



Creative Industry Green Cultural Buildings: 1 star
Theatre Royal Stratford East 2013/14 Report



Creative Industry Green Theatre Royal Stratford East 2013-14

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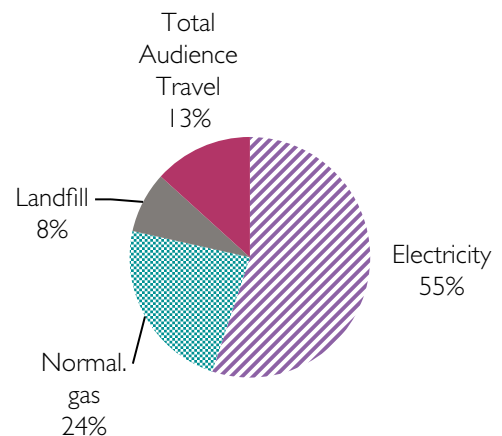
Executive summary

Theatre Royal Stratford East (TRSE) has been assessed against the Creative Industry Green criteria based on emissions data and evidence submitted by Ali Fellows, (former General Manager), Lee Henderson (current General Manager) and by Graeme Bright (Facilities Manager). Data from the financial year 2013-14 has been compared with 2012-13 and 2009-10 has served as the baseline year. TRSE has been awarded 1 star in recognition of its efforts to embed environmental sustainability into its operations and activities. This is the TRSE's fourth Creative Industry Green certification

For Commitment, Understanding and Communication, the theatre has maintained the same rating as last year, but for improvement, the theatre has been able to move from 2 to 3 stars.

Creative Industry Green certification rating	
Commitment <ul style="list-style-type: none"> Green Committee in charge of engaging staff and customers; Engagement with employees and suppliers. 	**
Communication <ul style="list-style-type: none"> Green notice board to communicate environmental updates with employees and the Board of Directors. 	*
Understanding <ul style="list-style-type: none"> Measurement of a wide range of metrics including gas, electricity, water, wastewater and waste. 	**
Improvement <ul style="list-style-type: none"> Reduction of emissions per performance from gas, electricity, water and waste. 	***
Overall Creative Industry Green Rating	*

Carbon emissions: TRSE 2013-14
407.3 tonnes CO₂



Key recommendations:

- To review annually the Environmental Policy and Action Plan to ensure it is fully up to date;
- To formulate a specific communications campaign, with tailored communications going to each stakeholder group;
- To measure other environmental impacts beyond the Industry Green scope, such as business travel and audience travel;
- To refine its Environmental Action Plans such that objectives are SMART (Specific, Measurable, Achievable, Realistic and Time-bound), and have been assigned to an appropriate member of the department to ensure it is carried out.

I. Overview

I.1. Creative Industry Green criteria

Creative Industry Green provides organisations with an annual environmental impact report, which assesses an organisation across four criteria: Commitment, Communication, Understanding, and Improvement. Organisations are awarded an IG certification of 1-3 stars reflecting their performance across all four of the listed criteria. The Creative Industry Green overall rating requires consistent rating across all four criteria i.e. to be awarded 2 stars, an organisation must have been awarded 2 stars in all four criteria. Find out who else is [Creative Industry Green certified](#).

Commitment

- Having an environmental/sustainability policy
- Assigning roles and responsibilities
- Stakeholder engagement

Communication

- Communicating environmental initiatives and performance with stakeholders
- Communicating Creative Industry Green results with stakeholders (where applicable)

Understanding

- Understanding the organisation's environmental and carbon impacts
- Prioritising main environmental impacts

Improvement

- Managing the organisation's main environmental impacts
- Achieving reductions
- Having an environmental action plan

In order to achieve 2* and 3* ratings, requirements relating to 1* and 2* must also have been satisfied.

I.2. Organisational overview

Theatre Royal Stratford East is a small theatre with a floor area of 2,726 m². The theatre has a main space with a capacity of 641 seats. It has a restaurant/café with a capacity of 150 people and employs 35 full time employees.

In 2013-14, the theatre was open for 364 days and put on 241 performances (200 weighted performances).

The theatre has two individuals responsible for environmental performance. At a senior level, Ali Fellows, General Manager (senior manager) and at an operational level Graeme Bright, Building & Facilities Manager (operational level).

The theatre has an environmental policy and action plan in place.

2. The criteria

2.1. Commitment

Commitment refers to having a formalised organisational commitment to environmental sustainability i.e. having an environmental sustainability policy in place and agreed environmental roles and responsibilities. Commitment also refers to leading by example and sharing best practice by engaging with stakeholder groups.



Creative Industry Green Commitment rating

To achieve 2 stars in Commitment, organisations must satisfy the following criteria:

Environmental/ sustainability policy in place and under regular review (i.e. every couple of years)

AND Engage and actively involve at least two stakeholder groups (from the following list) in taking environmental action:

- Staff & crew
- Supply chain organisations (such as contractors, traders, catering, suppliers etc.)
- Incoming artists
- Incoming events
- Community
- Audience
- Other (please specify)

Assessment

TRSE has an environmental policy and an action plan in place and two individuals responsible for environmental performance at a senior level. TRSE is currently engaging with employees and suppliers. As such, TRSE is awarded 2 stars for Commitment.

Senior Management

Theatre Royal Stratford East (TRSE) has two people responsible for environmental performance; Graeme Bright, Building, and Facilities Manager, and Lee Henderson, General Manager.

Green Committee

TRSE has a Green Committee whose members are in charge of engaging staff and customers.

Environmental Policy and action plan

The Environmental Policy was issued in 2012, and states the overarching commitment of the theatre to reduce the environmental impact of its work. Its scope covers the following areas:

- Energy
- Water
- Waste
- Travel
- Materials

Employees

Employees are engaged through Carbon Trust stickers and posters that encourage them to reduce energy. They also have the opportunity of reporting anything green-related in the weekly operations meetings.

Suppliers

Suppliers are asked if they have an environmental policy to which they operate.

Recommendations

To be awarded 3 stars for Commitment, TRSE will need to demonstrate best practice by embedding environmental sustainability in key roles and responsibilities across the organisation and/or within the core business mission, strategy and planning. It will also need to engage and actively involve at least three stakeholder groups (from the following list) in taking environmental action: employees, supply chain organisations, incoming artists, incoming events, the community, audience and the general public.

Julie's Bicycle would further recommend that TRSE:

- Reviews annually the Environmental Policy and Action Plan to ensure it is fully up to date;
- Organises a Green Week, or other employee engagement events, where staff can be encouraged to take a more active role in reducing environmental impact. For example, providing a bike servicing/security marking service could encourage employees to cycle to work;
- Engages with incoming artists to encourage lower impact travel, careful use of resources, and active recycling/reduction of waste. For example, including an environmental section in welcome packs for incoming artists;
- Targets audiences with actions such as including a section in the website about traveling to theatre by public transport or by putting on a play about climate change.

2.2. Communication

Communication refers to how well an organisation communicates its environmental initiatives and Creative Industry Green results with its stakeholders.



Creative Industry Green Communication rating

To achieve 1 star in Communication, organisations must satisfy the following criteria:

- Communicating environmental impacts and improvements and Industry Green certification – report, results, logo, etc. with directors, board and staff

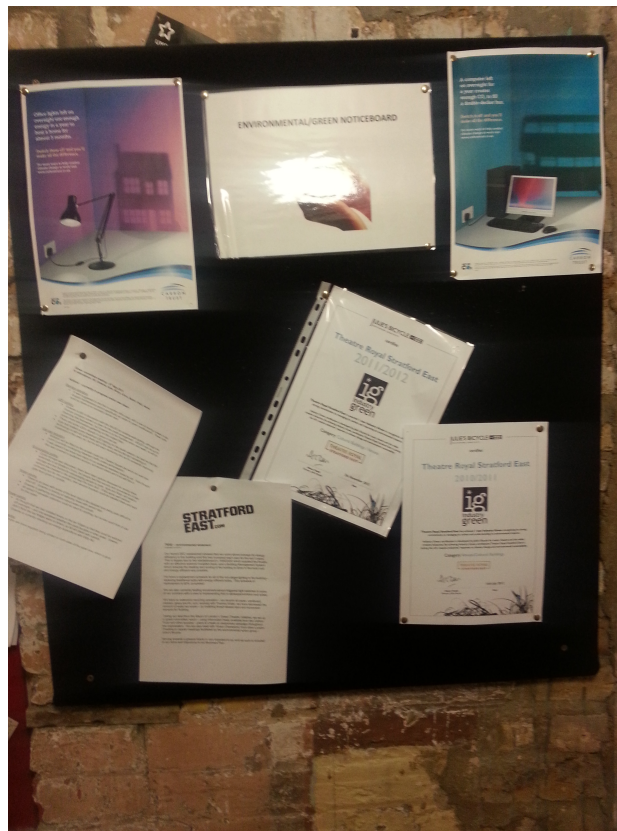
Assessment

TRSE is communicating its environmental actions with employees and directors. As such, TRSE is awarded 1 star for Communication.

Employees and Board of Directors

Employees and Board of Directors receive the minutes from the Green Committee meetings. There is a green notice board where employees can read updates about environmental performance (Image 1). The Industry Green report is available to all employees and directors in this green notice.

Image 1: The green notice board for staff communication



Recommendations

To be awarded 2 stars, TRSE will need to communicate environmental impacts and improvements and Industry Green certification – report, results, logo, etc. with at least two stakeholder groups (from the following list): supply chain organisations (such as contractors, traders, catering, suppliers, etc.), incoming artists, incoming events, the community, the audience and the general public.

Julie's Bicycle would further recommend that TRSE:

- Formulates a specific communications campaign, with tailored communications going to each stakeholder group;
- Uses social media for communicating environmental impacts, initiatives and improvements;
- Shares its environmental initiatives and updates with LTC.

2.3. Understanding

Understanding refers to an organisation's awareness of its main environmental impacts; as evidenced by monitoring and analysing qualitative and quantitative information, and using this analysis to inform environmental action setting.

**

Creative Industry Green Understanding rating

To achieve 2 stars in Understanding, organisations must satisfy the following criteria:

Completion of the IG Venue and Cultural Building/ Office Tool with two or more years' worth of data and supporting evidence submitted, including as a minimum energy, water and waste.

Assessment

TRSE has provided data for energy use, water use and waste. The theatre has provided energy data, including gas and electricity, for 5 years and water and waste data for the last two years. As such, TRSE is awarded 2 stars Industry Green for Understanding.

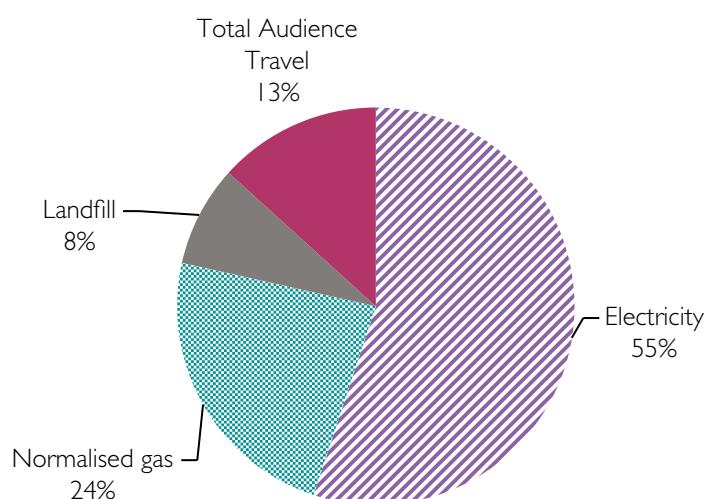
See Annex 1 for all data submitted by TRSE to Julie's bicycle for Creative Industry Green certification (table 1). Annex 2 provides the calculated emissions for all submitted data for years, plus the percentage change relating to the Creative Industry Green assessment i.e. the baseline year (2009-10 being the first year TRSE submitted data to Julie's Bicycle), the current year (2013-14) and the previous year (2012-13).

Table 1. Environmental impacts being measured by TRSE

Impact being measured?	2009-10	2010-11	2011-12	2012-13	2013-14
Energy	Y	Y	Y	Y	Y
Water				Y	Y
Waste				Y	Y
Understanding Star rating				2	2

In 2013-14, TRSE's activities generated 407.3 tonnes of carbon dioxide equivalent; which corresponds to 2,036.5 kg per performance. These impacts are from energy, water, wastewater, and waste, as shown in Graph 1.

Graph 1. TRSE emission sources 2013-14



* Note: Audience travel has been calculated by using default figures.

Context for carbon emissions

In 2013-14, TRSE emitted 407.3 tonnes of carbon dioxide equivalent, which corresponds to 52 car journeys around the world.

Recommendations

To achieve 3 stars for understanding, TRSE will need to monitor and measure at least one further source of impact (beyond energy, water and waste) for at least one year: business travel, production travel, audience travel, production, touring, commuting and other relevant key sources of impact such as materials use, merchandise, food/catering, TRSE will also need to demonstrate best practice by establishing more in depth understanding of one or more areas of impacts e.g. energy end use audits, building user audits, regular water monitoring and measurement, waste audits, audience travel surveys and using data to inform and prioritise actions

Julie's Bicycle would further recommend that TRSE:

- Understands energy use in greater detail, possibly by conducting a baseline electricity consumption analysis, or by installing sub-meters to increase understanding of the energy use in different sectors of the building;
- Measures other environmental impacts beyond the Industry Green scope, such business travel and audience travel;
- Liaises with their waste contractor to improve the measurement of waste;
- Conducts a survey to measure audience travel.

2.4. Improvement

Improvement refers to the reduction of environmental impacts and improvement of environmental performance e.g. through emissions reductions, as well as the management of environmental impacts through strategic action plans. For the purposes of this report, improvements are always calculated in relative terms, i.e. per performance. Annex 2 provides the absolute emissions for reference only; it also provides the emissions per performance that are used in this section for assessing improvement overall, relative to the baseline year and the previous year.



Creative Industry Green Improvement rating

To achieve 3 stars in Improvement, organisations must satisfy the following criteria:

A decrease of ≥6% in energy-related carbon emissions as compared to the previous year, providing the energy-related emissions are lower than the baseline year (i.e. first year of data) and, in addition, achieving at least one of the following:

- A decrease in total tonnes of waste going to landfill or an increase in percentage of waste to recycling as compared to the previous year and baseline year
- A decrease in total litres of water and wastewater as compared to the previous year and baseline year
- Being below the Julie's Bicycle benchmark for Venues and Cultural Buildings
- A decrease in any other relevant sources of impacts as applicable, compared to the previous year and baseline year (e.g. business travel, production etc.)

Assessment

When comparing 2013-14 with 2012-13, TRSE has reduced its carbon emissions per performance from energy by 41.4%. Of these, emissions from electricity per performance have decreased by 44% and from normalised gas by 34.4%. These excellent results are due to the significant efforts carried out by TRSE and that have included the installation of LED lighting movement sensors fitted into toilets and other sporadic-use areas, power factor corrector fitted, variable speed fans fitted on AHU and on-going work on maximizing efficiency with the operation of the BMS.

Emissions per performance from water have decreased by 24.9% when comparing 2013-14 with 2012-13 (table 2) but this is mainly due to the fact that there have been more performances in 2013-14 because in fact, this metric in absolute terms has increased by 19.3% since last year.

Emissions from waste per performance decreased by 37% and this is due to the provision of more bins for segregating waste and more stakeholder engagement.

Table 2. Percentage change in carbon emissions per performance

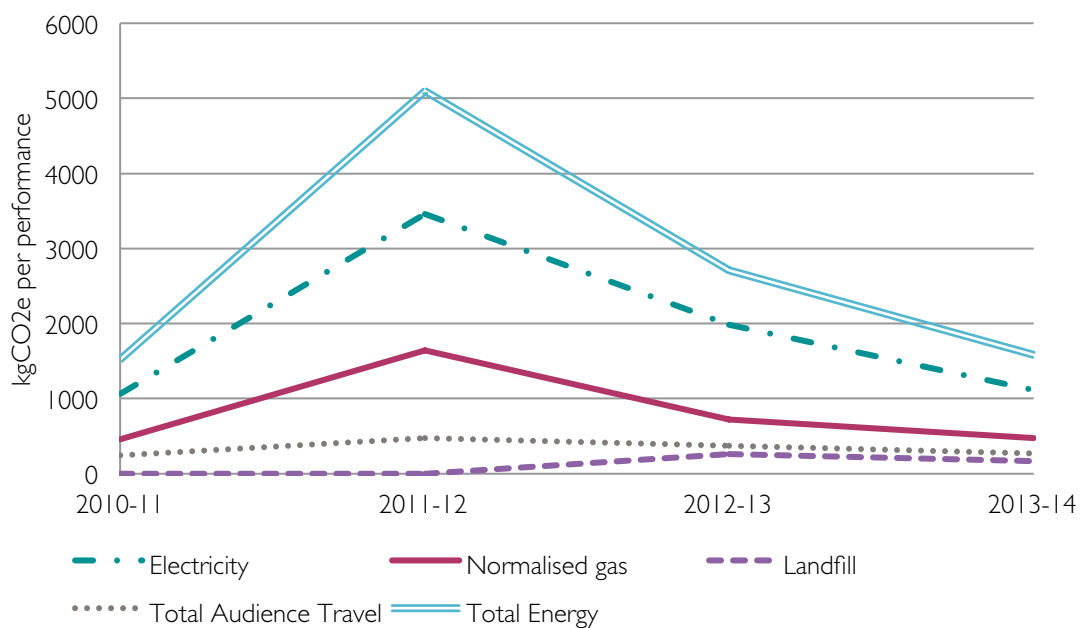
2013-14 v 2012-13	
<i>Electricity</i>	-44.0%
<i>Normalised gas</i>	-34.4%
<i>Total Energy</i>	-41.4%
<i>Water</i>	-24.9%
<i>Landfill</i>	-37%
<i>Total Audience Travel</i>	-28.0%

Carbon emissions per performance from energy in relative figures cannot be compared with the baseline (2009-10) because the number of performances for 2009-10 is not available. In this case, absolute figures have been considered to carry out this comparison (table 3) and from these results, it can be highlighted that TRSE has been able to reduce carbon emissions by 57.1% when comparing 2013-14 with the baseline year. Of these, emissions from electricity have decreased by 45.9% and from normalised gas by 11.2% since the baseline year.

Table 3. Percentage change in carbon emissions in absolute figures

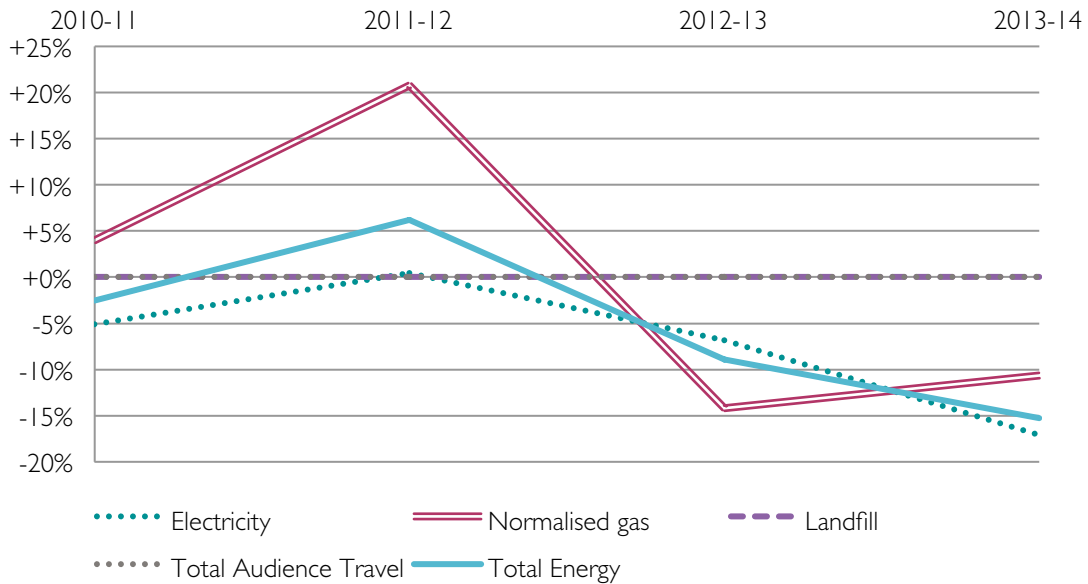
	2013-14 v 2009-10
Electricity	-45.9
Normalised gas	-11.2
Total Energy	-57.1

Graph 2. Year on year emissions comparison (kg CO₂e per performance)



The carbon intensity graph shown in Graph 3 gives the percentage change in overall carbon emissions relative to the baseline year for each of the emission sources. This graph uses the relative (per performance) data. The graph shows where there have been increases and decreases over the years of data measurement. In achieving 3 stars for Improvement, TRSE have shown a decrease in energy emissions of more than 41.4% since the previous year, and emissions are lower than the baseline year.

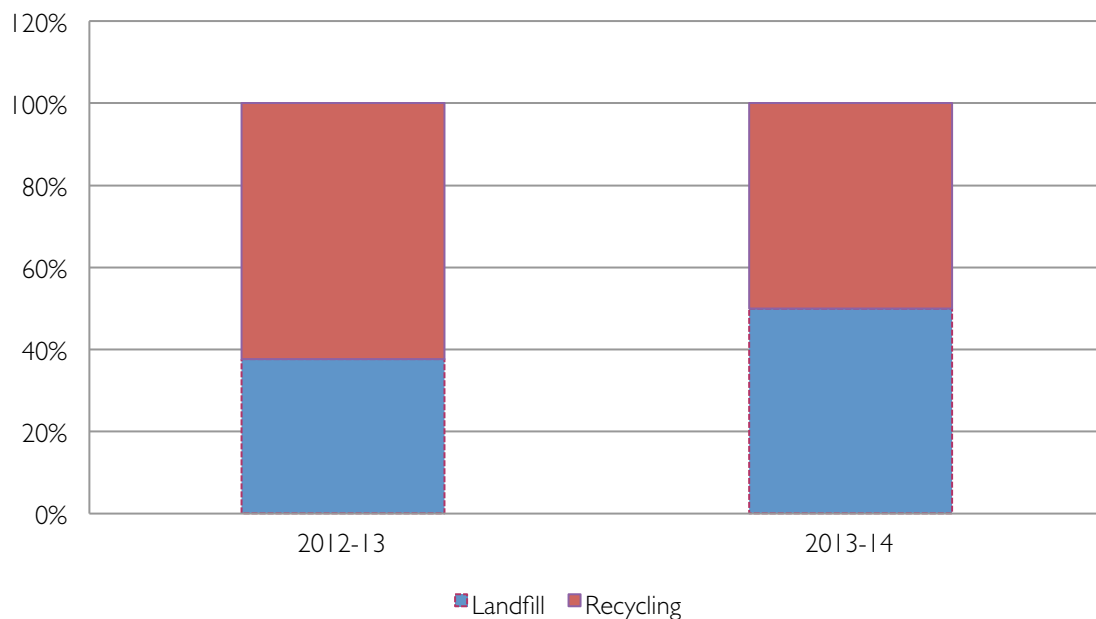
Graph 3. TRSE Carbon Intensity (based on absolute emissions)



These relative results are based on changing numbers of performances, which can make a marked difference to the relative carbon emissions. See Table 1-2 in Annex 1 for the performance and attendance data.

Waste generated by TRSE per performance decreased by 36% when comparing 2013-14 with 2012-13. This is caused by the provision of more bins to segregate waste. Of this waste, 50% is being sent for recycling, as shown in Graph 4.

Graph 4. Percentage change in proportion of waste going to landfill and recycling



Recommendations

To maintain 3 stars for Improvement, TRSE will need to show a decrease of $\geq 6\%$ in energy-related carbon emissions as compared to the previous year, providing the energy-related emissions are lower than the baseline year (i.e. first year of data) and, in addition, achieving at least one of the following:

- A decrease in total tonnes of waste going to landfill or an increase in percentage of waste to recycling as compared to the previous year and baseline year;
- A decrease in total litres of water and wastewater as compared to the previous year and baseline year;
- Being below the Julie's Bicycle benchmark for Venues and Cultural Buildings;
- A decrease in any other relevant sources of impacts as applicable compared to the previous year and baseline year (e.g. business travel, production etc.).

Furthermore, Julie's Bicycle would further recommend that TRSE:

- Refines its Environmental Action Plans such that objectives are SMART (Specific, Measurable, Achievable, Realistic and Time-bound), and have been assigned to an appropriate member of the department to ensure it is carried out.

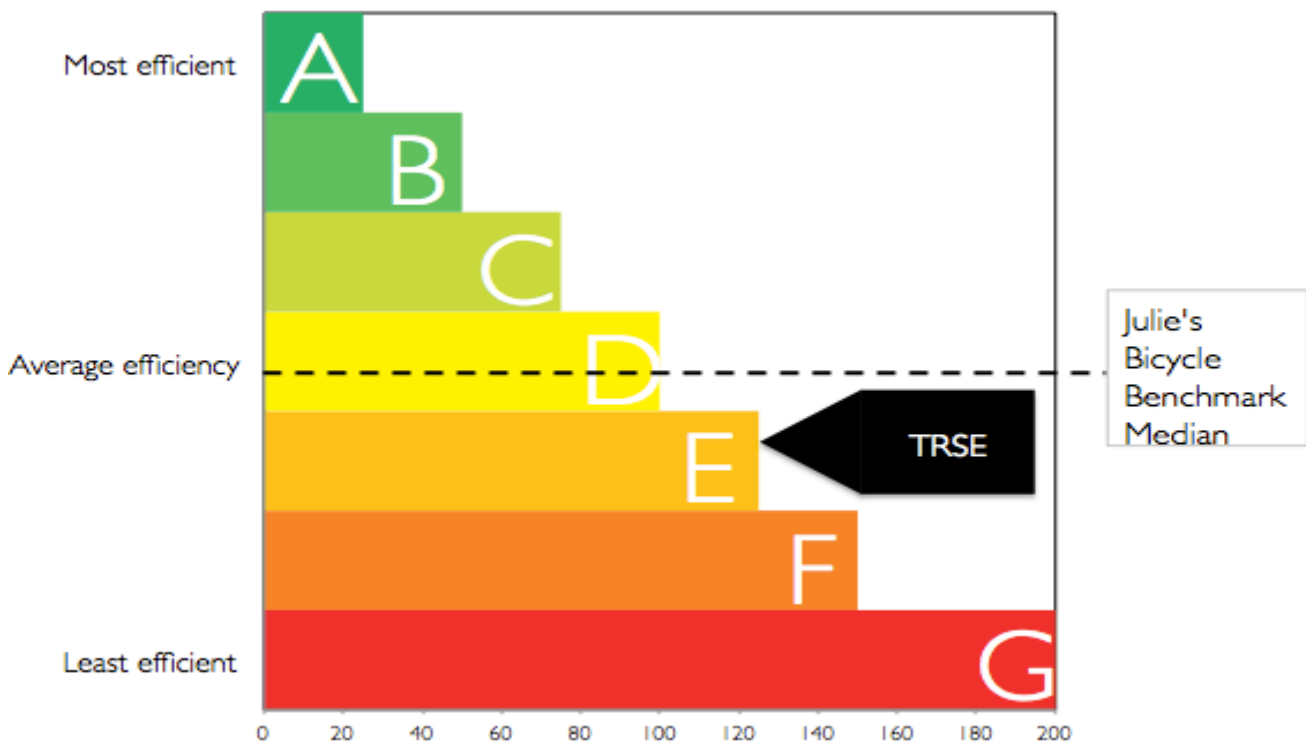
3. Industry benchmarks

Julie's Bicycle has developed a set of benchmarks to help organisations compare their environmental performance against the industry average for venues/cultural buildings, offices and outdoor events. All benchmarks have been developed using data collected by Julie's Bicycle through Creative Industry Green certifications, Creative IG Tools accounts, and partner organisations from across the cultural sector. This collection of benchmarks is the second edition (March 2014) released by Julie's Bicycle, and builds on the first edition (April 2012), which was relevant to venues/cultural buildings and outdoor events.

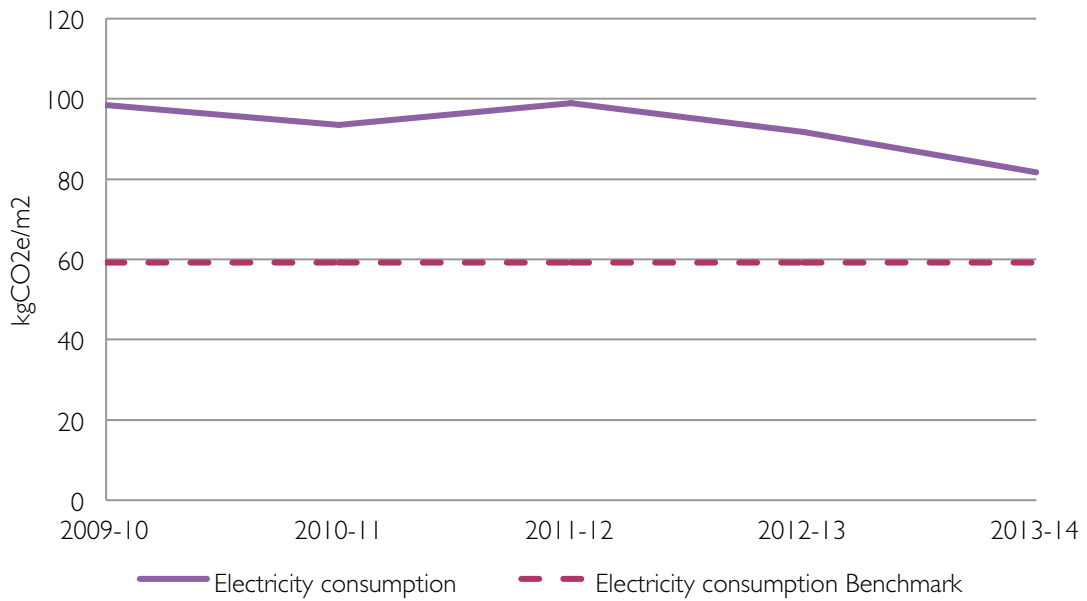
The benchmarks have been created using appropriate 'relative' metrics to make them more easily comparable to an organisation whatever its size and scale; the metric is per m² per year for buildings. Comparing environmental performance against these benchmarks gives organisations an understanding of their indicative energy and resource efficiency, as compared to the sector average. The Creative IG Tools also includes a table, which allows organisations to compare their impacts to the Julie's Bicycle benchmarks automatically (found in the View Results tab).

The benchmark median (shown by the dotted line) is the average efficiency across all venues included in the Julie's Bicycle benchmarking calculation. There is a large variation in the size, design and age of buildings, and achieving this level of efficiency is likely to be very difficult for some venues without major capital investment.

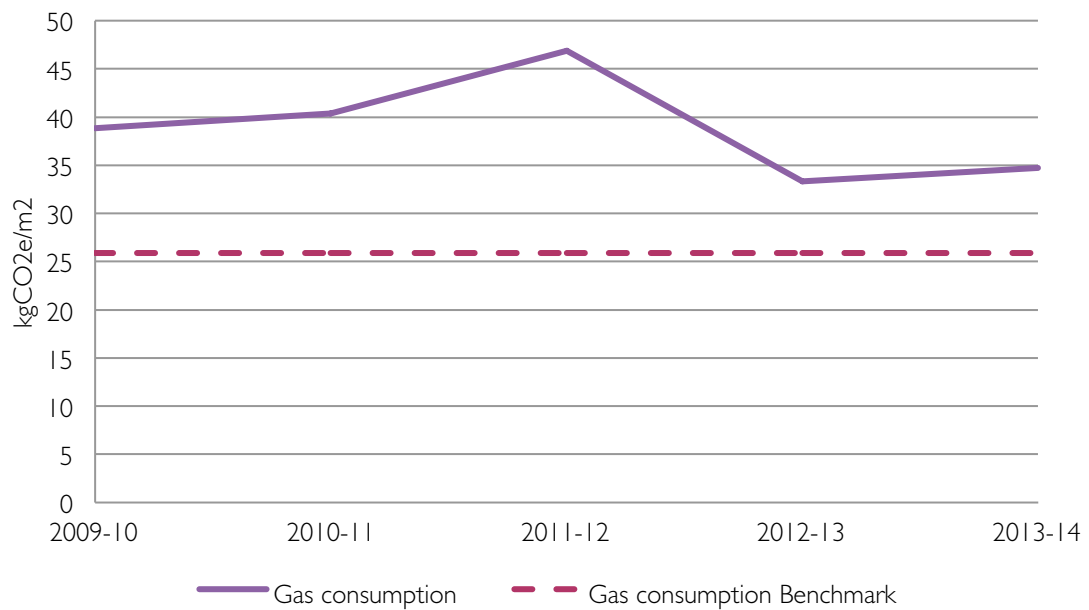
Graph 5. TRSE comparison with Julie's Bicycle benchmarks – overall rating



Graph 6. Comparisons with Julie's Bicycle benchmarks - Electricity (% difference per m²)



Graph 7. Comparisons with Julie's Bicycle benchmarks - Gas (% difference per m²)



Annex I: Applicant data

Table I summarises all data supplied to Julie's Bicycle by TRSE used for emissions calculations.

Tables I-I. Applicant data provided for emissions calculations

Venue Details	Unit	2009-10	2010-11	2011-12	2012-13	2013-14
<i>Venue Floor Area</i>	m2	2,726	2,726	2,726	2,726	2,726
<i>Capacity</i>	seats	641	431	731	551	531
<i>Spaces</i>		1	1	1	1	1
<i>Performances per year</i>	Performances	N/A	240	78	126	200
<i>Attendance</i>	persons	N/A	69,517	44,021	55,990	63,968

Energy	Unit	2009-10	2010-11	2011-12	2012-13	2013-14
<i>Electricity</i>	kWh	499,395	474,076	501,526	465,366	413,984
<i>Gas consumption</i>	kWh	542,747	603,695	544,218	515,022	466,904
<i>Normalised gas</i>	kWh	572,490	595,445	691,304	491,203	511,721

Water and Sewage	Unit	2009-10	2010-11	2011-12	2012-13	2013-14
<i>Water use</i>	m3	0	0	0	2,654	3,165
<i>Sewage</i>	m3	0	0	0	2,654	3,165
<i>Water & Sewage</i>	m3	0	0	0	5,308	6,330

Waste	Unit	2009-10	2010-11	2011-12	2012-13	2013-14
<i>Landfill</i>	Tonnes	0.0	0.0	0.0	114.4	114.4
<i>Recycling</i>	Tonnes	0.0	0.0	0.0	189.3	114.4
<i>Total Waste</i>	Tonnes	0.0	0.0	0.0	303.7	228.8

Waste	Unit	2009-10	2010-11	2011-12	2012-13	2013-14
<i>Landfill</i>	kg/performance	N/A	0.0	0.0	907.9	572.0
<i>Recycling</i>	kg/performance	N/A	0.0	0.0	1502.2	572.0
<i>Total Waste</i>	kg/performance	N/A	0.0	0.0	2410.2	1144.0

Audience Travel	Unit	2009-10	2010-11	2011-12	2012-13	2013-14
<i>Train (National)</i>	pmiles	0	625,653	396,189	503,910	575,712
<i>Car (Average)</i>	pmiles	0	69,517	44,021	55,990	63,968
<i>Total Audience Travel</i>	pmiles	0	695,170	440,210	559,900	639,680

Note: Audience travel calculated by using default figures.

Annex 2: Environmental impacts

Table 2-1 lists the absolute emissions for all years, and Table 2-2 shows the relative emissions for all years, i.e. per performance. Table 2-3 shows the percentage change in relative emissions for the years relating to the Creative Industry Green assessment i.e. the baseline year, 2009-10 (the first year TRSE submitted data to Julie's Bicycle), the current year (2013-14) and the previous year (2012-13).

Please note that all data submitted for previous years have been re-calculated using the most recent emission conversion factors, and therefore carbon totals might differ from previous Creative Industry Green reports.

Tables 2-1. Absolute Environmental Impacts (tonnes CO₂e)

Energy	2009-10	2010-11	2011-12	2012-13	2013-14
<i>Electricity</i>	268.4	254.8	269.6	250.1	222.5
<i>Normalised gas</i>	105.9	110.1	127.9	90.9	94.7
<i>Total Energy</i>	374.3	364.9	397.4	341.0	317.2

Water and Sewage	2009-10	2010-11	2011-12	2012-13	2013-14
<i>Water use</i>	0.0	0.0	0.0	0.9	1.1
<i>Sewage</i>	0.0	0.0	0.0	1.9	2.2
<i>Water & Sewage</i>	0.0	0.0	0.0	2.8	3.3

Waste	2009-10	2010-11	2011-12	2012-13	2013-14
<i>Landfill</i>	0.0	0.0	0.0	33.2	33.2
<i>Total Waste</i>	0.0	0.0	0.0	33.2	33.2

Audience Travel	2009-10	2010-11	2011-12	2012-13	2013-14
<i>Train (National)</i>	0.0	47.7	30.2	38.4	43.9
<i>Car (Average)</i>	0.0	10.6	6.7	8.5	9.8
<i>Total Audience Travel</i>	0.0	58.3	36.9	47.0	53.6

Tables 2-2. Relative Environmental Impacts (kg CO₂e per performance)

Energy	2009-10	2010-11	2011-12	2012-13	2013-14
<i>Electricity</i>	N/A!	1,061.7	3,455.9	1,985.1	1,112.5
<i>Normalised gas</i>	N/A!	458.9	1,639.4	721.1	473.3
<i>Total Energy</i>	N/A!	1,520.6	5,095.3	2,706.2	1,585.8

Water and Sewage	2009-10	2010-11	2011-12	2012-13	2013-14
<i>Water use</i>	N/A	0.0	0.0	7.2	5.4
<i>Sewage</i>	N/A	0.0	0.0	14.9	11.2
<i>Water & Sewage</i>	N/A!	0.0	0.0	22.2	16.7

Waste	2009-10	2010-11	2011-12	2012-13	2013-14
<i>Landfill</i>	N/A	0.0	0.0	263.2	165.8
<i>Total Waste</i>	N/A	0.0	0.0	263.2	165.8

Audience Travel	2009-10	2010-11	2011-12	2012-13	2013-14
<i>Train (National)</i>	N/A	198.8	387.3	304.9	219.5
<i>Car (Average)</i>	N/A	44.2	86.0	67.7	48.8
<i>Total Audience Travel</i>	N/A	242.9	473.3	372.7	268.2

Table 2-3. Percentage change in relative emissions: current year to previous year

	2013-14 v 2012-13
<i>Electricity</i>	-44.0%
<i>Normalised gas</i>	-34.4%
<i>Total Energy</i>	-41.4%
<i>Water</i>	-24.9%
<i>Landfill</i>	-37%
<i>Total Audience Travel</i>	-28.0%

Table 2-4 Percentage change in absolute emissions: current year to baseline year.

	2013-14 v 2009-10
<i>Electricity</i>	-45.9
<i>Normalised gas</i>	-11.2
<i>Total Energy</i>	-57.1