

brewing green 2015

our commitment towards a sustainable future for Britain's beer and pubs



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Brewing industry commitments

1 To significantly improve the sector's energy efficiency and reduce the level of carbon emitted to the atmosphere.

- ♦ to increase energy efficiency by 19% by 2020, compared to 2008
- ♦ to reduce carbon emissions by 30% by 2020, compared to 2008
- ♦ to explore the opportunity for greater use of renewable energy

2 To reduce water usage and improve the quality of water returned to the environment.

- ♦ to achieve an industry average of less than four litres of water for each litre of beer produced, a reduction of 42% by 2020 compared to 1990
- ♦ to reuse water wherever possible to reduce the level of waste water disposed of
- ♦ to reduce the levels of BOD, COD and suspended solids in waste water by 20% by 2020

3 To reduce the environmental impact of packaging.

- ♦ to work with the packaging industry to achieve their ambitious recycling targets e.g. metal: 75% by 2017; 80% by 2020
- ♦ to aim for recycled material levels in beer bottles and cans of 50% by 2020
- ♦ to deliver beer to the consumer in the lightest packaging that ensures the integrity of the product

foreword / commitment for the long term

We have seen another excellent year of progress on environmental issues in the brewing industry, with companies striving to achieve the goal of brewing great beer with minimal impact on the planet. The sector continues to invest in innovation and efficiency and it is paying off, with further improvements in water efficiency, another reduction in energy use and more companies moving towards zero waste, so that we remain well on track to meet our strengthened 2020 targets.

A new Government brings new priorities and new challenges. The recent business energy efficiency policy review presents risks and opportunities for the sector. BBPA has called for the continuation of Climate Change Agreements to ensure the UK remains competitive in this global brewing market, and to build on their success in catalysing energy efficiency and collaboration. It is also critical that small businesses, such as pubs, do not become further over-taxed in any new regime.

BBPA is also working with Government on a road-map towards decarbonisation of industry to 2050. The BBPA-led ESOS scheme for the sector has provided many opportunities for energy and cost savings in the short- and medium-term.

Alongside investments on-site, brewers are working more closely than ever with supply chain partners, leading to benefits for all and ensuring that great British beer, on its journey from farm to pub and shelves, has the lowest environmental impact possible. In addition the BBPA packaging compliance scheme Sustain is achieving real savings for members as well as ensuring the sector takes full responsibility for its packaging through its life cycle all the way through to reuse or recycling.

This year, brewers and pub owners continue to rise to the challenge and have scope for greater savings in the coming years.



Brigid Simmonds OBE
Chief Executive,
British Beer & Pub Association

4

To aim for zero product waste to landfill.

- ◆ for all permitted companies to achieve zero process waste to landfill by 2020
- ◆ to reduce waste produced by 20% by 2020 compared to 2008

5

To ensure that environmental best practice is implemented through management systems and partnership with supply chain partners.

- ◆ to have all EA permitted sites ranked A or B on the OPRA rating system
- ◆ to implement, and report on, recognised EMS in all permitted sites
- ◆ work with raw material providers, distributors and customers/retailers to improve the life cycle impact of beer

6

To support pubs in improving energy efficiency, increasing recycling rates and reducing waste.

- ◆ to produce guidance to support individual licensees to reduce their environmental impact and costs
- ◆ to work with Government and agencies to ensure appropriate measures are in place to support pubs environmentally

#01 carbon/energy

to significantly improve the sector's energy efficiency and reduce the level of carbon emitted to the atmosphere.

The energy policy landscape in which brewers operate continues to evolve. However, the priority remains clear - drive down energy use and carbon emissions.

Key milestones over the last year include industry reporting on the first phase of the new Climate Change Agreements (CCA), the introduction of the Energy Savings Opportunity Scheme (ESOS) and the Government consultation on the future of energy efficiency policy. This has been combined with ongoing business pressures in a challenging market.

Energy efficiency has improved again, by 1.2% in 2014, to 47.6 kWh/hl of throughput. This is an improvement of 11.6% on 2008. This improvement means the industry remains on track to meet its 2020 target. In terms of carbon emissions this is an annual reduction of 1.2%, making excellent progress towards the enhanced 2020 carbon reduction target.

A brewing industry solution to ESOS

ESOS, the Government's Energy Saving Opportunities Scheme, has provided an excellent opportunity for the sector to look closely at energy usage and identify areas where savings can be made. The scheme requires large companies to carry out an energy audit every four years.

The brewing sector was well placed to embrace this new legislative requirement as it has been benchmarking technology implementation for the last three years. Building on this model, the BBPA developed a framework, with partners Carbon Architecture, to streamline the process and apply a bespoke methodology delivering company-specific audits.

The process has already provided recommendations to brewers around the country and is helping to ensure energy efficiency issues reach board-level. The BBPA intends to share key findings from the process to ensure brewers have the information needed to drive energy efficiency investment.

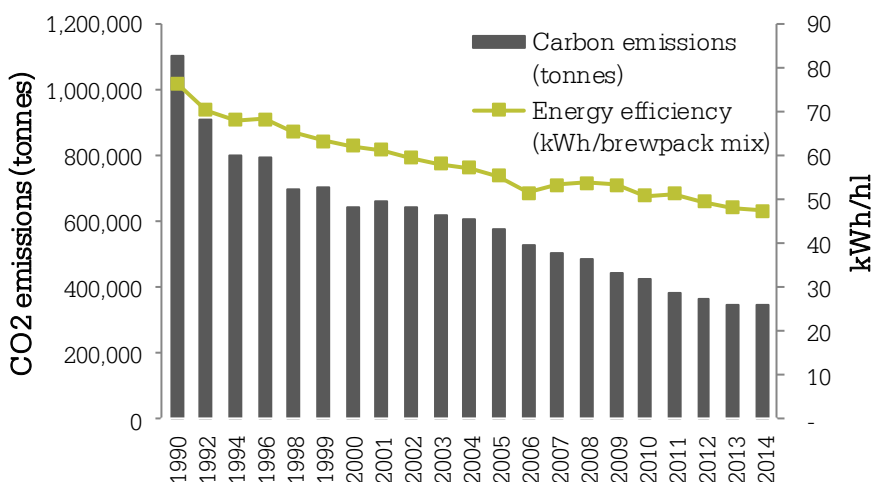
The role of Government

Government policies play an important role in how businesses approach energy efficiency. Climate Change Agreements (CCAs), for example, have played a crucial role in stimulating industry action on energy efficiency which has expanded to cover other areas.

In recent years however, there has been a proliferation of new energy policies and schemes, operating with different reporting mechanisms and time periods. With this background the BBPA and its members warmly welcomed the Government's consultation on simplifying the tax and energy reporting system.

BBPA has called for the continuation of CCAs as a vital measure to encourage energy efficiency and ensure it remains a board-level issue. The Association is also keen to see safeguards put in place to ensure that small businesses such as pubs are not hit by higher tax bills when the CRC (Carbon Reduction Commitment) is abolished and potentially replaced by a single tax.

Chart 1: energy efficiency and carbon emissions, 1990-2014



While evolution is necessary in an ever-changing world, it may be time for a period of stability in Government energy policy to allow companies the certainty to invest and further reduce their environmental impact.



Photovoltaic panels at Hobsons

Hobsons Brewery in Cleobury Mortimer, Shropshire, has a strong commitment to sustainability. Over the past five years the company has made significant investment in sustainable technologies and processes to reduce environmental impact and improve efficiency. This has included innovations such as heat recovery systems, wind turbines, rainwater harvesting and lightweighting of packaging.

In December 2014, the company made a major investment installing 30kW roof mounted solar photovoltaic panels with micro inverters with the aim of supplying 15% of total electricity consumption on site. After the first six months, the panels were generating 14,000kWh, approximately 14% of the site's consumption.

Further analysis will be undertaken at the end of the first year but combined with the energy produced by a wind turbine, the company now generates around 40% of all its electricity needs.



Molson Coors' new Beer Processing Area

With a cost of around £15m, the new Beer Processing Area (BPA) in the company's Burton Brewery is the single biggest capital investment made by Molson Coors in recent decades, creating a world class facility using state-of-the-art technology to produce great beer.

The BPA also improves energy efficiency levels and will substantially reduce waste. The first beer was produced through the BPA in early 2015, an exciting time for the Project Team and Burton Brewery as a whole. Once fully operational, the BPA will be home to one of the brewing industry's largest yeast propagation areas enabling the company's master brewers to pioneer the unique and distinctive tasting beers of the future.

A number of Molson Coors technicians and engineers have been able to get involved in the BPA project and develop the skills required to operate the facility. The BPA will be completed in autumn 2015 and play a vital role in producing some of the 1.2 billion pints of beer brewed annually at Burton brewery.

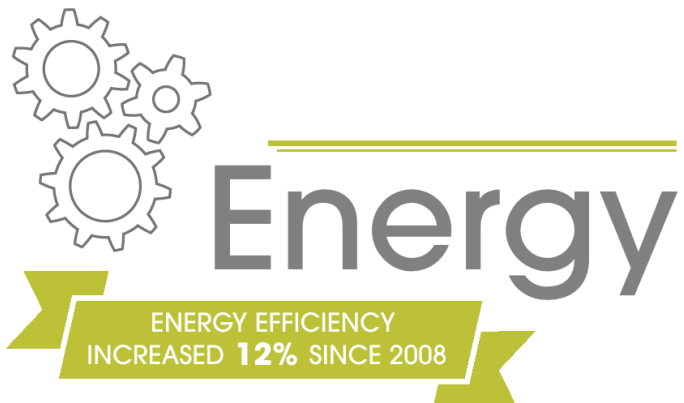
Diageo's Combined Heat and Power (CHP) plant

The Diageo site in Runcorn packages company brands such as Guinness as well as Brewers' Project Guinness Porter, West Indies Porter, Golden Ale and Hop House 13.

To support the packaging lines the factory requires consistent utility supplies including steam and compressed air. This made the site ideal for a CHP project. Alongside producing power by burning gas, the plant produces large quantities of excess heat which can also be used on site.

The company worked with Veolia to design and build a 2MW gas-fired CHP unit and 1,500 kg/h waste heat boiler on site, as well as a low temperature, hot water heat recovery system supplying two pasteurisers. The project involved no capital outlay for Diageo; the company instead contract out the maintenance and operation of the plant to Veolia.

The plant has been operational for three years, with considerable savings for the company in electricity costs.



#02 water

to reduce water usage and improve the quality of water returned to the environment.



On track to meet targets

The brewing industry continues to make great progress in reducing its water usage, with a 6% improvement in 2014. The average water usage of UK brewers has now fallen to just 4.1 litres per litre of output – this is a 39% increase in efficiency since 1990. The industry is firmly on track to meet its 2020 target.

The improvement has been driven by investment in new technology, both specifically in water improvements, but also from overall process enhancements. Just a few of these are highlighted in the case studies on these pages.

The brewing industry obtains around three quarters of the water it uses from on-site boreholes with the remainder being purchased from the local supply. Just over half of used water (54%) is fully treated by the brewer before being disposed of, while the remainder is safely sent off to be treated by the local water company.

Reducing costs

The cost of water disposal remains a very significant one for the brewing industry, whether this is treating on-site or sending off for treatment. Effluent costs are frequently cited by BBPA members as an area where intervention needs to take place. The BBPA has discussed the issue with OFWAT, the water regulator, and with a number of utilities companies but so far a solution has not been found.

BBPA has commissioned further analysis on the specifications of water disposed of from breweries to identify what opportunities are available to reduce costs and ensure water is returned to the natural environment in an appropriate manner. The BBPA will then work with technology providers and brewers to identify the best solutions.

It has been a quiet year in terms of legislative reform for water. There has been little progress in reform of the water abstraction system that had been proposed in 2013 and 2014. It is likely that measures will be brought forward soon. There is a push for companies to become more active in water trading, which potentially creates opportunities for brewers, though there is little market available at present. The BBPA will continue to work with its members to improve water efficiency and reduce the costs associated with disposal.

Chart 2: water efficiency, 1990-2014



Shepherd Neame invests in water treatment plant

Kentish brewer Shepherd Neame has made a significant investment in improving water efficiency by investing more than £3 million in a new water recovery plant.

Former Environment Secretary Owen Paterson officially opened the plant at the brewery in Faversham in 2013. The plant treats the waste water from the brewing and cleaning processes, which was previously disposed of, and recovers a proportion back into the brewery.

Chalk-filtered mineral water from the well underneath the brewery will continue to be used for the brewing process and newly recovered water will be used for cleaning. The new technology will help the brewery reduce its level of water consumption by approximately 25% and achieve a water-to-beer ratio of 4:1. This will put the company amongst the most water efficient brewers in the country.

The new environmentally friendly and resource-saving system was designed and built by Aquabio and uses their membrane bioreactor (MBR) technology.

Carlsberg installs new reverse osmosis plant

Carlsberg UK has taken steps to improve water usage during the brewing process, with the installation of a new reverse osmosis plant in February 2015.

Prior to the plant's installation, Carlsberg UK used the local water supply to feed cooling towers and condensers for the brewery's refrigeration plant. This method meant that water could only be used a small number of times before its quality fell below the brewer's high standards for water.

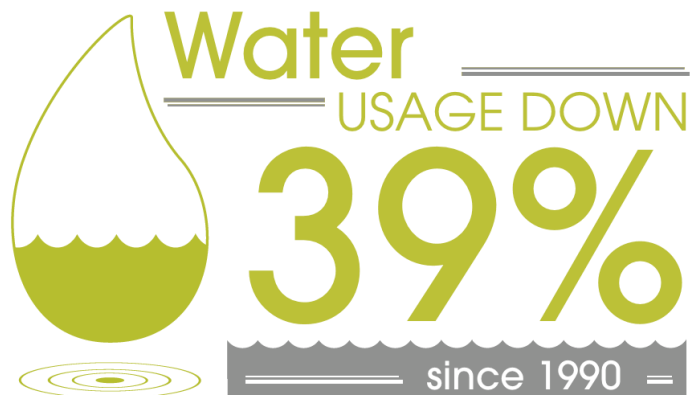
Carlsberg UK worked alongside its water treatment provider to utilise the brewery's soft water plant to feed the new reverse osmosis plant. This improves the quality of water used during this process, increasing the number of cycles in which each batch can be used, before needing to be replaced with fresh water. This improvement has decreased the amount of water used in the refrigeration plant by up to 50%. The company expects to save around 105 million pints of water per year.

Diageo - optimisation of CIP systems at Runcorn

Diageo plc has reduced water consumption and down-time on site at its Runcorn packaging facility, through optimisation of the clean-in place (CIP) system. The project involved extensive analysis of data recorded by the CIP system to assess whether the length of cleaning cycles for the bright beer tanks and storage vessels could be reduced whilst maintaining the same high hygiene standards.

The project has saved the company an estimated £13,821 per year in reduced water and electricity usage. It should also decrease water consumption of the CIP systems by 6,468 cubic metres per year, which represents 1.92% of the site's total water use. This is in line with Diageo's target of reducing water consumption through a 50% increase in usage efficiency by 2020.

The system has also reduced down time by 1,558 hours per year, increasing the capacity to accept deliveries of product and increase production volume. The research will go on to investigate all equipment cleaned by the CIP system to identify further savings.



#03 packaging

to reduce the environmental impact of packaging.

As well as focusing on the sustainability of their beer, brewers are equally concerned with the use of packaging. Draught beer has been sustainably packaged since it was invented; empty kegs and casks are returned to the brewer after use to be refilled with beer, often being reused hundreds of times.

In terms of single unit packaging (such as bottles and cans) as well as additional packaging (such as cardboard, shrink wrap and pallets) the industry had taken great strides both in seeking to reduce the quantity of materials used in packaging and in working to support the ambitious targets of packaging manufacturers. This includes aiming to increase recycling rates and increasing the quantity of recycled materials being used in packaging.

Sustained innovation

The ongoing contribution of the industry to recycling through the purchase of packaging waste recovery notes (PRNs), worth around £10 million, has helped the UK remain on track to meet its recycling targets. In addition, the BBPA's new packaging compliance scheme, Sustain, set up directly to provide a tailored service to the drinks industry, is going from strength to strength. This provides a cost effective service for BBPA members and enables them to meet their obligations clearly and efficiently.

Lightweighting of packaging has been very effective in reducing the quantity of glass being used in packaging. Recently, a number of companies have taken a lifecycle analysis approach to their products, assessing carbon and waste impacts throughout the entire production process and working with the whole supply chain to make savings where possible.

Promoting effective solutions

Despite the progress made so far, the debate continues on other ways to increase recycling and tackle litter, with the Scottish government consulting on the feasibility of introducing a deposit and return scheme for packaging. Litter can be a blight and brewers are fully supportive of further measures to promote individual responsibility amongst the minority who cause problems for others.

Although deposits can seem like a simple solution it is worth remembering that most countries that have such a scheme do not have the well-developed kerb-side recycling schemes that operate in the UK. Most such places never stopped these deposit schemes, whereas they largely disappeared in the UK in the 1970s.

Introducing a deposit scheme today in the UK would be likely to be costly for consumers and complex and burdensome for small businesses. It would also be ineffective when there are other, better ways to change behaviour and continue positive trends of decreasing litter and packaging waste.



Packaging

Work with the packaging industry on targets to increase recycling and recycled materials use

Adnams lightweighting partnership

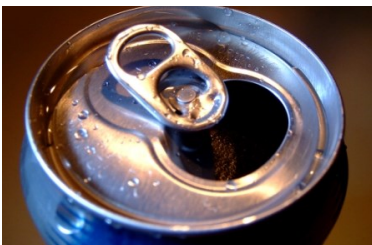
Adnams of Southwold, Suffolk, has partnered with glassmaker O-I to develop the UK's lightest branded 500ml glass premium ale bottle.

At just 280g, the innovation shaves a further 19g off the brand's already market-leading lightweight bottle, creating an additional annual carbon saving of 100 tonnes. This also removes 115 tonnes of glass from the waste stream.

Adnams pioneered the use of lightweight branded glass in the premium packaged ale sector when it worked with O-I to launch a 299g bottle in 2007. This style of long-neck, lightweight bottle has since helped regenerate the entire sector. Adnams hopes its latest move will inspire other brewers to seek further carbon savings.

After completing a lifecycle assessment of their bottled beers the Suffolk brewer and distiller identified that glass manufacture was almost 50% of the carbon footprint of their products. This highlighted the importance of improving this area.

The distinct shape of the Adnams bottle was retained meaning there was no impact on filling equipment or tertiary packaging.



Industry action on litter - World Environment Day and 'Neat Streets' litter pilot

Litter is a big issue for people and rightly so. No one wants to see rubbish strewn around their local area, least of all producers and brand owners.

Ultimately, building personal responsibility is key to helping create pride in local areas to discourage littering. However, companies have also been involved in a range of events to help with the clean-up.

For World Environment Day in June, AB InBev held a number of events. In Wales, over 30 brewery staff helped clear litter from beaches near their Magor brewery, and a similar event was held in Brighton. Adnams, which has made 'beach cleans' a regular local event, offered those who took part a complimentary pint to say thanks.

Whilst there is no easy fix to bringing about behaviour change and an end to littering, a coalition of business and packaging organisations have worked together to trial new and innovative ways to tackle litter on Villiers Street in London. The 'Neat Streets' pilot has made use of the latest thinking on behavioural change from around the world. Initial findings suggest that it has made a significant impact on levels of littering in the area. The results and learnings will be shared and disseminated through 2016.

#04 waste

to aim for zero product waste to landfill.

The brewing industry is a good example of the 'circular economy' in action. Used barley grains are sold on to be used for animal feed, with yeast passed on for Marmite (and other products), and kegs and casks sent back to be refilled.

And the sector is constantly looking for new ways to reduce waste further. More and more companies are achieving 'zero waste' going to landfill by finding ever more innovative ways to put the by-products from the brewing process to good use. The latest data does however show an increase in waste and a slight drop in the proportion being recovered. This is likely to be due to an anomaly with the data but is being examined more closely.

The new Government’s strategy on waste has yet to fully take shape. However, it seems likely that the new voluntary agreement on waste looking to 2025, soon to be launched by waste reduction body WRAP, will be broader and have a focus on 'resource efficiency' and aim to bring together the work that different industries are doing in a number of areas. It will be important for brewers to demonstrate the value of the industry at a time when there is increasing pressure on resources but the sector is well placed to highlight its record on waste reduction and its ability to meet new challenges.

‘Project Shandy’ highlights waste reduction measures

The beer and soft drinks industries have come together in a partnership project supported by the Waste and Resources Action Plan (WRAP), identifying hot spots for waste prevention activity across the two sectors.

The BBPA and British Soft Drinks Association worked in collaboration with Britvic Soft Drinks and Carlsberg UK on ‘Project Shandy’ to measure the amount of product waste in the brewing and soft drinks industries which was going to sewer or to land injection and identify strategies to tackle the problem. The project highlighted a range of waste prevention opportunities covering changes to processes and procedures on site and improving staff awareness and training. The companies saved £293,000 on two sites, with further savings expected as solutions are adopted on other sites, and in the broader industry.

WRAP has published the two case studies of the initiatives implemented by the companies, detailing how savings were achieved, and a checklist with scores of waste prevention opportunities, and also measures on waste disposal. This is to help other companies benefit from the findings and continue to reduce waste across both sectors.

Adnams achieves zero waste to landfill

As part of a sustainable culture, Adnams has continued its push to ensure none of its waste ends up in landfill. By carrying out extensive waste audits of all streams and working only with contractors who meet their requirements, the Suffolk brewer and distiller sees that their waste is disposed of without the use of landfill.

Adnams has achieved this through reusing, recycling and recovering energy from their waste according to the waste hierarchy. The company has its own anaerobic digestion plant which turn all waste beer into biomethane (a renewable heat source) which they inject into the national grid. All brewers’ grain is used to feed cattle in East Anglia, cardboard boxes are reused in their logistics and retail stores, whilst other streams such as plastics and glass are collected for reprocessing. Where waste cannot be separately collected on site, Adnams uses contractors who recover general waste into energy.

HEINEKEN’s anaerobic digestion plant turns waste into energy

HEINEKEN UK is turning waste into renewable energy and using it to power its site at Tadcaster in Yorkshire.

Since installing an anaerobic digestion (AD) plant in 2008, the business has been capturing and treating waste liquid from the brewing process and turning it into biogas. The gas is then burnt to produce electricity that provides around 5% of the site’s energy. The AD plant also creates a nutrient rich compost which is used by local farmers.

HEINEKEN has also installed 4,000 solar panels on the site’s roof, moved to LED lighting and invested in energy saving voltage transformers. These investments, both big and small, at Tadcaster are helping the company make real strides towards greener brewing in the UK.

Table 1: waste production - source: Environment Agency, BBPA

Year	Waste production	Waste disposal	Waste recovered	% recovered
2006	95,178	27,689	67,489	71
2008	118,881	13,244	105,637	89
2010	125,783	14,321	111,462	89
2012	106,240	4,654	101,586	96
2013	80,287	1,015	79,344	99
2014	89,518	3,163	86,355	96

#05 supply chain & environmental management

to ensure that environmental best practice is implemented through management systems and partnership with supply chain partners.

Supply chain

For brewers, environmental best practice is important throughout the supply chain. This means considering environmental impact from the farmers growing the hops and barley all the way to the consumer taking a sip of the delicious pint of beer in the pub.

Some companies are now finding that their supply chain partners are actively involved in the quest for sustainable production leading to some unique initiatives to reduce environmental impact and increase profitability for all.

Environmental management

The brewing industry has once again put up a good performance in demonstrating effective environmental management in the Operational Risk Appraisal (OPRA) ratings assessment carried out by the Environment Agency and assigned to larger brewers who require an operating permit from the EA. These ratings relate to the quality of environmental management and reporting and any permit breaches that have occurred on sites, reflecting how much risk they pose.

Finding resources to drive environmental progress remains a challenge, particularly for smaller brewers. However, investing in environmental management has many reputational and economic benefits. For many companies, prioritising environmental efficiency is about ensuring they can keep pace in a competitive market. Energy costs and utilities are a significant cost and there is an increasing focus from investors on ensuring that companies are planning ahead, recognising risks and taking their environmental responsibilities seriously.

Table 2: EA risk appraisal score

	A	B	C/D
2011	62.5	25.0	12.5
2013	57.1	35.7	7.1
2014	57.1	42.9	-
2015	57.1	42.9	-

HEINEKEN UK's new distribution centre cuts 300 tonnes of CO2 emissions.

HEINEKEN UK transports millions of cases of beer to its customers across the UK each year. Getting its products to the right place at the right time – while reducing CO2 emissions – is a top priority.

In 2014, to make its delivery network more efficient and reduce the number of miles travelled, HUK invested in a National Distribution Centre (NDC) in Derby. The centre is ideally located between where HUK brews its beer and where its customers want it delivered. This meant the business could supply 50 million cases using 850 less vehicle trips – saving 125 tonnes of CO2. Over a year, the NDC will cut HUK's CO2 emissions by around 300 tonnes of CO2.

These big carbon savings are helping the company progress towards its 2020 goal to reduce CO2 emissions from distribution by 20%. And by making its distribution more efficient it's been able to provide a better service for its customers too, a win-win!



AB InBev– Budweiser partners with local farmers

With the drive for sustainability now stretching beyond the brewery gates, farmers across the UK are playing a key role in a new programme with Budweiser brewer, AB InBev, to reduce the company's environmental footprint whilst producing barley for the iconic global beer brand.

The brewer announced the initiative in December 2014 and now has 36 farms committing to growing barley for Budweiser. For 2016, the farmers are working in partnership with Crisp Malting Group, Glencore Grain and Agrii on the program to produce malting barley, which will seek to meet the specific needs for Budweiser while optimising productivity and reducing farms' environmental footprints.

Farms also have the opportunity to be part of AB InBev's SmartBarleySM initiative, a farm level benchmarking tool that enables growers to compare their barley production — through advanced productivity and environmental key performance indicators — to the production of other barley growers within their region as well as globally.

SmartBarleySM was launched in 2014 to incorporate more than 1,900 barley growers across Argentina, Brazil, Canada, China, Mexico, Russia, the United States and Uruguay. This is the first SmartBarleySM project in the UK.

#06 pubs

to support pubs in improving energy efficiency, increasing recycling rates and reducing waste.

Both the energy efficiency landscape and the pub sector are currently undergoing a major legislative shake-up, with a likely increase in the number of managed pubs. Pub operating companies will have more of a direct incentive to make their pubs more environmentally efficient as this may have more of an impact on their own bottom line.

The ESOS regulations have meant that all companies employing 250 or more people, or with annual turnover in excess of 50 million euro and an annual balance sheet total in excess of 43 million euro, have to complete an approved audit by December 2015, highlighting opportunities for energy saving across their pub estates. Although the legislation will not require companies to act on this audit, it seems likely to prove an incentive for many.

The future of schemes such as the Carbon Reduction Commitment, which requires managed house operators to report on their energy use and purchase allowances to offset this, is uncertain. However, pub operators will continue to face new challenges. The Government will be keen to retain the revenue from this scheme as well as incentivise further efficiency improvements to ensure that the UK meets its climate change targets. There will still be a continued focus on reducing energy use.

For tenanted companies, the new minimum energy efficiency standards for pubs, coming in from 2018, will require them to factor this in to their standard cycles of refurbishment. Many will see this as an opportunity to go further and support their licensees by helping to reduce their vulnerability to rises in energy prices.

ESOS delivers solutions for the pub industry

The pub industry is embracing the opportunities being presented through the BBPA-operated ESOS audits that large companies are obliged to complete by 5th December 2015. The BBPA has worked with Carbon Architecture to devise a straightforward audit methodology for the pub trade which has highlighted areas for cost and energy savings.

LED lighting, particularly back-of-house, provides significant scope for improvement, and this can also be extended to serving areas. Major energy use occurs in the cellar and savings can be made here without compromising product quality.

Monitoring heating and hot water programmes allows for changes with no detriment to the customer experience. Controls for heating can be installed at relatively low cost, and can achieve big savings. It is also important to ensure that catering equipment is only turned on when necessary. If no food is being served between lunchtime and evening then a shut-off can reduce bills. Installing a more efficient boiler can achieve pay-back much faster than many think.

The ESOS audits have surprised many companies with the savings that can be made. The BBPA sees a significant opportunity to share the findings of these audits and plans to organise a pub energy conference in early 2016.



Robinson's waste project with Manchester Met

The Centre for Enterprise at Manchester Metropolitan University is working with Robinson's Brewery to help its tenanted pubs become greener, more efficient and more profitable. The Smarter Greener Retailing project is identifying improvements across the board - in energy, water and 'trade' wastes.

Commenting on the Smarter Greener Retailing project, William Robinson (managing Director, Pubs Division), for Robinsons Brewery said: "We are delighted to be a part of this project. Helping our licensees to operate more profitably is one of our core objectives. So far, the most striking results have been in reducing food waste."

"A simple process of separating food waste using a bucket, weighing it and applying a research-based multiplier of £2.09 per kilo, showed one pub was throwing away £27,000 per year of food. By making a few basic changes, 12 weeks later waste had fallen significantly, amounting to a substantial annual saving of £11,000. Work is continuing to get waste down even further."

The key to getting pubs engaged has been to work closely with Robinsons Business Development Managers and other brewery staff in pub facing roles like Technical (cellar) Services, Food Development and the Tenant Support Manager.

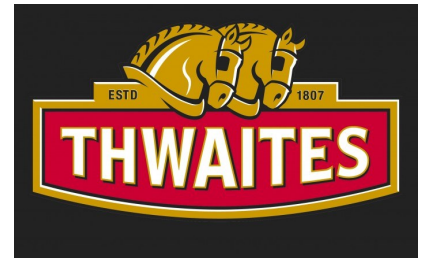


The Future of Dispense – Brewfitt partners with Daniel Thwaites

Brewfitt has worked with Daniel Thwaites Plc to install their advanced cellar management system, resulting in energy efficiencies and a lower carbon footprint for their pub estate.

Future of Dispense, which utilises leading-edge fluid dynamic technology to provide maximum efficiency in a minimum space, could save the average pub £3-5,000 per annum and has been independently tested by research and development organisation, Campden BRI. Pubs using the system can save over 40% of their energy consumption and it is also backed by Government.

Joe O'Grady of Daniel Thwaites Plc, commented; "We installed Future of Dispense across our Inns of Character estate based on the performance and savings attributed to the system. We can confirm that the energy savings Brewfitt advised have been correct and the quality of dispense temperatures are fantastic. Our pubs are enjoying the benefits of drastically improved line cleaning losses and general improvements in quality of dispense."



BBPA Members 2015/16

Admiral Taverns Limited
Adnams PLC
Anheuser-Busch InBev
Arkell's Brewery Ltd
Black Sheep Brewery plc
Brakspear Pub Company
Budweiser Budvar UK
Camerons Brewing Ltd
Carlsberg UK
Charles Wells Limited
Daleside Brewery
Daniel Batham & Son Ltd
Daniel Thwaites plc
Diageo plc
Enterprise Inns plc
Everards Brewery Ltd
Frederic Robinson Ltd
Fuller Smith & Turner plc
George Bateman & Son Ltd
Gray & Sons (Chelmsford) Ltd
Hall & Woodhouse Ltd
Harvey & Son (Lewes) Ltd
Hawthorn Leisure
Heavitree Brewery plc
Heineken UK (London)
Heron & Brearley Ltd
Hogs Back Brewery Ltd
Holden's Brewery Ltd
Hook Norton Brewery Co Ltd
Hydes Brewery Ltd
J.C. & R.H. Palmer Ltd
J.W. Lees & Co
Joseph Holt Ltd
Liberation Group
Maclay Group plc
Marston's PLC
McMullen & Sons Ltd
Miller Brands UK
Molson-Coors Ltd

Moorhouse's Brewery (Burnley) Ltd
Punch
R W Randall
Route Organisation
S A Brain & Co Ltd
Shepherd Neame Ltd
St Austell Brewery Co. Ltd
T & R Theakston
Thomas Hardy Brewing & Packaging
Timothy Taylor & Co Ltd
Titanic Brewery
Wadworth & Co Ltd
Weston Castle
Young & Co's Brewery plc

Associate Members

Black Country Ales
Brewfitt Ltd
Bridgewood
Brookfield Drinks
Close Brewery Rentals
Coca-Cola Enterprises
CPL Training
Cumberland Brewery (NI)
Heritage Pub Company
Hobson's Brewery & Co
John Gaunt & Partners
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