager	December 2015
	Install PIR sensors in Factory Offices, rest areas and all new installations in the Office Block.	Maintenance Manager	December 2012
Reduce purchased gas	Review heating management system with regard to operational settings.	Energy Manager	December 2011
	Review the operation of the tool cleaning furnace to improve efficiency and maximise loading capacity.	Maintenance Manager	December 2012

Table 3: highlights emission sources that contributed to poor data quality in the Emissions Inventory Report and describes the actions that will be taken to improve the data quality in future inventories.

Table 3: Projects to improve data quality.

Emissions source	Actions to improve data quality	Responsibility	Completion date
Freight Mileage	<ul style="list-style-type: none"> Obtain data for weight of load per distance travelled for each delivery (tonnes.km). Formulate monthly report to capture this information. Publish information on monthly logistics KPI. 	Logistics Manager	December 2012
Metre Readings	<ul style="list-style-type: none"> Investigate AMR installation Date of readings to match bills 	Engineering Manager	December 2014

The emissions inventory identified various emissions liabilities. Table 4 details the actions that will be taken to prevent GHG emissions from these potential emissions sources.

Table 4: Projects to prevent emissions and reduce liabilities

Emissions source	Actions to reduce liabilities	Responsibility	Completion date
HFCs	The company's ISO 14001 certified environmental management system includes a six-monthly assessment of water chiller units and air conditioning systems. Preventive maintenance visits will minimise any leakage of HFCs.	Maintenance Manager	On-going

9 Unintended environmental impacts

The two projects to reduce emissions have been assessed to identify any impacts on other aspects of the environment. A short description of the reasons behind the choice of indicator is provided below Figure 2. Additional measures will be implemented to ensure that these impacts are minimised.

ENVIRONMENTAL IMPACTS	Reduce Purchased Electricity	Reduce Purchased Gas
Resource use		
Electricity consumption		
Fuel consumption		
Water consumption		
Wastewater discharge		
Waste to landfill		
Air, land and water quality		
Transport congestion		
Biodiversity		
Land use		
Flooding		
Local economy		

Dark green	Significant positive impact
Light green	Some positive impact
White	No change
Yellow	Some adverse impact
Red	Significant adverse impact

Figure 2: Example risk assessment matrix for projects.

Reduce Purchased Electricity Project

Resource use will be increased as new extruders would need to be manufactured. Electricity consumption will be reduced as this is the aim of the project. Indirect emissions should also be improved as less electricity will be required. The local economy may be positively affected by the purchase of assets and the on-going supply of services.

Reduce Purchased Gas Project

A positive effect on resource use should be observed due to the reduction in use of a finite natural resource. A reduction in fuel consumption will be positive as this is the aim of the project. The reduction in fuel use should also have a positive effect on emissions.

10 Key performance indicators

The emissions intensity for the organisation as tonnes CO₂e per £M gross turnover during this measurement period (01/01/2012 to 31/12/2012) was as follows:

- 162.04 tCO₂e / £M turnover (for 2012)
- 185.12 tCO₂e / £M turnover (5-year average)

The emissions intensity for the organisation as tonnes CO₂e per tonne product during this measurement period (01/01/2011 to 31/12/2011) was as follows:

- 0.38 tCO₂e / tonne product (for 2012)
- 0.40 tCO₂e / tonne product (5-year average)

11 Monitoring and reporting

The progress of all projects will be reported on a quarterly basis. The Project owner will report to the Operations Meeting and to the Senior Management Representative. If deviations from targets or absence of data or incomplete data collection and recording are identified actions will be taken to address these issues in a timely manner.

12 Emissions reduction calculations

See reduction calculator

13 Performance against plan

Figure 2 below illustrates that GPS has reduced its total Scope 1 and Scope 2 emissions according to plan in years 2, 3, 4 and 5 since the base year (2008).

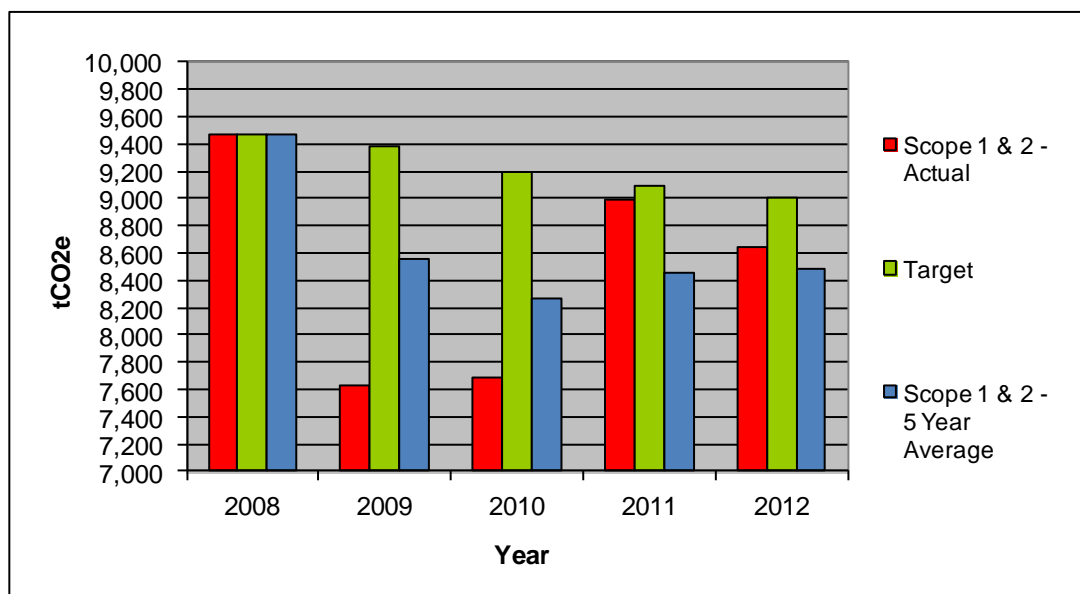


Figure 3: Example of performance against target since base year.

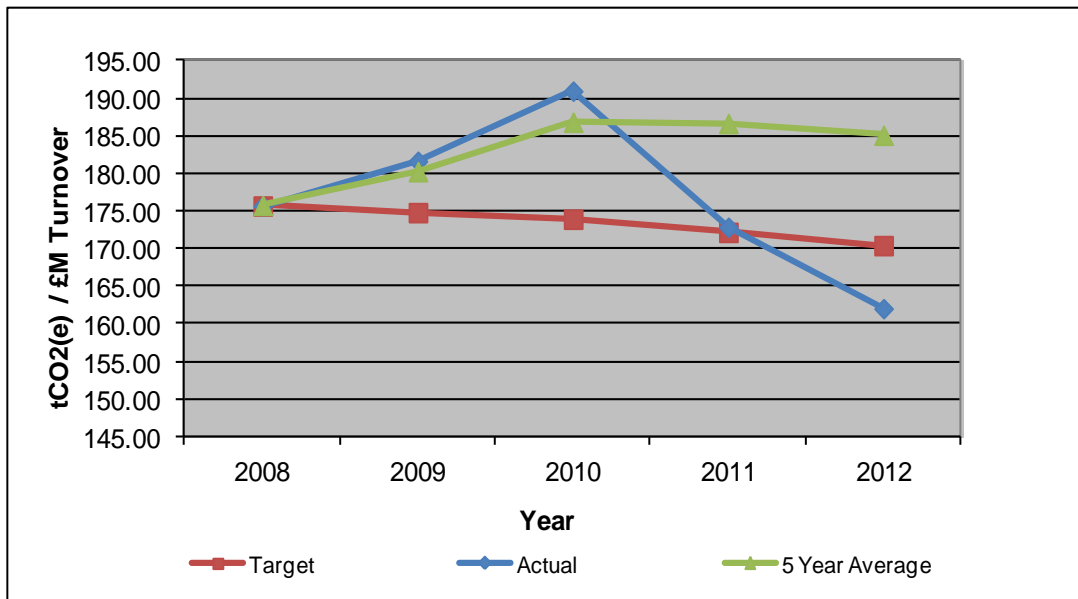


Figure 3: Intensity value performance against target since base year.

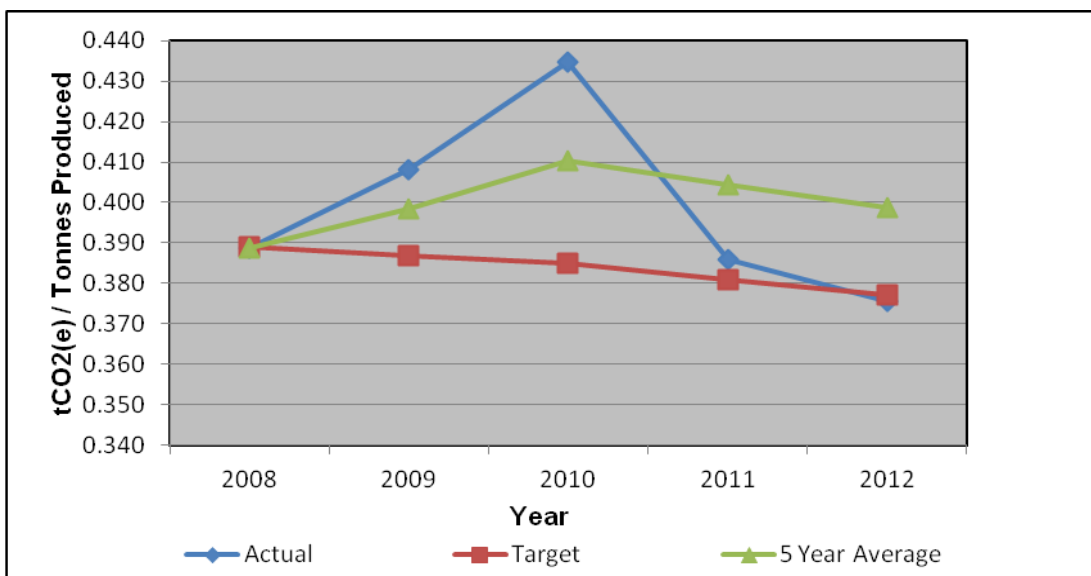


Figure 4: Intensity value performance against target since base year