

CUMBERNAULD THEATRE AT LANTERNHOUSE

Cumbernauld Theatre Environmental Sustainability and Resource Efficiency Plan

August 2021

ENVIRONMENTAL POLICY

Cumbernauld Theatre aims to reduce overall carbon footprint as a result of operations. In 2021 the Theatre's production and multi-arts programme activity will move to a new venue which has been designed to be environmentally sustainable.

Our Building

Heat retention

The venue design team Norr approach to an "energy reduction strategy" was to follow a "fabric first" approach i.e. where the building "envelope" is designed to have high levels of insulation and air tightness, such that heat loss via thermal conduction and air loss is greatly reduced.

The u-values adopted for the various elements of the external envelope are as follows:

- External walls: 0.15 W/M2K
- Roofs: 0.12 W/M2K
- Ground floor slab: 0.15 W/M2K
- Glazing systems: 1.5 W/M2K
- External doors: 1.5 W/M2K

All of these u-values are considerably better than the minimum requirements of the current Building Regulations.

The building has also been designed to be exceptionally air-tight and is designed to have the following maximum air leakage rate: 5m³/m²/Hr@50Pa

Again, this is significantly better than the maximum leakage rate allowed by current Building Regulations. The building will be pressure tested on completion in order to verify that the maximum air leakage rate has been achieved.

Energy use/management

The specification of the mechanical and electrical services elements have been carefully selected by the venue Mechanical and Electrical designer in order to provide a high level of energy efficiency in-use.

The following is a summary of some of the energy saving/monitoring features that have been incorporated into the services design:

Heat Recovery has been provided on all Theatre Air Handling Unit systems and insulation has been installed to all Pipework within the Theatre to maximise energy efficiency.

Energy Metering connected to the BMS has been provided to allow use to be monitored and benchmarked.

Heat Meters have been installed to Theatre CT Heating Circuit, VT Heating Circuit and AHUs.

Water Meters have been installed to the CWS, HWR and HWS systems which serve the Theatre

Multifunction Electrical Metering has been provided to all outgoing ways from the Theatre Section Board

High efficiency, low energy lighting has been specified, together with a control system that will reduce energy waste.

The predicted annual energy consumption and carbon emissions for the proposed Cumbernauld Theatre is identified within the Section 6 compliance Report as being 12.0 kg.CO2/m2.

Renewable Technologies

In addition to the various energy reduction measures incorporated into the building, Renewable technologies have been incorporated in order to provide a sustainable heating source and to generate electrical energy:

- A biomass boiler provides the base heating load for the building (augmented by a high efficiency gas boiler system)
- Photovoltaic panels (PV) have been incorporated.

BREEAM

The project has been designed to achieve a “Very Good” rating under the British Research Establishment Environmental Assessment Method (BREEAM). This assessment covers the full spectrum of environmental and sustainability measures including:

- Energy and CO2 reduction
- Water management

- Sustainable transport
- Waste management
- Ecology
- Health & Well being
- Waste management

The “in-use” waste reduction strategy will be developed by the Building User, however, the following features have been included within the base building design to facilitate an efficient waste management plan:

A general waste/recycling enclosure has been created adjacent to the Kitchen area and this has been sized to accommodate a variety of waste/recycling receptacles.

A specific “building material” waste enclosure has been created adjacent to the Theatre workshop. This will allow various waste materials to be separated and recycled as appropriate

At Cumbernauld Theatre we recognise our responsibility to the environment and have adapted ways of working to reduce our environmental footprint: it is our intention to continue to improve our environmental performance as part of our business strategy and operations. We will review this strategy on a regular basis and will continue to encourage all our staff to do the same.

RESPONSIBILITY

Amanda Young (Operations Director) is responsible for ensuring that our environmental policy is implemented and monitored. However, all employees have a responsibility in their area to ensure that the aims and objectives of the policy are met.

Focus on Energy, Travel, Waste

The new venue has been designed to be energy efficient in terms of retaining heat and using mechanical air management systems that are computer controlled for optimum efficiency.

Area for focus:

1. Set up key energy and waste data collection from the Building Management Systems, via the Venue Steering Group to monitor and report regularly usage.
2. Manage training/awareness amongst staff of Building Management Systems and how these can be altered if needed in response to key energy and waste data , accepting that some settings may need changing once the programme and activities have settled in. Building Management Systems are sometimes set to a maximum initially for building users’ comfort but possible efficiencies become clearer later down the line.
3. Use of lighting – plan switching off when not in use, motion sensor at all other times, staff training. Mapping lighting zones/control to get an accurate measure of usage and identify if any controls need changing, again once building use has become clear.

Responsibility: Operations Director to undertake induction in new venue operating systems and initiate training for staff teams on use of lighting, control of lighting.

4. Marketing

- Switch to digital communications – process to move people to digital – e-brochure, digital signage in building, mobile promotions – over three years 2021-2024
- Switch to e-tickets – mobile and tablet
- Ask customers on database specifically – who wants a printed brochure? Annually check

Responsibility: Marketing Manager working with Community Engagement Manager

5. Travel

- Prepare a public transport, walk, cycle - Travel Plan
- Work with groups to encourage collective walking/cycling mapping routes 'Paths for All' 'Sustrans' linked train station route
- Mini bus attendance
- Undertake an audience travel surveys in follow-ups after performances to general audiences, to understand audience travel patterns.
- Explore installation of electric car charging station in car park as joint NLC partnership initiative.

Responsibility: Marketing Manager working with Community Engagement Manager

6. Internal Company

- Paperless admin, digital documents
- Digital meetings

Responsibility: Ops Director and CEO

7. Working with network

- Creative Carbon Scotland: Calculations
- Green arts initiative
- RFO's

Responsibility: Ops Director and CEO

Year 1: 2021-2022

Set up system for recording data

- Focus on Process to record usage of materials and energy
- Know where metering points are
- BMS training
- Know users, footfall, target groups for intervention

Getting Staff on board-green team

Getting customers involved

Notes: Benchmark with other venues such as North Edinburgh Arts, Dundee Contemporary Arts.

Responsibility: Ops Director

Action	Leader	Tactics	Target	Timing
Save Energy	Operations Director- Amanda	Use of lighting – plan switching off when not in use, motion sensor at all other times, staff training	to reduce electricity use	within 1 year of opening
	Operations Director- Amanda	Record energy use quarterly	to have qtr energy use stats	In place for opening, reporting qtrly
	Operations Director- Amanda	Staff induction in new venue operating systems and initiate training for staff teams on use of lighting, control of lighting.	all staff are aware of need to turn off lights, how to turn off lights and are practicing policy	In place for opening, reporting qtrly
Save Energy	Operations Director- Amanda	Use products made from recycled materials where possible		
Recycle	Operations Director- Amanda	Recycle all paper, glass, plastic, and metal		
		Use products that can be recycled and are biodegradable or compostable where possible, keep suppliers list for biodegradable products		
		Keep cup system, paper straws, keep plastic straws		

		Send food waste to compost or green waste, work with local community gardening, DOW recycling centre		
Reduce		Use stock management techniques that will reduce waste in general		
Environmental Health		Use biodegradable and non-toxic cleaning products		
Reduce Paper Use	Ops Director	Reduce Paper Use		
	Marketing Manager	Switch to digital communications – process to move people to digital – e-brochure, digital signage in building, mobile promotions Ask customers on database specifically – who wants a printed brochure? Annually check		
	Marketing Manager	Switch to e-tickets – mobile and tablet		
Reduce CO2 Travel				
	Marketing Manager	Prepare a public transport, walk, cycle - Travel Plan		
	Marketing Manager / Community Engagement Manager	Work with groups to encourage collective walking/cycling mapping routes 'Paths for All' 'Sustrans' linked train station route		
	Marketing Manager / Community Engagement Manager	Promote community group Mini bus attendance		
Reduce Co2 - waste	CEO	Internal Company		

		<ul style="list-style-type: none"> • Paperless admin, digital documents 		
Reduce Co2 - Travel	CEO	<ul style="list-style-type: none"> • Digital meetings 		
Advocacy	Ops Director	<p>Working with network</p> <ul style="list-style-type: none"> • Creative Carbon Scotland: Calculations • Green arts initiative • RFO's 		
Advocacy	Marketing Manager	Publish Green Actions on website		
Advocacy	CEO Programme Team	Develop awareness raising 'green' creative projects		
Advocacy	Marketing Manager	<p>Getting Staff on board-green team</p> <p>Getting customers involved</p>		
Development	CEO, Ops Director, Marketing Manager, Programme Team, Community Engagement, Tech Team	Benchmark with other venues best practice for sustainable arts		