

Synergy Health plc
Carbon Management Plan
April 2011- March 2012

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Executive Summary

The target for emissions reduction in 2010-11, of 1,493 tCO₂, which was twice the target for the year before has been exceeded in 2010-11. The 2010-11 year has seen a reduction in carbon of 2,753 tonnes. This figure exceeds the target by 1,260 tCO₂, or by 64.8%. The achievement is the consequence of growing carbon reduction management and an element of restructuring in some parts of the regions' operations.

The year-on-year change of 2,753 tCO₂ represents a reduction of 5.3% in absolute emissions. The emissions are measured on a like-for-like basis and exclude emissions from new sites at Knowsley and Radeberg. In relative terms the change in emissions per unit of measure across the group is 7.06%. This is more than twice the target of 2.5%. Although not an agreed measure the reduction against revenue, assuming 3% indexation in 2010-11, the overall reduction in emissions is 2.93% per tCO₂/ £1 for the group as a whole. This is a good achievement when considering the negative impact of lower revenue in some parts of the group.

Changes in relative terms, measured in tCO₂ per unit of measure by region/ business, are shown in the table below.

| Region/ Business | 2009-10 | 2010-11 | Variance | % Variance |
|------------------------|---------|---------|----------|---------------|
| Stella | 28 | 32 | +4 | +14.28% |
| Fast Aid | 68 | 69 | +1 | +0.67% |
| Healthcare Solutions | 3,128 | 2,878 | -250 | -7.99% |
| Asia & South Africa | 4,194 | 4,599 | +405 | +9.65% |
| Europe and Middle East | 30,471 | 29,444 | -1,027 | -3.37% |
| UK and Ireland | 14,022 | 12,137 | -1,855 | -13.45% |

Other objectives in the plan for 2010-11 have been achieved, or are ongoing having been implemented in the year. Key legislative compliance requirements were met during the year, for the UK in particular. The awareness of carbon management and reduction as an issue, about which Synergy cares passionately, is growing and developing across the businesses as evidence in the actions and plans recorded in this document

A key success this year has been Linen Management's acceptance into the Climate Change Agreement sponsored by the Textile Services Association. This has enabled all businesses within Synergy Health (UK) Ltd. to be exempted from payment of Carbon Reduction Scheme (CRC EES) in April 2012. Note that Linen Management (UK) is incorporated in the Europe and Middle East Region. Whilst CRC performance league tables will still be published in 2011 Synergy has completed the early actions that will benefit our position in the table- CTS and AMRs.

The availability of carbon reduction plans for Synergy's businesses across the globe that are in place for the coming year is a good indication of the development of the carbon reduction programme over the last two years and that is has become a part of everyday operating.

Introduction

The Carbon Management Plan establishes Synergy Health's objectives for the coming year, 2011-12, for carbon emissions reduction in relation to a unit of measure pertinent to their performance. The plan applies to all businesses within each region.

The primary objective of the businesses is to achieve a 2.5% reduction in carbon emissions relative to an appropriate unit of measure, from 2010-11 levels, by delivering greater efficiency in total utilities' consumption through:

- enhanced awareness of carbon reduction issues at sites,
- greater efficiency in the operation of sites, processes, equipment and greater throughput,
- investment in appropriate technology (which meets the group's capex criteria).

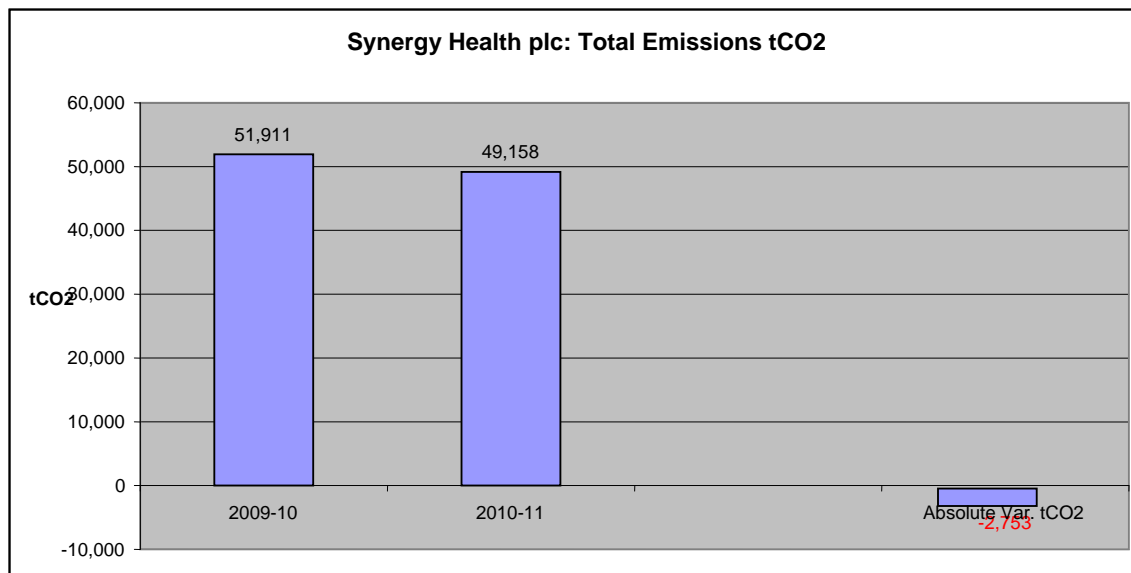
Performance for 2010-11

The level of total consumption and associated carbon emissions has fallen across Synergy in 2010-11. The changes in consumption by type of utility are shown in the table below.

| Global kWh Reductions | 2009-10 | 2010-11 | Variance | % Variance |
|------------------------------|--------------------|--------------------|-------------------|-------------------|
| Electricity | 47,026,282 | 43,707,521 | -3,318,761 | -7.06% |
| Gas | 141,706,616 | 136,905,660 | -4,800,956 | -3.39% |
| Oil | 1,572,061 | 1,275,767 | -296,294 | -18.85% |
| | | | | |
| Totals | 190,304,959 | 181,888,948 | -8,416,011 | -4.42% |

The largest percentage fall in consumption of utilities was for diesel, down 18.85%, in part driven by the removal of the generator from Walton Summit (HCS). However, this fuel accounts for less than 1% of total consumption within the group (excluding logistics). The largest kWh consumption reduction was for gas, with the largest reductions in LIPS and UK Sterilisation (Thorne). Overall gas consumption, however, only fell by 3.3%, to a large extent driven by changes in production- LIPS -6% and Thorne -16%. Electricity consumption fell by 3.3 million kWh, which is a 7% reduction, of which c. 1.8 million kWh is attributable to the partial closure of Harwell, though some of the work here has been redistributed to other units in the region.

Synergy Health plc has reduced its absolute carbon emissions, measured in tonnes CO₂, by 2,753 tonnes in 2010-11 compared to the previous year. The year-on-year change represents a reduction of 5.3% in absolute emissions. The emissions are measured on a like-for-like basis and, therefore, exclude emissions from new sites, such as Knowsley and Radeberg. The reduction in absolute emissions is shown in the figure below.

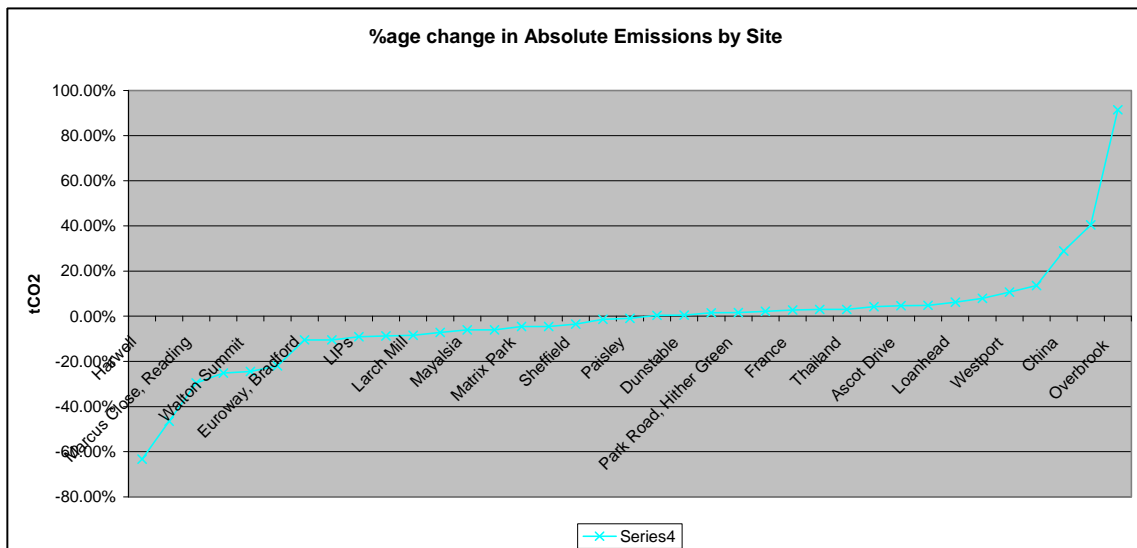
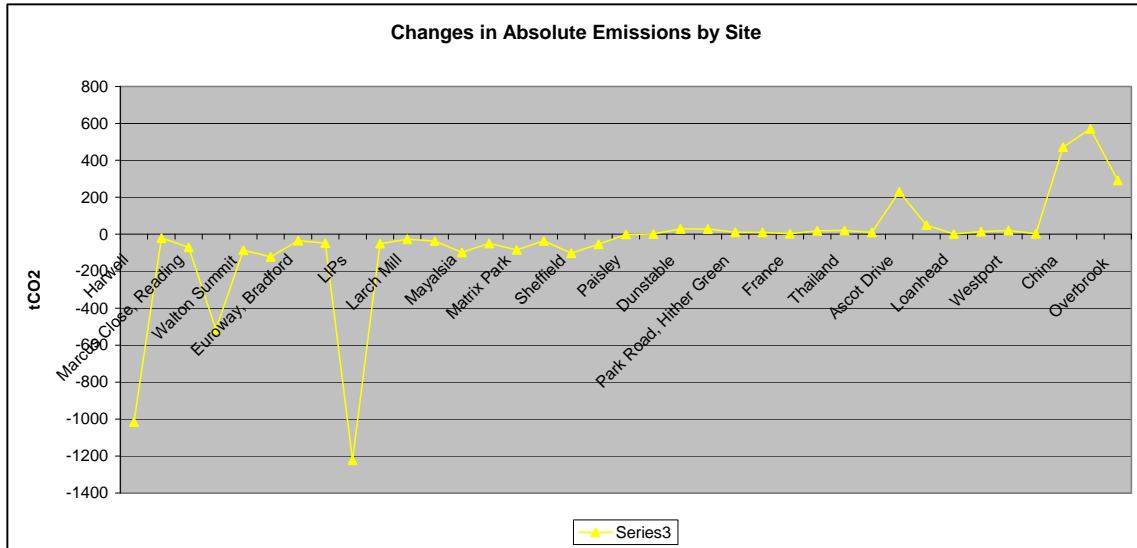


In relative terms the change in emissions per unit of measure (weighted to total utility consumption) across the group is 7.06%. Measured against revenue alone, the overall reduction in emissions is 2.93% per tCO2/ £1 for the group as a whole (adjusted by 3% for indexation). Each measure indicates that the carbon emissions reduction targets for 2010-11 have been met and exceeded. Importantly, the outcomes from this year indicate a growing and sustainable carbon management and reduction culture in the organisation as a whole.

Changes in absolute emissions are split between the regions and businesses as shown in the table below. The largest reduction in absolute emissions is achieved in the UK and Ireland region. The largest increase in emissions in percentage terms is at Stella, +14.28%. However, this must be considered in perspective as Stella produces only 0.065% of all Synergy's carbon emissions.

| Region/ Business | 2009-10 | 2010-11 | Variance | % Variance |
|------------------------|---------|---------|----------|------------|
| Stella | 28 | 32 | +4 | +14.28% |
| Fast Aid | 68 | 69 | +1 | +0.67% |
| Healthcare Solutions | 3,128 | 2,878 | -250 | -7.99% |
| Asia & South Africa | 4,194 | 4,599 | +405 | +9.65% |
| Europe and Middle East | 30,471 | 29,444 | -1,027 | -3.37% |
| UK and Ireland | 14,022 | 12,137 | -1,855 | -13.45% |

Changes in absolute emissions and the percentage changes in emissions for sites are shown in the two figures below.



The scale of emissions changes are reflected differently when considered in relative terms as they show the impact of changes upon individual businesses. Relative changes in carbon emissions per unit of measure by business are shown in the table below.

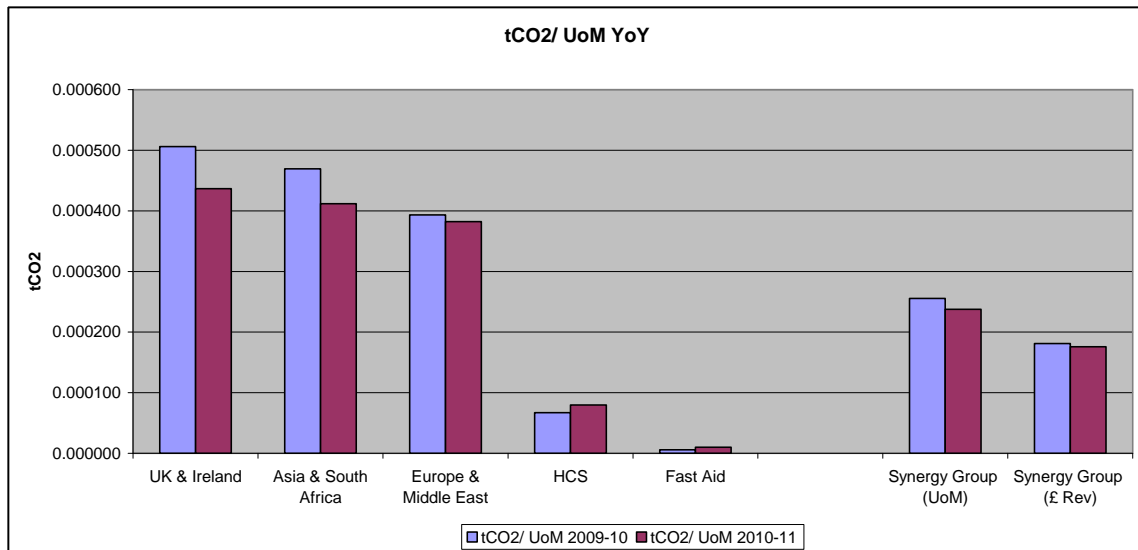
| Region/ Business | 2009-10 tCO2/ unit | 2010-11 tCO2/ unit | % Variance |
|------------------------|-----------------------|-----------------------|---------------|
| Stella | 0.001738 | 0.006318 | +264.00% |
| Fast Aid | 0.000006 | 0.000010 | +73.26% |
| Healthcare Solutions | 0.000067 | 0.000077 | +18.93% |
| Asia & South Africa | 0.000470 | 0.000400 | -12.26% |
| Europe and Middle East | 0.000393 | 0.000378 | -2.75% |
| UK and Ireland | 0.000506 | 0.000437 | -13.69% |

The performance of Stella, Fast Aid and HCS has fallen in 2010-11 as adverse changes in the comparative measure/ tCO2 have taken affect. Whilst Stella remains at the top of the

table in terms of relative growth in emissions it is particularly disadvantaged as revenue appears incidental and very intermittent and it should be recalled that it accounts for a miniscule proportion of total emissions. Fast Aid moves up the table as revenue fell in the year. HCS moves from a position where there was a reduction in actual emissions to one on a relative basis which fails to achieve a 2.5% reduction/ unit because of falling revenue.

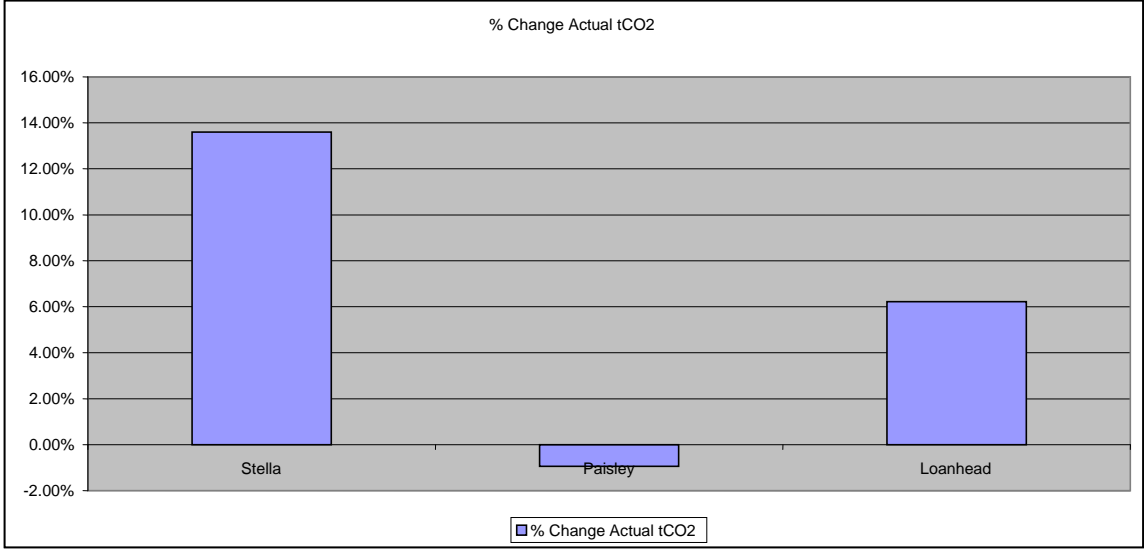
On the other hand Asia and South Africa move from a position of increased actual emissions to a reduction of 12.26% per unit due to increased revenue across all of its sites.

The graph below shows the relative changes in tCO2 emissions YoY for the regions, though Stella has been omitted because it distorts the data. Overall, and crucially, the trend across the largest generators of emissions in the group is positive.

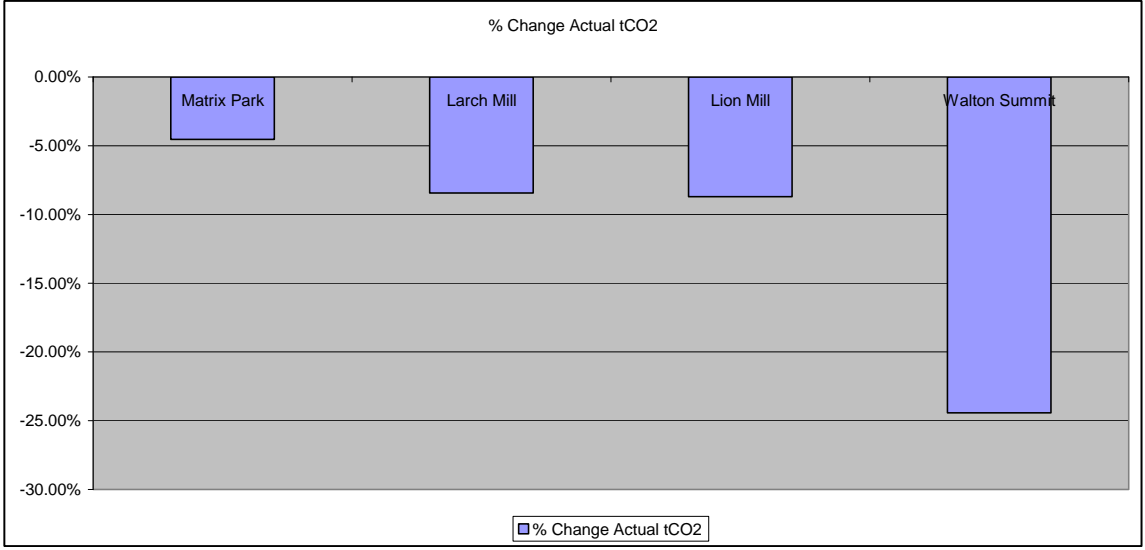


The charts below show the percentage changes in actual emissions on a site by site basis across the regions in 2010-11 compared to the previous year (excluding Knowsley and Radeberg).

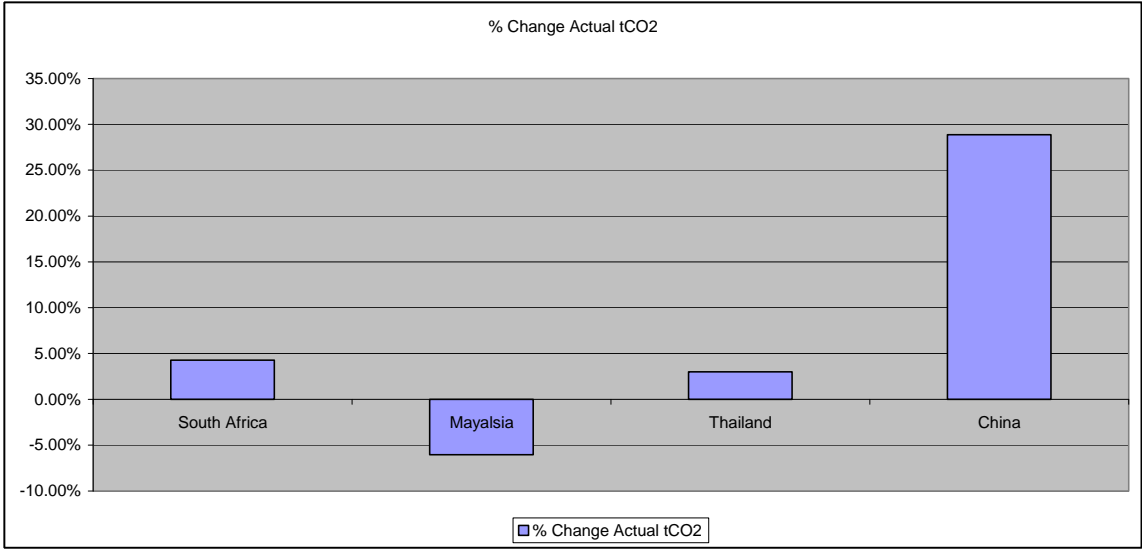
Stella & Fast Aid



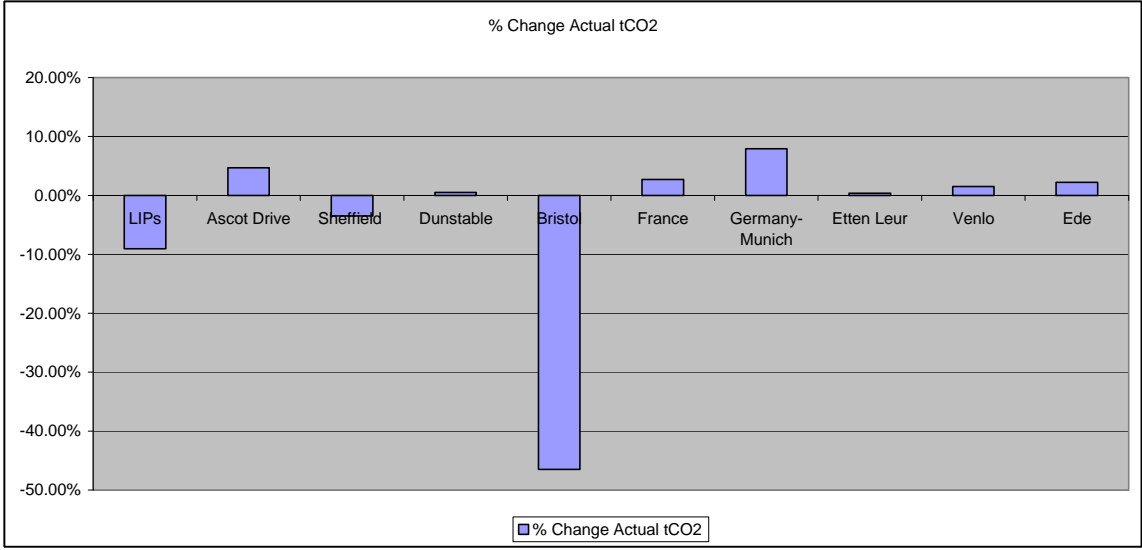
Healthcare Solutions



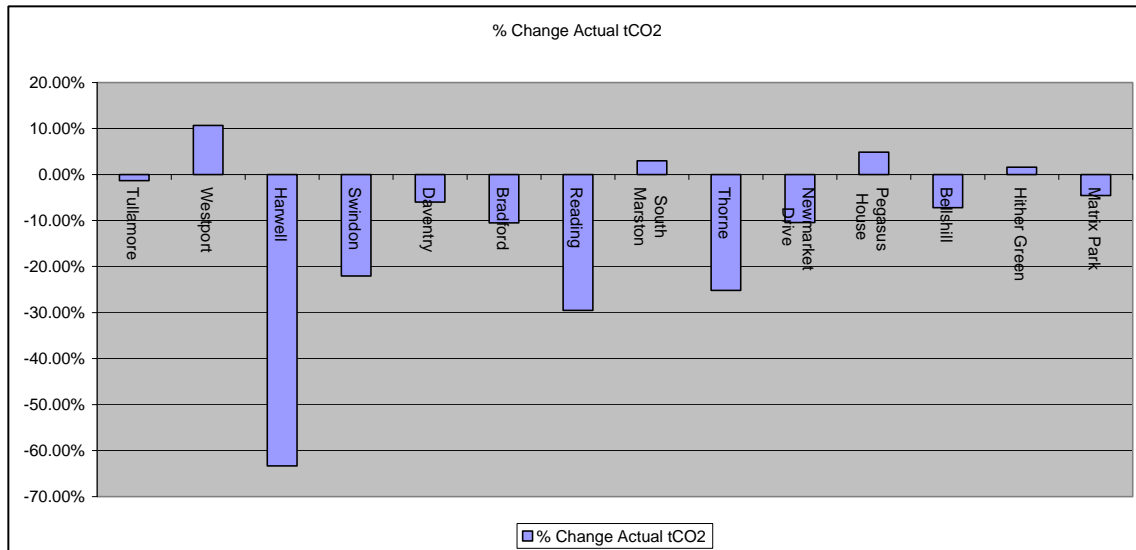
Asia and South Africa



Europe and Middle East



UK and Ireland



Progress against other actions and objectives for carbon management is outlined in the table below.

| Item | Description | Completion |
|------|--|---|
| 1 | Publish Synergy Health carbon policy in May 2010 | Completed. Published and translated into Dutch, French, German and Mandarin |
| 2 | Set reductions targets for businesses | Completed |
| 3 | UK – ensure compliance with CRC EES registration and submission deadlines | Complete July 2010 |
| 4 | UK – achieve accreditation to Carbon Trust Standard, December 2010 | Complete, October 2010 |
| 5 | Reduce consumption of utilities by 2.5% in UK, 2010-11* | Achieved |
| 6 | Reduce consumption of utilities by 2.5% in non-UK sites, 2010-11* | Achieved |
| 7 | Continue to investigate and implement opportunities to reduce carbon emissions from its facilities through the use of: <ul style="list-style-type: none"> ○ Carbon efficient technology ○ Equipment controls and utilisation ○ Behavioural change ○ Alternative technologies | Done and on-going |
| 8 | Implement outcomes from site audits in January/February 2010 | Completed |
| 9 | Re-audit sites to identify new opportunities to effect change in technology, controls and behaviour. September 2010. Extend formal site audits to non-UK sites. | Not done |
| 10 | Maintain employee awareness through Switch Off | Completed |

| | | |
|----|---|-----------|
| | campaign, information and education from the centre. Develop 'energy champions' at each site to maintain impetus and progress. | |
| 11 | Include Carbon Awareness in induction training for businesses. June 2010 | Completed |
| 12 | Incorporate learning in new facility design | Completed |
| 13 | Add an IT representative to Carbon Management Group | Completed |
| 14 | Create a single global data collection system to capture consumption, costs and emissions data through the Carbon Management group. | Completed |

** The 2010-11 plan was written prior to the restructuring of the group on an international regional basis.*

In the UK a carbon questionnaire/ survey was undertaken in July 2010. The responses from the questionnaire came from each of the businesses represented in the UK and demonstrate a growing awareness and interest in carbon management both in the work and domestic environment. A second questionnaire should be designed for the current year to determine whether the awareness of carbon management remains in place and how it has changed.

Over the course of the last 12 months there have been a number of projects and initiatives undertaken by businesses to reduce our carbon emissions. Some of these activities are listed below:

- The majority of sites, and all those in the UK, have carried out energy site surveys to determine where there are opportunities to reduce energy consumption and carbon emissions.
- In conjunction with the above we have carried out a staff carbon awareness survey; undertaken energy awareness briefings for staff and included carbon reduction in team briefings; issued carbon reduction awareness posters for display at sites to maintain awareness.
- In Decontamination and Linen Management operation of production equipment has been reviewed and changed to optimise loading and production efficiency as well as switching off the smaller pieces of energy intensive equipment during break and meal times.
- PowerPerfactor voltage optimisation project commenced in UK to determine whether the technology is suitable for our businesses. This could generate emissions reductions of up to c. 400tCO₂ p.a.
- Sheffield Linen Management: improved lighting technology, saved 88tCO₂ p.a. The efficacy of gas dryers has been improved to reduce drying times and thereby reduce gas consumption by between 6-8.5%.
- Ascot Drive has installed lagging on the cleanroom ceiling to reduce heating demand in the unit during cold weather. This has produced a 'marked' reduction in demand. It is intended to extend this practice across all cleanrooms where appropriate. A manual control system has been put in place to switch on/ off the Cleanroom AHU system.
- A wind turbine installation was considered for Matrix Park but found to be unsuitable because of the local wind conditions and proximity of other accommodation
- LIPS has run heat recovery projects on two CBWs to reduce gas consumption at Tiel.
- SHLS installed new analytical equipment reducing emissions by 4.33tCO₂.

- South Marston has improved its lighting technology for more efficient lights, taking out the 250W lights.
- Thorne has replaced light fittings- 250W fittings changed to 116W lights. Overall savings generated from changing light fitting and controls 24tCO₂. The site has ducted heat from the compressor to the outer pre-conditioning room, saving 23tCO₂. A heat exchanger has been added to the Lesni scrubber to recirculate heat rather than it going straight to exhaust. A new VSM has been installed on the compressor, saving 15tCO₂. An ultrasound probe has been purchased to test for leaks on steam valves and traps.
- Reading (Sterilisation) PIRs for lighting control installed in both the restroom and goods control office to reduce power consumption on these lights by 30%. PIRs installed in the offices and dosimeter room to reduce power consumption by 20% for lighting in these areas. PIRs installed in reception area reducing lighting power consumption by 50%.
- At Daventry the scheduling of production is being reviewed to determine whether it is more cost effective to process more goods at night to take advantage of a lower electricity night tariff. More energy efficient and fewer external light fittings have been installed at Daventry across the rear of the plant. The existing compressor has been replaced with a new single system to supply and run both processes, saving 11tCO₂. Draft excluders are being proposed for the loading bay door edges to maintain warehouse temperature during cold weather.
- Bradford has replaced 250W lighting with 116W lighting and improved draft exclusion to reduce emissions by 3tCO₂. The office AHU has been replaced to reduce emissions by 50%.
- Bellshill- replaced the AHU control with a variable speed motor (VSM) to reduce power consumption, saves 31tCO₂.
- Ireland- introduced compressor hot air recovery- 312tCO₂; heat recovery from 5/6/7 preconditioning cells- 50tCO₂; improved lagging on the steam supply pipework 197tCO₂; improved drying efficiency on the compressed air dryer, 70tCO₂; installation of steam valve blankets 80tCO₂. The viability of Combined Heating & Power is being reviewed in Ireland as an alternative power generation/ supply process.
- Lion and Larch Mills introduced timer switches for all vending machines- 17tCO₂. Removal of lighting strips at Lion Mill delivered 54tCO₂ reduction. Leak testing on the compressed air system saves 10tCO₂. At Larch Mill a timer fitted to the glue heating system on production equipment saves 10tCO₂. The Switch Off campaign at these two sites is estimated to save 65tCO₂.
- Matrix Park replaced fixed speed pumps with variable speed pumps on the boilers, 19tCO₂. Consideration is being given to switch off chiller pumps at weekends, saving 30tCO₂. Consideration is being given to the installation of manual dampers onto the AHU clean air make up supply to allow the intake to be seasonally adjusted. This could achieve a 45tCO₂ saving
- Matrix Park – there are plans to further review AHU operation and the lighting and control arrangements in the main production areas. This has commenced but outcomes are outstanding.

- Sheffield Linen Management- installed magnets on the boiler gas supply to reduce consumption by at least 6%. These have been in situ for some time now and have now delivered any discernable improvement to date. They are installed on a sale/ return basis.
- Dunstable- more efficient VSM compressors have been installed.
- Newmarket Drive has had new domestic heating and hot water boilers installed and also improved efficiency lighting throughout sections of the building. Warehouse lighting in particular has been improved with automatic movement and Lux controls.
- Wythenshawe has reduced the gas pressure to boilers to reduce overall consumption producing a reduction of 48tCO₂.
- New Decontamination facility designs have incorporated low carbon technology to reduce our footprint in Leicester. These include:
 - Steam boilers that recover waste heat and return it to the boiler water feed to reduce the total heating requirement and gas consumption;
 - A ‘free air’ steriliser cooling capability that utilises low ambient air temperatures to supplement the cooler capacity;
 - A ‘sleep’ mode for the cleanroom AHU that adjust air flow rates to reflect varying levels of occupancy and significantly reduces electricity consumption.
 - Lighting that maximises energy efficiency throughout the unit
 - Variable speed compressors that are 35% more efficient than standard models
- IT has put forward a proposal to replace existing server room AHUs with evaporative cooling based AHUs. There is an opportunity to save 123tCO₂. Removal of the server rooms in Elgin and Matrix Park can potentially save 243tCO₂ p.a.

Objectives for 2011-12

Synergy’s objectives for the Carbon Management in the coming year are set out below:

- Reduce carbon emissions by 2.5% relative to the appropriate unit of measure in each region.
- Continue on-going work to determine the benefits of voltage optimization with powerPerfector in UK sites. To create a business plan for installation of the technology over an agreed term in the UK. Monitor and measure the benefits of the technology. Seek to roll out the technology to other regions where a credible business case can be demonstrated.

- Review of all electric motors and pumps in all UK sites to determine the scale of opportunity to replace fixed speed equipment with variable speed equipment.
- Ensure compliance with Carbon Reduction Commitment Energy Efficiency Scheme for submission of a footprint and annual report by end of July 2011. Continue to seek to improve Synergy's position in the CRC performance league table, which will continue to be published. (Note- it has been agreed that re-accreditation to the Carbon Trust Standard will not be sought as allowance payments are no longer recycled. The cost of re-accreditation, c. £12k, will be used training and communication ref carbon in the businesses).
- Continue to investigate and implement opportunities to reduce carbon emissions from its facilities through the use of:
 - Carbon efficient technology
 - Equipment controls and utilization
 - Process efficiency
 - Behavioural change
 - Alternative technologies
- Undertake a global staff questionnaire to determine changes in level of carbon emissions awareness across the regions.
- Consider external training for sites' Energy Champions in UK, which can then be disseminated internationally, to maintain a high profile for the carbon management programme. Costs to be determined with Inenco and Ecus, though the training is to be considered self funding.
- Re-audit sites to determine benefits from implemented changes to operation and technology and identify new opportunities to reduce carbon emissions.
- Develop the Carbon Management programme in UK Decontamination following its re-organisation into four regions and appointment of new regional managers.
- Incorporate carbon efficient technology and design in new facilities: lighting, heating, AHUs, compressors, water re-use, water heating and heat exchange, voltage optimisation.
- Incorporate an electronic global data collection system in Project Olympic to facilitate data collection and reporting from the point of invoice for utilities.
- Retain Linen Management UK's membership of the TSA CCA to assure on-going relief from CRC EES carbon allowances' costs in SH(UK) Ltd. Consideration should also be given to incorporating Sterilisation and SHLS in SH(UK) Ltd. to remove their CRC costs, c. £60k p.a. at current cost per tonne of carbon. (This may not be cost effective because of the need to amend the Sterilisation sites' operating licenses from Isotron Ltd. to SH(UK)).
- Contribute required reporting for CSR up-dates.
- Equipment and technical areas of particular interest for review in the coming year, to seek more efficient technology, will continue to include:
 - Lighting elements and lighting controls
 - Air handling units (performance of socks at Sheffield)
 - Heat Pumps
 - Heating systems
 - Compressors
 - Water pumps

- Main processing equipment- washers, driers, autoclaves, sterilizers
- Heat exchange from water recovery/ reuse
- Voltage optimization
- CHP in Eire
- Water consumption reduction (Sheffield Laundry & water abstraction project)
- Consider alternative and renewable sources of energy generation to meet part or all of a site's requirements:
 - CHP in Eire
 - Wind power
 - Solar (photovoltaic or thermal) energy
 - Biomass

Specific Region and Business Plans for 2011-12

LIPS Developments

Every site within LTS has an Energy Efficiency Plan for the period 2009-2012. Next year the Energy Efficiency Plans for the Period 2013-2016 will commence. The Linen Business has started to make a Routing Map to plan out to 2030 to provide a picture of the developments and trends in the market towards 2030. In relation to the expected trends and changes in the market, new plans for research will be made for the Linen Business. The ideas are focused process efficiency, as well as supply chain efficiency (processing other textiles, reduced transport, increased recycling).

There are already a number of agreed plans for implementation in LIPS in the coming year, 2011/2012. These are highlighted in the table below.

| Site | Proposal/ plan | Completion |
|--------------|---|-------------------|
| Lips Goes | Heat-exchanger, legal issue | July 2011 |
| Lips Salland | Heat-exchanger, legal issue | PM |
| Lips Tiel | Optimization water consumption | 2011/2012 |
| Lips Tilburg | Closing-down site (improvement energy efficiency) | End of 2011 |

In relation to energy efficiency continuity of energy consumption monitoring is essential for the LIPS business. The standard procedures and formats will be maintained and the business will continue to feed into the current centralized reporting system too. Reporting of energy consumption will be based on information from the energy company and not from meter reading with the exception of two sites for electricity and c. five small gas users. (The contract for these sites can start December 2013/ January 2014). In the interim data for these sites will be based on meter readings and will be corrected at the end of the year from supplier invoice data.

UK Linen Management

Dunstable compressor- install a variable speed drives and compressor interface. Achieve a 265 k kWh consumption reduction, 237tCO2 p.a. Pay back period is 5 months, tbc.

Dunstable VSDs for process water pumps and boiler feed pump. Reduce power consumption by 25k kWh, 36.5tCO₂. Payback period of 1.29 years, or 11 months including ECA value.

Ascot Drive VSDs- raw water pumps, boiler feed pumps, Cleanroom AHU. Achieve a 46k kWh consumption reduction, 53.5tCO₂. Overall payback is 1.48 years with an ECA payback period of 11 months.

Ascot Drive – review compressor operation at Ascot Drive to determine if changes proposed for Dunstable are suitable.

Sheffield- carry out a full site review of pumps, motors and compressors to determine whether the site can benefit in the same way as identified above. Scheduled for May 2011.

Thailand

A number of completed and on-going plans for action on carbon reduction have been carried out by the Sterilisation unit in Thailand. Thailand also has a voltage optimization plant installed for an AHU in part of its operation which is delivering significant consumption savings, up to 25%, for the business. This is being looked at for all of the businesses in the UK currently, with a view to install where appropriate and cost beneficial. This technology is also widely available in Europe and may be rolled out in the region at a later date.

| Area | Action | Status | Saving |
|------------------|--|----------|-----------------|
| Plant | To changed the calculation method form TOD (Time of demand) to TOU(Time of use) to fit with the energy requirement of the operation. | Done | Electrical cost |
| Office / Canteen | Light switches labelled with “Switch off” signs | Done | Electrical cost |
| | Air conditioning switches labelled with “Turn off when leave the room over 1 hours” | Done | |
| | Air conditioners, set the temperature to 25 degree-C | Done | |
| | Reduction the number of bulbs in light fittings. | Done | |
| | Study to use Electronic Ballast for all fluorescent lighting. | On-going | |
| Meeting room | Air conditioners switches labelled with “Turn off 15 minutes before close the meeting. | Done | Electrical cost |
| Warehouse | Adjusting the work in the night shift as necessary. | Done | Electrical cost |
| | Turn the light on at night just only in the row of working area. | Done | |
| | Study to use LED High Bay instead of | On- | |

| | | | |
|-------------------|--|----------------------|-----------------|
| | Mercury Vapor light bulbs in the warehouse. | going | |
| Pallet irradiator | Air compressor, change the new screw set to improve efficiency and reduce the machine operation time. | Done | Electrical cost |
| | Water chiller, set the temperature to 30 Degree-C | Done range (28-33) C | |
| Tote irradiator | Hydraulic pump, changed new accumulator and pressure switch to reduce the operation time of the machine. | Done | Electrical cost |
| | Water chiller, set the temperature to 30 Degree-C | Done range (30-35) C | |

China: Carbon Reduction Plan 2011- 12

The local SIP government requires Synergy and other businesses in Suzhou SIP to reduce energy consumption as part of its wider programme to deliver a successful Energy Conservation Project which is being advocated in the city. Below is an outline of the Suzhou unit's Carbon Reduction Plan 2011-12, and a summary of actions taken to date.

| Action/ Project | Cost Benefit (RMB/ Month) | Remark |
|--|---------------------------|---|
| Use remaining steam which drain to the air for DHW system | c. RMB 1,500 | Reduce power for water heating |
| Change water control model | RMB 1,000 | Water consumption to reduce by 50% |
| Switch off heating to ETO precon. room, primary room etc. when not in use. | RMB 1,500 | |
| Switch off lights in SSD cleaning room when unused | RMB 100 | |
| Control AHU temp in summer and winter | RMB 1,500 | Prescribed temperature range. Summer has very high humidity |
| Change light control model of corridor, then move on to office and other accommodation | RMB 1,500 | Install movement/ daylight sensors |

Sterilisation Projects & Up-date, April 2011

All Sites- the initial report following the purchase of the thermal imaging camera still awaited. Ultrasonic probe has been purchased and used to detect and repair compressed air leaks at Thorne as well as to check steam traps, it will be used at other sites to target and repair leaks.

Bradford- survey of site using data logging equipment underway.

Daventry- lighting still to be reviewed above the ebeam and outside. Potential cost of moving to biomass for space heating to be investigated.

Harwell- lighting quotes to be obtained in order to reduce the 400W fittings to fluorescent fittings, some with integral PIRs. Heating in offices and warehouse to be upgraded.

Reading- PIRs installed in rear office and to be installed in dosimeter reading room.

South Marston- potential for changes to the external lights to be investigated.

Thorne- site surveyed using ultrasonic probe, all identified compressed air leaks repaired. Potential for ducting heat from the compressor room to improve the performance of the compressors is under investigation.

Review of pumps, motors and compressor at Thorne, May 2011, to ascertain whether there is scope to improve operating and consumption efficiency by 10%. Schedule in May 2011.

Decontamination

Strengthen the Carbon Management programme in UK Decontamination following its re-organisation into four regions and appointment of new regional managers. The key tasks in Decontamination are to make the new carbon management leads effective in their roles and to develop a list of projects from re-auditing sites in the coming months. The re-audit process has already commenced.

Monitor energy consumption per instrument at Knowsley to determine whether increased volumes will bring relative consumption and emissions into line with other units.

Extension of e-Sight training and use into Knowsley facility is scheduled for May 2011 to improve energy consumption at site. On a per unit basis this will improve in 2011-12 as instrument volume from the Walton facility transfers to Knowsley in July 2011.

Monitor energy consumption at the new sites in Leicester and Sheffield to determine the emissions per instrument and ensure they are as good as or better than current sites (particularly given the scale of the Sheffield facility) to validate the benefit of the energy and carbon efficient technology installed at the sites, and whether operational changes need to be made to achieve an emissions reduction.

Ensure that learning from Leicester and Sheffield is incorporated into future projects (as appropriate)- Reading, Lincoln, Grimsby, Barnet & Chase Farm and any overseas units which may be developed in the coming months. New Decontamination facility designs have incorporated low carbon technology to reduce our footprint in Leicester and Sheffield. These include:

- Steam boilers that recover waste heat and return it to the boiler water feed to reduce the total heating requirement and gas consumption;
- A 'free air' steriliser cooling capability that utilises low ambient air temperatures to supplement the cooler capacity;

- A 'sleep' mode for the cleanroom AHU that adjust air flow rates to reflect varying levels of occupancy and significantly reduces electricity consumption.
- Lighting that maximises energy efficiency throughout the unit using PIR and lux lighting controls.
- Variable speed compressors that are 35% more efficient than standard models

These carbon reduction technologies are being incorporated into the Lincoln and Grimsby projects.

In addition Decontamination is reviewing the potential to install LED lighting panels in its new facilities as a means of reducing carbon emissions and reducing maintenance and replacement costs as the panels have a 50,000 hrs operating life.

Insulation of ceiling spaces in off site decontamination facilities to reduce space heating and cooling costs, particularly in clean and decontamination rooms. This follows a successful installation at Ascot Drive cleanroom.

Review and implement the Decontamination logistics' review undertaken by D. Haddock to reduce the overall vehicle count, driver headcount and mileage. The vehicle reduction requires validation to ensure that mileage is not spread to other vehicles which simply increases the lease cost. A potential reduction of £260k p.a. has been identified in labour, fuel and vehicles costs. This estimate requires further validation. For new and replacement vehicles ensure that they have an Eco start capability where available to reduce fuel consumption.

Newmarket Drive- implement the AHU fan control system review. Achieve a reduction of 16.5tCO₂, payback period 11 months. ECA payback period 9 months.

Matrix Park- carry out a site review of AHU motors, compressors, motors and pumps to ascertain CO₂ emissions and cost reduction opportunities. The objective is to improve consumption efficiency by 10%, as per current proposals for Dunstable and Ascot Drive. Scheduled for May 2011.

Appendix 1

Note- the table below includes data from the new sites at Knowsley and Radeberg in 2010-11 for information, but which are excluded from the year-on-year comparison.

| | tCO2 | | Absolute Var. tCO2 | % Var. tCO2 |
|--------------------------------|--------------|--------------|--------------------|-------------|
| | tCO2 2009-10 | tCO2 2010-11 | | |
| Harwell | 1,605 | 589 | -1,016 | -63.31% |
| Bristol | 42 | 22 | -19 | -46.51% |
| Marcus Close, Reading | 238 | 168 | -70 | -29.53% |
| Capital Park, Thorne | 2,038 | 1,524 | -513 | -25.19% |
| Walton Summit | 354 | 268 | -87 | -24.44% |
| Elgin, Swindon | 557 | 434 | -123 | -22.05% |
| Euroway, Bradford | 334 | 299 | -35 | -10.50% |
| Newmarket Drive | 454 | 406 | -47 | -10.43% |
| LIPs | 13,486 | 12,263 | -1,223 | -9.07% |
| Lion Mill | 587 | 536 | -51 | -8.71% |
| Larch Mill | 331 | 303 | -28 | -8.44% |
| Bellshill Unit 4-5 Millard Way | 517 | 480 | -37 | -7.17% |
| Mayalsia | 1,623 | 1,525 | -98 | -6.04% |
| Drayton Fields, Daventry | 840 | 789 | -50 | -6.00% |
| Matrix Park | 1,856 | 1,772 | -84 | -4.54% |
| Matrix Park | 796 | 759 | -36 | -4.54% |
| Sheffield | 2,934 | 2,831 | -102 | -3.48% |
| Tullamore | 4,042 | 3,988 | -54 | -1.34% |
| Paisley | 53 | 52 | 0 | -0.95% |
| Etten Leur | 344 | 345 | 1 | 0.36% |
| Dunstable | 6,090 | 6,120 | 29 | 0.48% |
| Venlo | 1,901 | 1,930 | 29 | 1.51% |
| Park Road, Hither Green | 673 | 684 | 11 | 1.62% |
| Ede | 463 | 473 | 10 | 2.22% |
| France | 149 | 153 | 4 | 2.70% |
| South Marston, Thornhill | 630 | 649 | 19 | 2.99% |
| Thailand | 698 | 719 | 21 | 3.00% |
| South Africa | 241 | 251 | 10 | 4.27% |
| Ascot Drive | 4,885 | 5,115 | 230 | 4.71% |
| Pegasus House | 1,019 | 1,068 | 50 | 4.88% |
| Loanhead | 15 | 16 | 1 | 6.22% |
| Germany- Munich | 177 | 191 | 14 | 7.92% |
| Westport | 197 | 218 | 21 | 10.70% |
| Stella | 28 | 32 | 4 | 13.59% |
| China | 1,632 | 2,103 | 471 | 28.89% |
| Germany- Radeberg | 1,409 | 1,979 | 570 | 40.44% |
| Overbrook | 319 | 610 | 291 | 91.41% |

