



WAGES 2020

10% Energy Reduction based on Kg CO2 p/c by 2020
Minimise Water Usage by m3 p/c

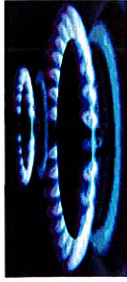
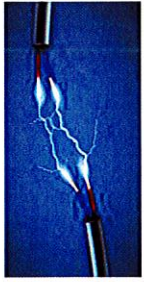
Site	Type	Base 12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	Bullet point Actions
		m3/pc	m3/pc	m3/pc	m3/pc					
Cardiff	Water	Effluent	0.0039	0.0033	0.0035	0.0018				Flow meter serviced and calibrated, awaiting MCERTS audit 17th October 2015. Replacement sampler installed. Effluent monitored. Total suspended solids (TSS) plant to be installed target date Dec 2015 Aeration at balance tank of TSS to be considered for implementation to reduce BOD. Investigate biological treatment to reduce COD and BOD. Investigate water reduction possibilities (see below) which will reduce effluent volumes.
		Mains Water	0.0166	0.0156	0.0163	0.0158				Production water usage determined by recipe. Leaks are given priority and dealt with promptly. Water usage survey to be conducted to identify potential water reduction targets. Review CIP activities to minimise energy and water consumption/ maximise Production time whilst not compromising quality.
			m3/pc	m3/pc	m3/pc					
Cardiff	Air	Air	Air will be measured by reducing Electricity kg Co2 p/c	0.00013	0.00014	0.00014				Air Leaks are given priority and dealt with promptly. Air supply is variable speed drive. Air line schematic to be developed to identify any potential actions for improvement. Investigate replacing handle applicator venturi systems for vacuum or solenoid/off devices.
			Kg Co2 /pc	Kg Co2 /pc	Kg Co2 /pc	Kg Co2 /pc				
Cardiff	Gas	Gas	0.1068	0.00011	0.00011	0.0002				Gas usage monitored weekly. Specialist boiler survey to be conducted to identify possible areas for boiler efficiency improvements. Boiler maintenance conducted as per expert advice. Investigate heating of combustion air to reduce blow down times / temperatures. Investigate implementation of RO plant (reduce chemicals, blow down consumptions)
			Kg Co2 /pc	Kg Co2 /pc	Kg Co2 /pc	Kg Co2 /pc				
Cardiff	Electricity	Electricity	0.1865	0.00013	0.00014	0.00014				Electricity usage monitored weekly. Site energy mapping to identify possible sources to target energy reduction programmes. Review for replacement of lighting to LED where feasible. Investigate reduction of idling times of machines. Investigate conveyor control philosophy. Review of all site motors to auto power off / implement VSD where practical. Investigate possible implementation of tubular pasteurisers. Conveyor control philosophy mapping to be undertaken. Investigate more efficient heat tunnel management.
			Kg/pc	Kg/pc	Kg/pc	Kg/pc				
Cardiff	Steam	Steam	Steam will be measured by reducing Electricity kg Co2 p/c	0.0001	0.00011	0.00014				Update steam schematic. Steam leaks are given priority and dealt with promptly. Steam traps monitored for pH to ensure pH not corrosive to system. Lagging of pipework to all areas to be improved. Investigate chiller operating temperature to optimise efficiency. Investigate potential for steam supply from waste company

Signed Mark Thomas Date 20/9/15

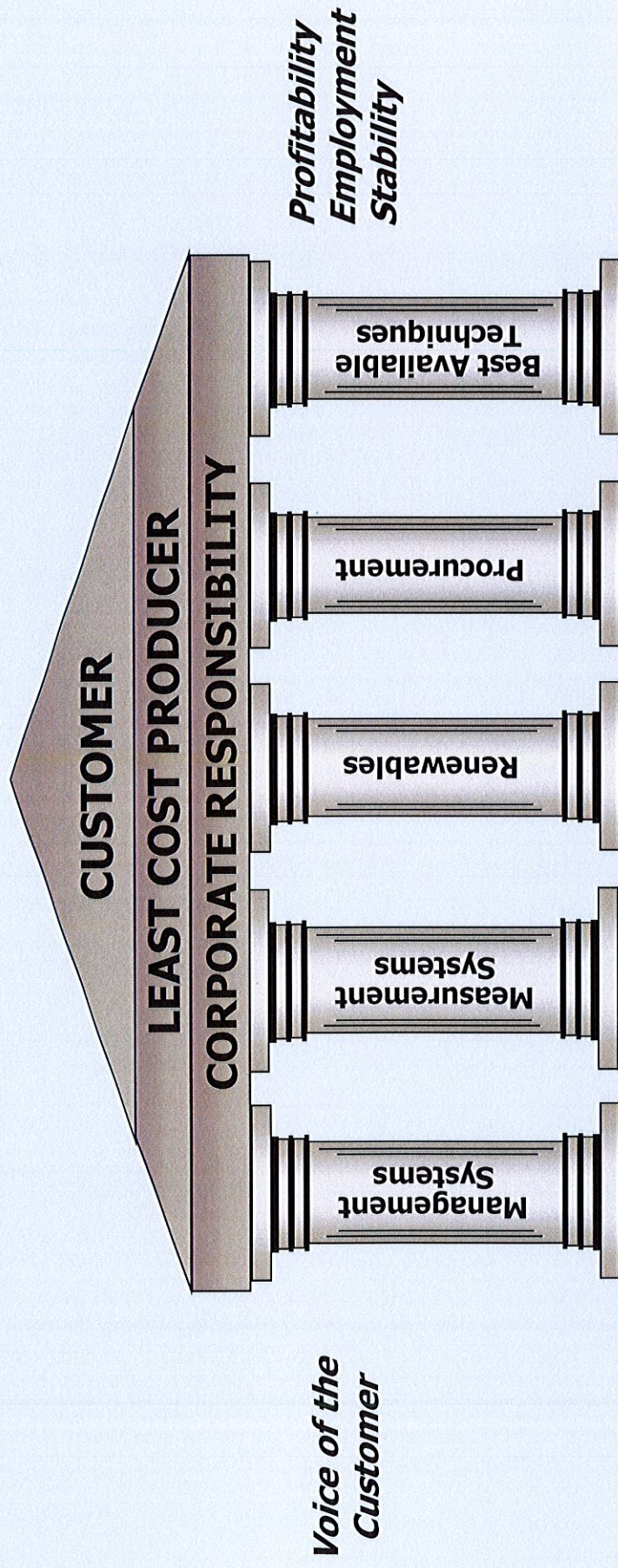
Mark Thomas ; EHS Manager, Princes Soft Drinks – Cardiff



ENVIRONMENTAL / ENERGY ROAD MAP 2013-2020

SCOPE	AREAS FOR IMPROVEMENTS	ACTIONS
WATER 	Ensure non product water usage is in line with best practice philosophy.	Investigate water usage and utilise date to ensure water usage is managed effectively and efficiently. Ensure leaks are given priority and dealt with promptly. Conduct non product water usage survey. Review of CIP activities to be conducted to ensure OEE / maximise Production time whilst not compromising quality.
AIR 	Optimise air process feed.	Air Leaks are given priority and dealt with promptly. Air line schematic to be developed to identify any potential actions for improvement. Investigate replacing handle applicator venturi systems for vacuum or solenoid/off devices.
GAS 	Reduce energy consumption in line with Group 2020 reduction programme measured as 10% CO₂ kg per case	Gas usage monitored weekly. Boiler maintenance conducted as per expert advice. Specialist boiler survey to be conducted to identify possible areas for boiler efficiency improvements. Investigate heating of combustion air to reduce blow down times / temperatures. Investigate implementation of RO plant (reduce chemicals, blow down consumptions)
ELECTRICITY 	Reduce energy consumption in line with Group 2020 reduction programme measured as 10% CO₂ kg per case	Conduct site energy mapping underway to identify possible sources to target energy reduction programmes. Investigate reduction of idling times of machines and conveyor control philosophy. Investigate possible implementation of tubular pasteurisers. Investigate more efficient heat tunnel management.
STEAM 	Ensure best practice steam management embedded in plant philosophy.	Update steam schematic. Steam leaks are given priority and dealt with promptly. Steam traps monitored for pH to ensure pH not corrosive to system. Lagging of pipework to all areas to be improved. Investigate chiller operating temperature to optimise efficiency.

Energy Strategy



Voice of the Customer

Eliminate Reduce Reuse Recycle

ISO	Metering	Recycling	Commodity	Buildings
Compliance	Reporting	Green	Equipment	Plant
People	Investment	Technology	Make vs Buy	Equipment

10% Energy reduction in kg/CO2 per case by 2020
Drive down Waste Water in m³

