



THEATRE GREEN BOOK



Thanks

With very special thanks to the many individuals and organisations who have provided input and support in developing the ETC edition of the Theatre Green Book, including:

Hans Antonsen, Cláudia Belchior, Gabrielle Bernoville, Calixto Bieito, Torsten Bill, Annabell Blank, Raquel Castells, Lucy Davies, Özgül Demiralp, Laura Gardes, Paulien Geerlings, Georg Häusler, Nina Jacques, Joachim Klement, Martin Kukučka, Iris Laufenberg, Emmanuelle Lejeune, Sanne Liebrechts, Sarah Moeremans, Žad Novak, Johann Otten, Teresa Pfaud, Serge Rangoni, Christy Romer, Eva Semerakova, Lukáš Trpišovský, Erik Ulfby, Marjolein van Bommel, Judith Videcoq, Heidi Wiley.

The ETC Theatre Green Book was developed with the ideas, inspiration and enthusiasm of all the staff of a focus group of ETC member theatres who trialled the guidance, provided

feedback and worked collaboratively to develop the Theatre Green Book:

Teatro Arriaga, Bilbao

Deutsches Theater, Berlin

Théâtre de Liège

Národní Divadlo, Prague

Det Norske Teatret, Oslo

Staatschauspiel, Dresden

Toneelmakerij, Amsterdam

Young Vic, London

Het Zuidelijk Toneel, Tilburg

We apologise if any names have been missed. Very many others have helped through the many theatre organisations, and companies who are working for sustainability, and whose thinking has contributed to this guide.

Icons from Flaticon: <https://www.flaticon.com/>

ETC Foreword

The European Theatre Convention (ETC) is proud to introduce the ETC Theatre Green Book, a comprehensive resource to guide European theatres step-by-step towards net zero emissions by 2030 – across their productions, buildings, and operations. Developed in collaboration with Renew Culture, the creators of the renowned Theatre Green Book, the tool has been meticulously tested in European theatre environments to create an international version that works across diverse funding, geographic, and social contexts.

One of the key strengths of the ETC Theatre Green Book is the introduction of a new self-certification system to measure sustainable progress in our sector at the European level. This is based on a shared assessment tool and was requested by European theatres through the Opole Recommendations, the policy outcome of the high-profile European Theatre Forum event in 2023. There are four levels to the ETC Theatre Green Book self-certification: Preliminary, Basic, Intermediate, and Advanced. Additionally, the guide includes detailed calculators and tracking tools to make the process of greening theatre activities accessible, comprehensive, and efficient. By using circularity principles and an inherent reduction of carbon footprint, the reach of a net-zero sector becomes a realistic proposition.

We are excited about the potential of the ETC Theatre Green Book and the power of networks to accelerate sustainable change across Europe and beyond. Theatre has the power to exert an outsized influence in society, acting as a beacon for change and guiding others towards sustainable practices. We also know that theatres do not exist in isolation, and there is no better guide or mentor than a colleague.

By sharing this tool, we aim to enable theatres everywhere to join our 60+ ETC member theatres and use the same tools to achieve bold, adventurous, and enjoyable progress on sustainability by the end of this decade. I thank Renew Culture for their collaboration, ETC member theatres for their trust and readiness to change towards sustainable practice, and the European Commission for supporting us to make Europe's theatres a place fit for the future. Together, we can ensure a sustainable future for all.

Heidi Wiley, Executive Director of the European Theatre Convention

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• Toolkits	

We would like to thank everyone who has supported the Green Book with their time, their commitment and ideas. Their names are in the acknowledgements. And special thanks to the funders of the Green Book, whose names you'll find in the inside back cover.

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Green Book Foreword

Theatre has begun a journey.

It's a journey we must all make - a transition to a world where we live, work, travel, eat and make art without harming the planet we live on. To use Gro Harlem Brundtland's definition of sustainability: to meet the needs of the present without compromising the ability of future generations to meet their own needs.

We need to make this transition urgently. The climate emergency is a crisis, and a crisis is a problem that demands attention now - not next year or the year after. Many theatres have laid credible plans to achieve net zero by 2030.

The good news is that we're already well on the way. Since the Theatre Green Book came out in 2021, networks all over the world, encompassing all varieties of theatre, opera and dance, have joined this collective initiative. We're learning, together, to make theatre sustainable. We're learning how to share that progress with our partners and audiences.

Theatre's core strengths are innovation, courage and creative thinking. They've all fed into this second edition of the Theatre Green Book. With their help, we can make the journey to net zero. We can make theatre today, without compromising the dreams of future theatre-makers.

Lisa Burger and Paddy Dillon, Renew Culture

The climate emergency is the most serious challenge humanity has ever faced.

Theatre can play an essential part in our response.

So theatre must become environmentally sustainable.

A complete method for environmentally sustainable theatre

- *A framework for planning sustainability*
- *Best practice guidance for every area*
- *Three standards on the path to net zero*
- *A measurement system to measure progress*

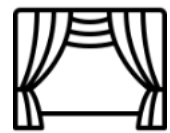
based on

- *Practical expertise from theatre-makers*
- *Reliable methodology from environmental sustainability experts*

to support

- *Work of any kind (theatre, dance, opera...)*
- *By anyone (freelancers, companies, theatres, schools...)*
 - *At any scale*

To be sustainable, we need to...



Sustainable Productions

... make theatre **Productions** as sustainably as possible



Sustainable Operations

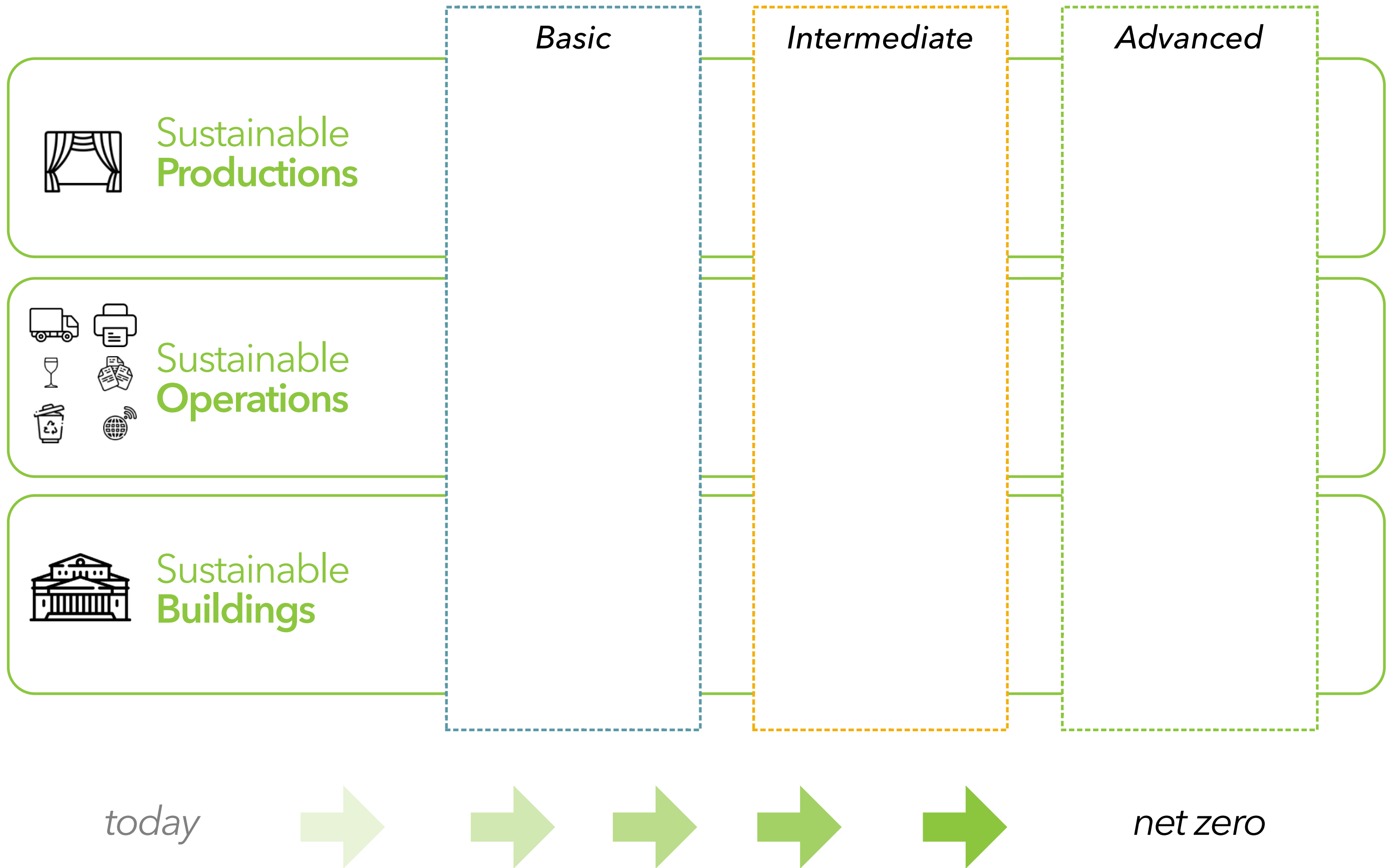
... run theatre **Operations** as sustainably as possible



Sustainable Buildings

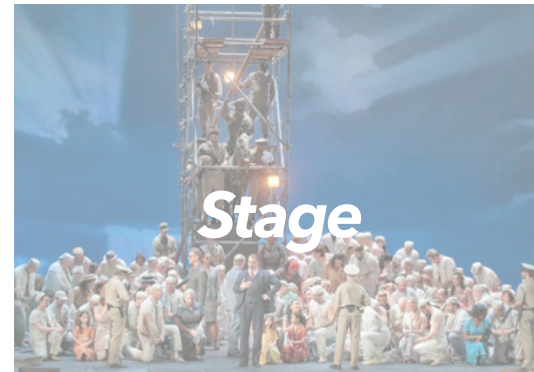
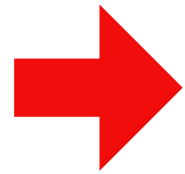
... make theatre **Buildings** as sustainable as possible

Follow three steps for the transition to net zero

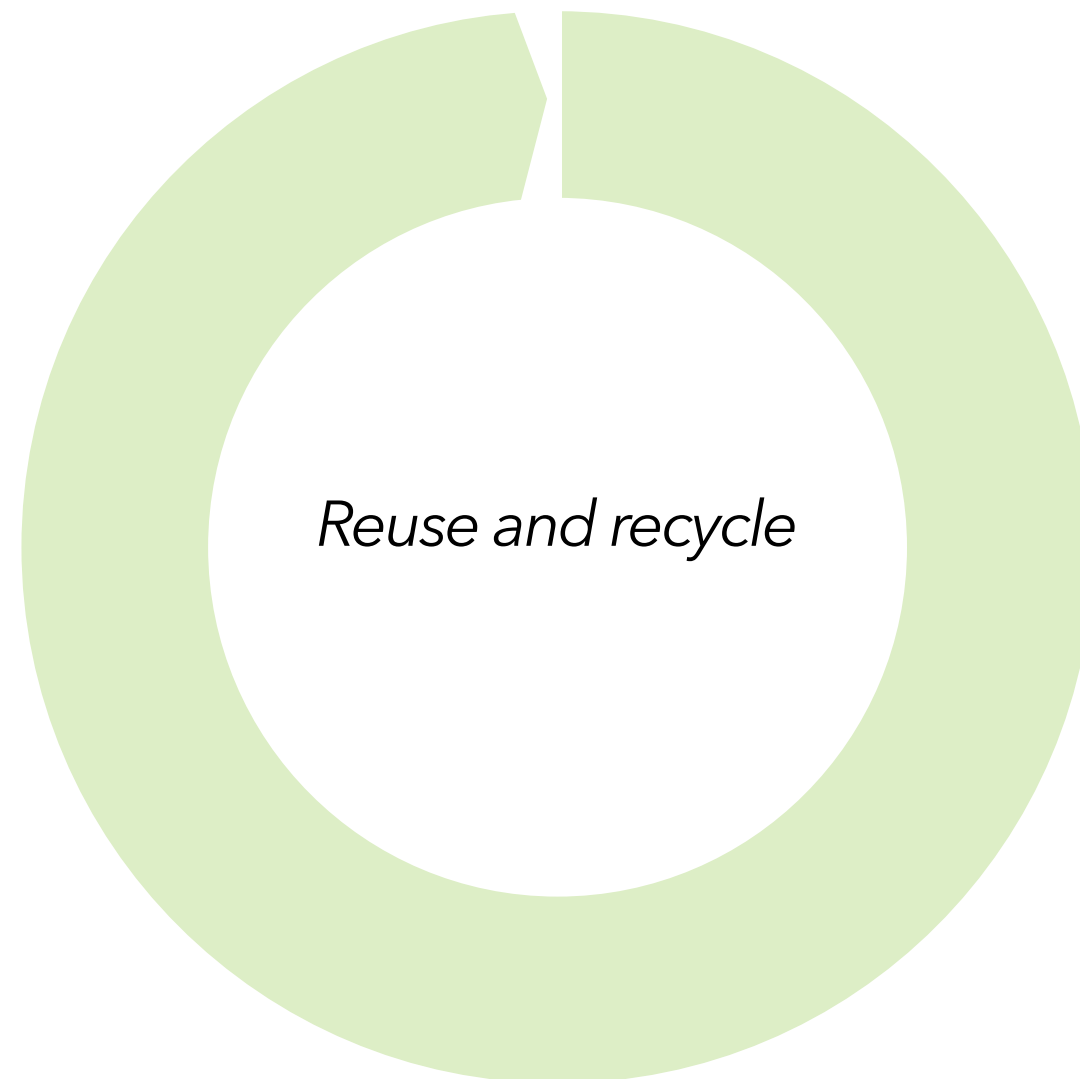


What must we do to make
theatre sustainable?

In our PRODUCTIONS, we need to ...



move from a **linear** ...
... to a **circular** economy for theatre



In our OPERATIONS, we need to ...



- **Reduce** how much we use
- **Source** what we use sustainably
- **Reuse or Recycle** everything we can



In our BUILDINGS, we need to ...



Insulate so we need less energy



Make our systems *efficient* so we use less energy



Generate *renewable* energy



Support *biodiversity* and use less *water*

How do we start?

Start with a **PRELIMINARY** commitment

- **Commit** to becoming a sustainable theatre-maker
- Form a **Green Team** in your organisation
- Set a timeline to reach the first step, **Basic**

Start with a PRELIMINARY commitment

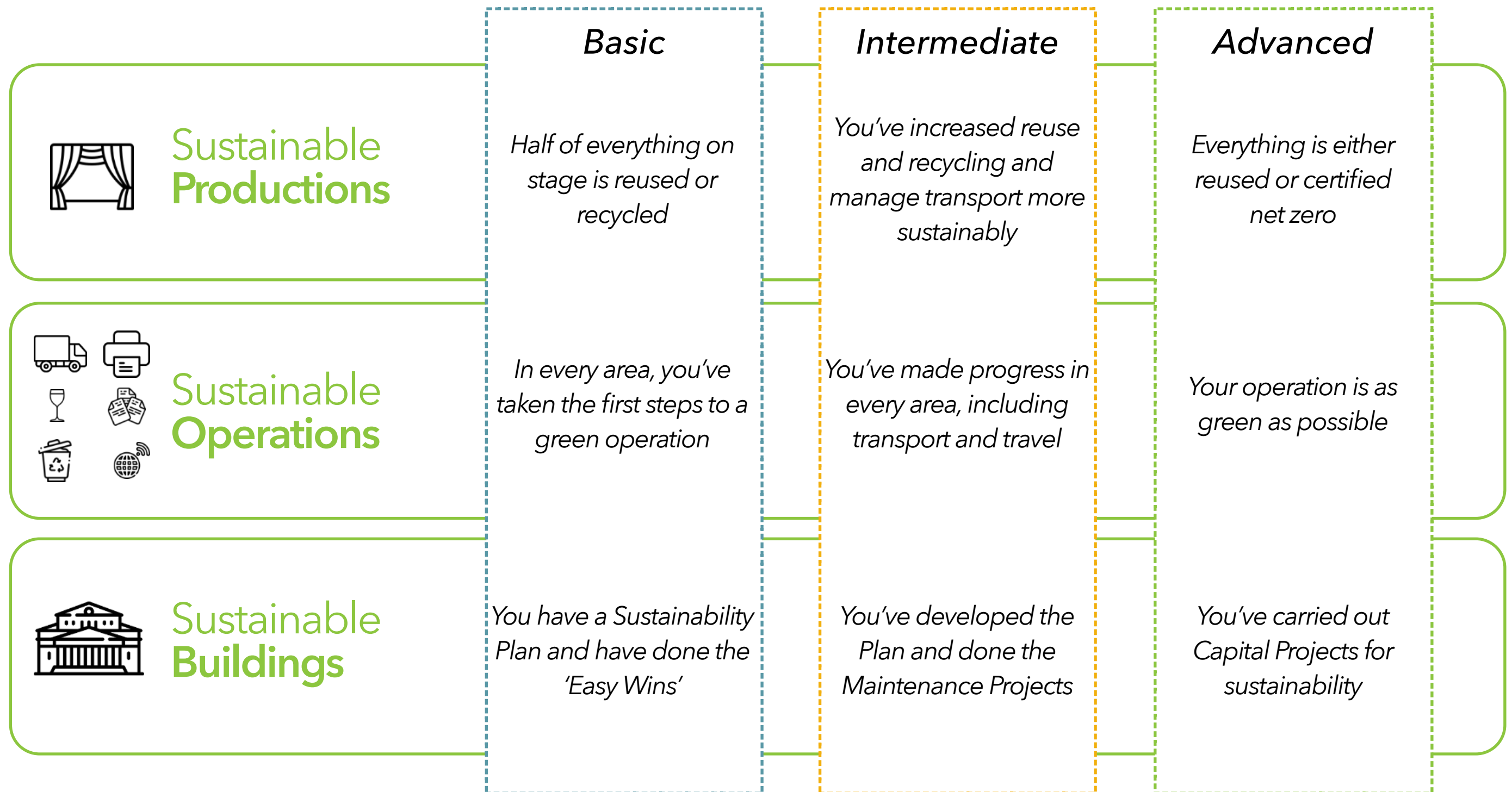
These are the steps you'll need to reach

Theatre Green Book **Preliminary**

Preliminary

<ul style="list-style-type: none"> • COMMIT to reducing your environmental impact, and starting the transition to net zero. • Establish a GREEN COMMITTEE including a sustainability lead, a member of the senior leadership team, and a lead for each area - Productions, Operations and Buildings – and key staff members. • Agree an ACTION PLAN setting out the steps you need to reach the next Green Book stage, and a timescale to achieve it. • Make a DATA PLAN to set out what you are going to measure and who is responsible. • Set a COMMUNICATIONS PLAN to explain how you will share your targets and achievements, involving staff, partners and audiences. 	<p><i>It's essential to make sure your environmental commitment is clear to everyone.</i></p>	
	<p><i>Leadership is key but a senior team is needed to decide which Theatre Green Book level to target, make change, involve staff and report progress.</i></p>	
	<p><i>You must be clear on the key actions needed to deliver measurable progress towards the environmental goal.</i></p>	
	<p><i>You need to be in a position to report and analyse your progress, to achieve each Green Book standard.</i></p>	
	<p><i>Sustainability needs a cultural change. Good communication helps everyone share the challenge.</i></p>	

BASIC is the next step on the journey to net zero



The next sections show how to reach **Basic** in each area

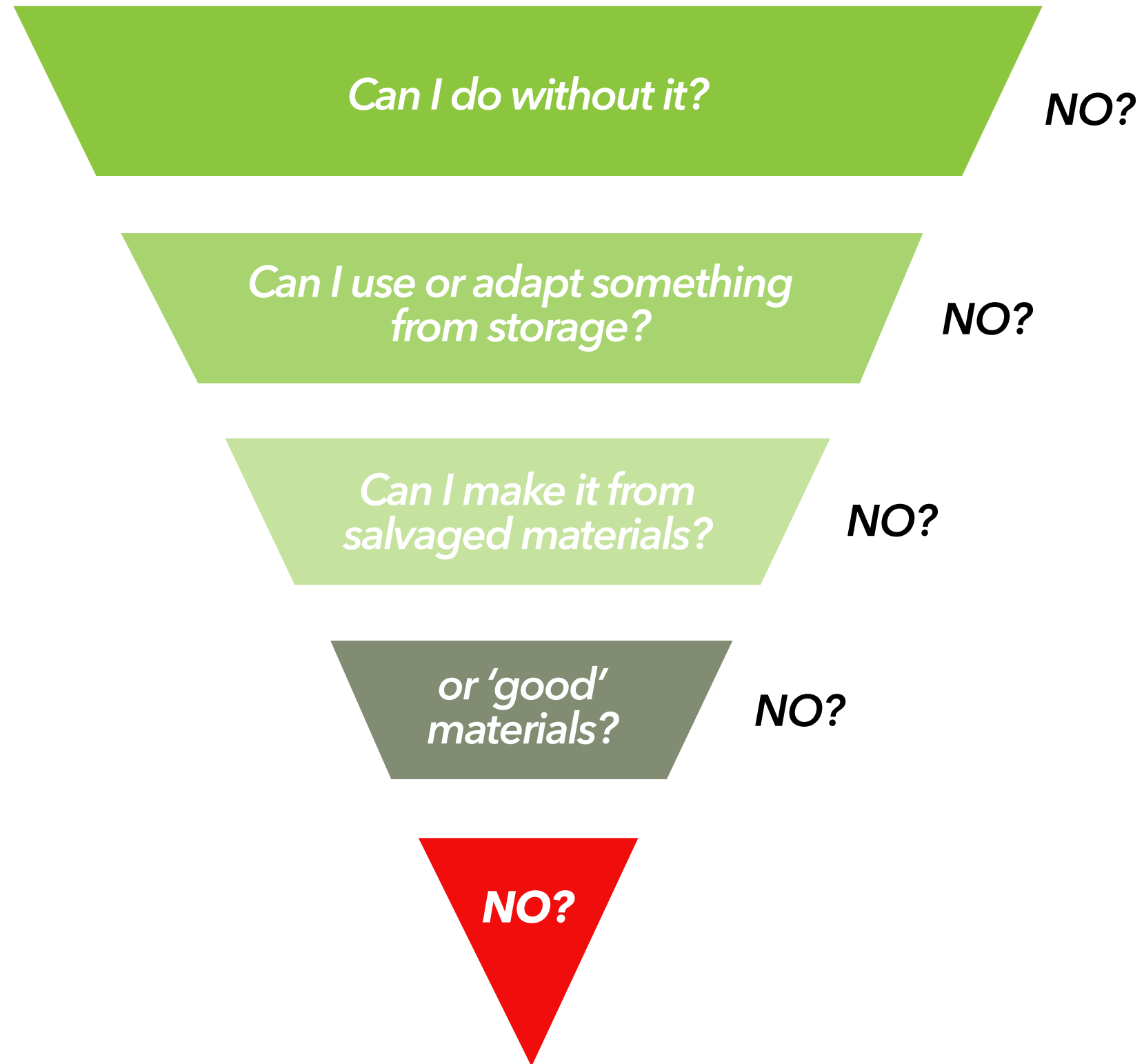
SUSTAINABLE PRODUCTIONS

Click [here](#) to go straight to **Productions Resources** for:

- Detailed guidance
- The Production Calculator and standards
 - Case studies
 - Toolkit pages

If you don't produce shows, ignore this section

Think differently



Is it worth harming the planet for?

Where do materials come from?

Reused

Masking, floors, building components, scaffold, steeldeck, furniture, props, costumes ...

Remodelled

Remodelled stairs, flats with new textures, reupholstered chairs, altered costumes...

Recycled

Salvaged metal sections, timber, plywood sheets, perspex sheets, salvaged fabric...

'Good' new materials

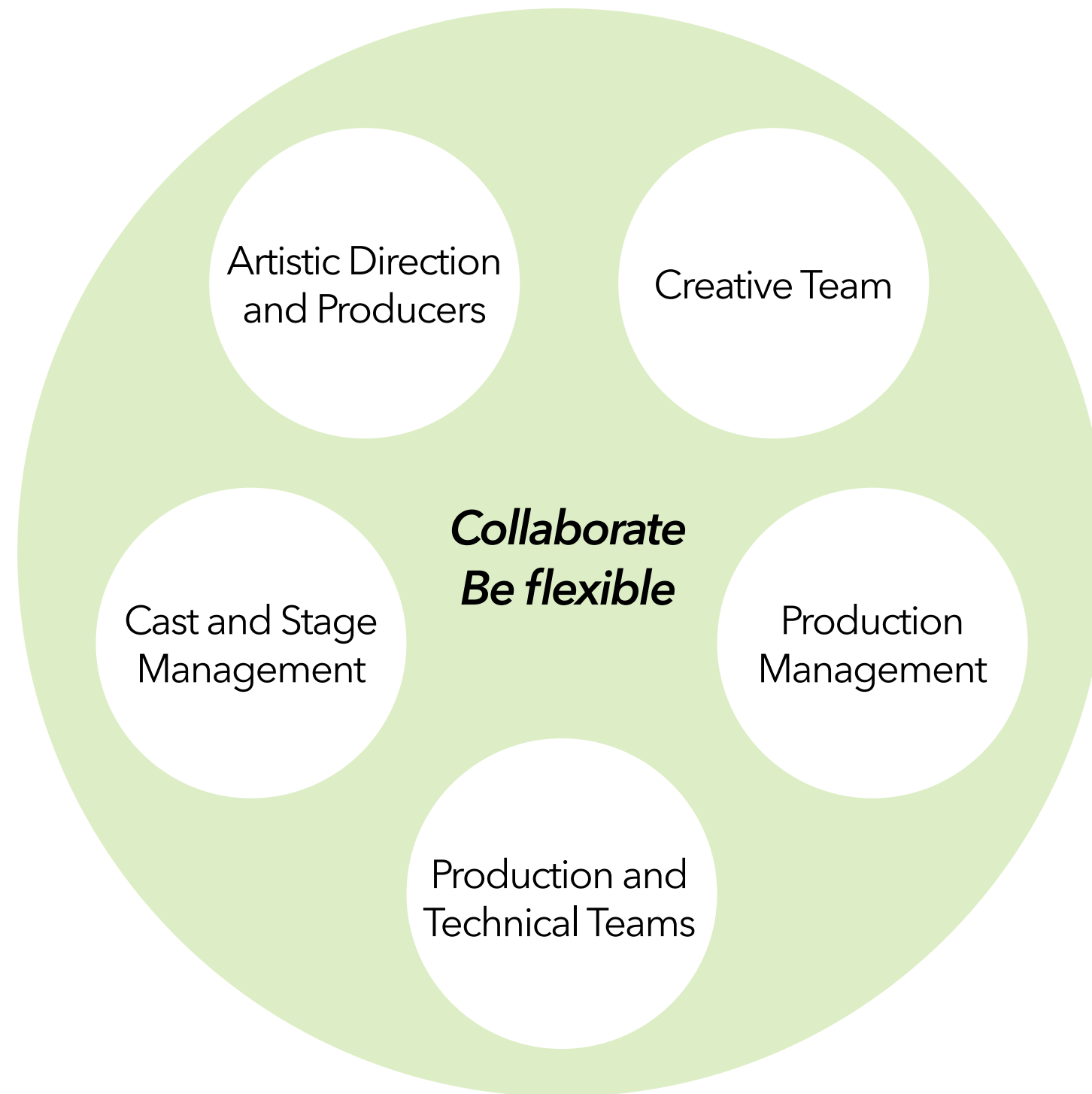
Certified timber and plywood, 'recycled' metal, reconstituted plastics, organic fabrics...

'Bad' new materials

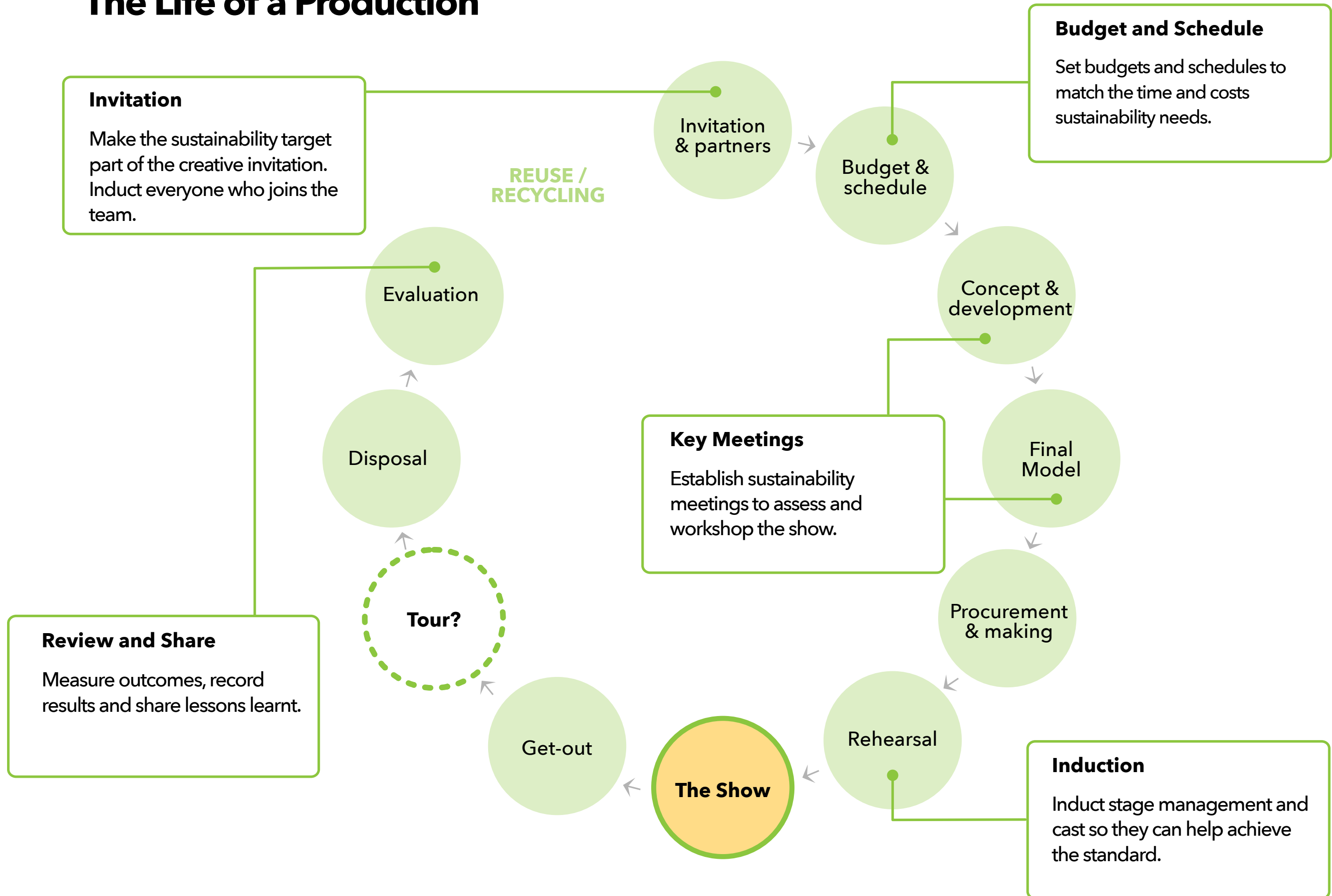
Uncertified timber products, new steel and aluminium, PVC, vinyl, man-made fabrics...

Using less is the most sustainable choice

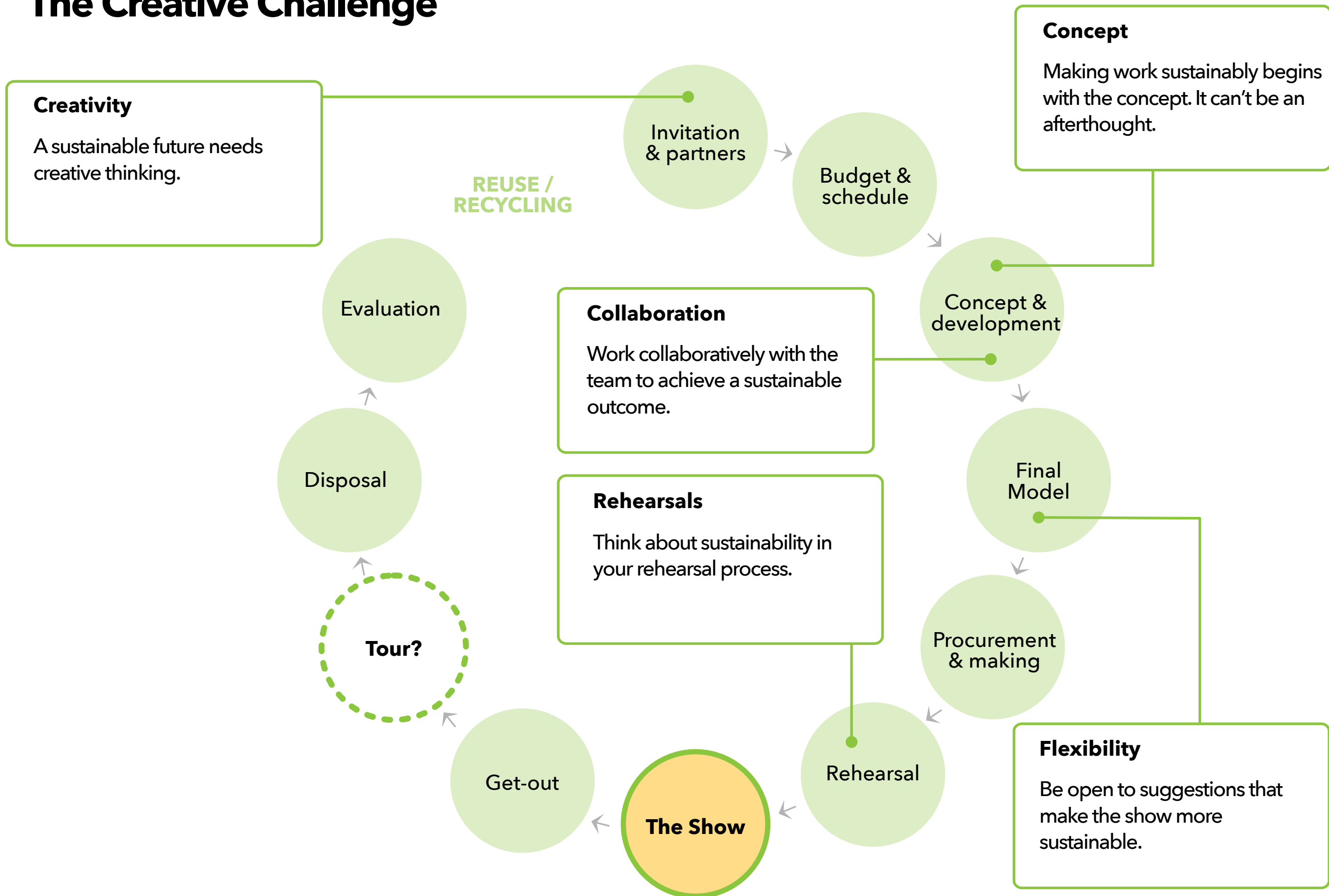
Everyone has a part to play



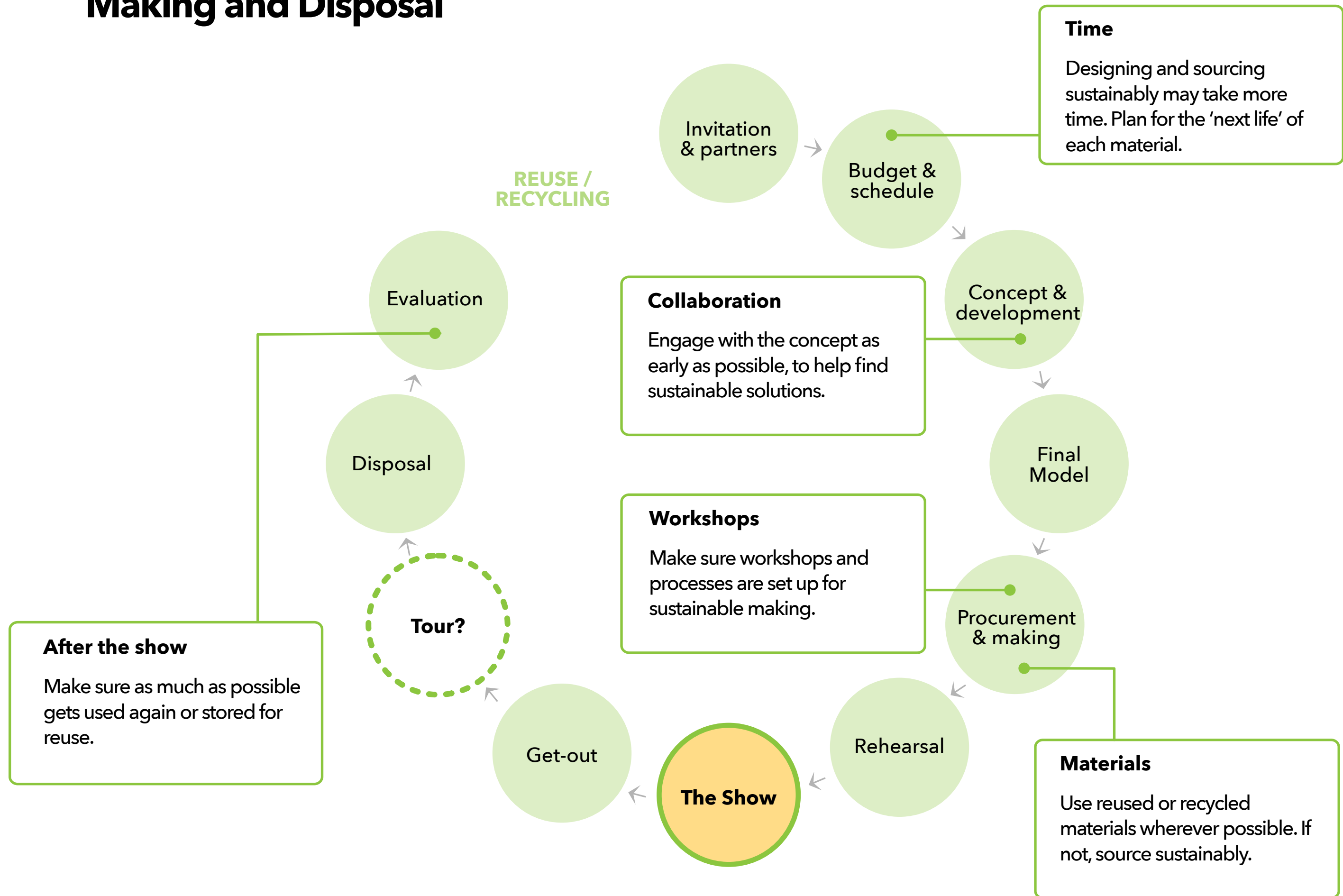
The Life of a Production



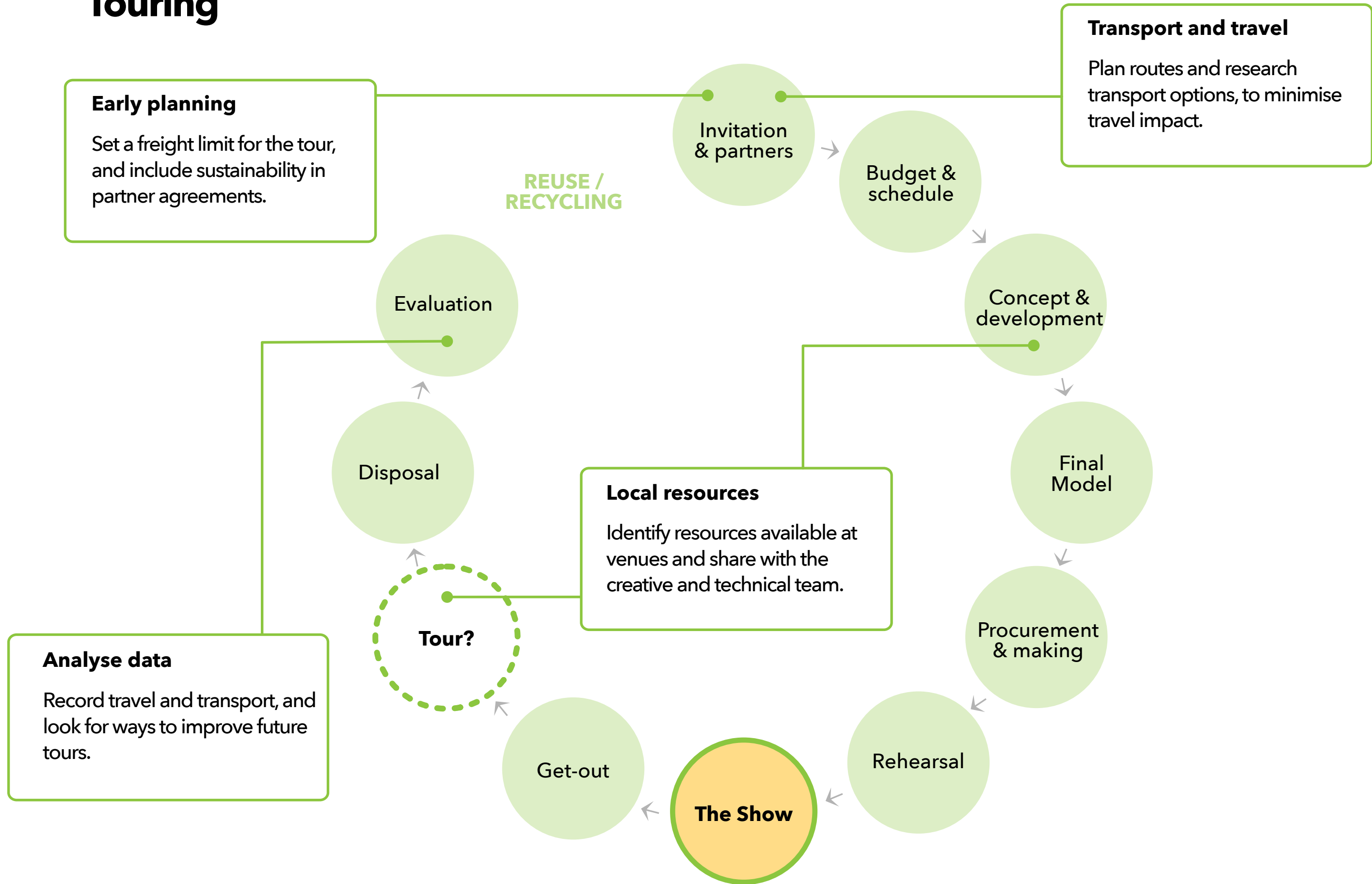
The Creative Challenge



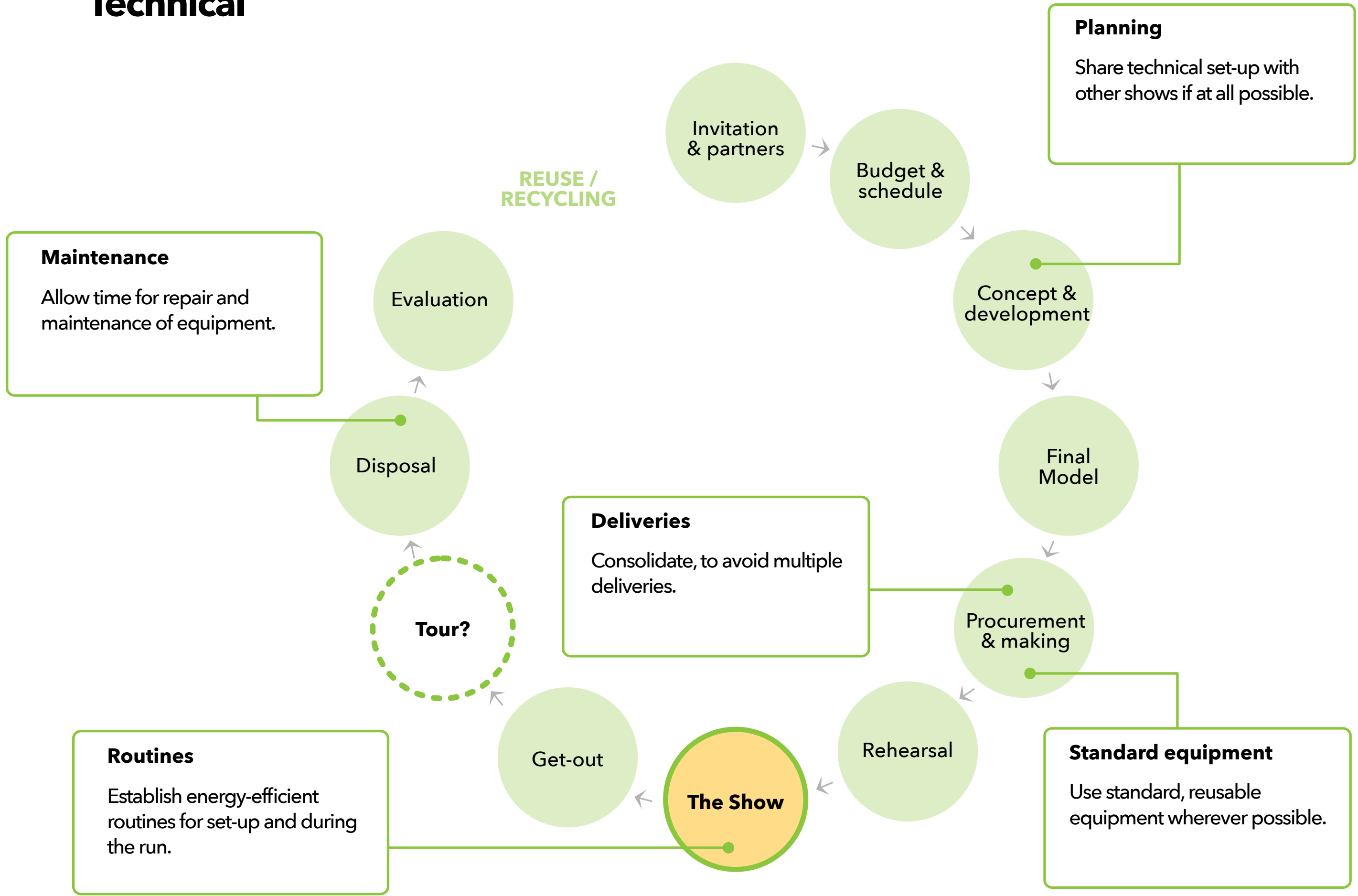
Making and Disposal



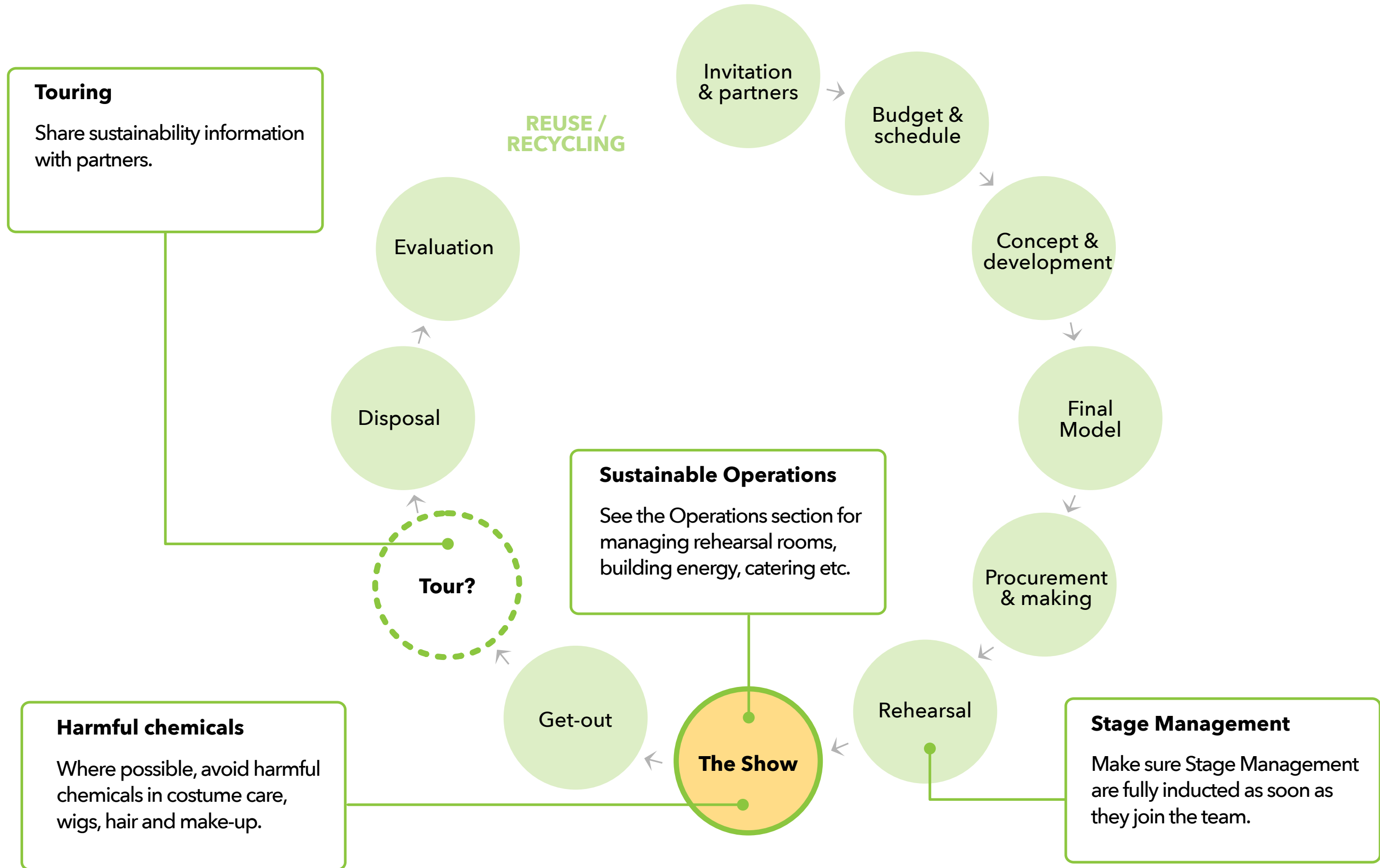
Touring



Technical



Running a Production



Basic Production

This is **Basic** standard. It follows the five steps of a production.

In a **Basic** production:

- 50% of everything on stage must be reused or recycled
- 65% must be stored or used again afterwards

The Green Book **Production Calculator** helps you assess percentage of re-use and recycling in each production.

Step 1 Prepare for a Sustainable Production

- **PRODUCING** : Appoint the team early. Make sure Basic standard is understood. Set a longer programme if possible. Set the budget to spend more on people's time and less on materials.
- **CO-PRODUCTION / TOURING** : Agree how expertise and resources will be shared. Identify responsibilities for measuring, recording, and sustainable disposal. Establish a haulage limit (e.g. 'one trailer' or 'one transit van'). Reference Basic standard in Co-production agreements.

Step 2 Concept and Development

- **CONCEPT** : Hold an early concept meeting to collaboratively sense-check ideas. At **DEVELOPMENT** stage, collaborate with the whole team to achieve a sustainable outcome.
- **CO-PRODUCTION / TOURING** : Consider haulage limitations when designing (or when redesigning for a tour). Ensure technical specifications are agreed with all receiving venues.

Step 3 Making a Sustainable Production

- **REUSE AND RECYCLING** : Keep an inventory of materials: sets and scenery, props and furniture, costumes. **50%** of each category should have been used previously. **65%** should be used again after the show.
- **NEW MATERIALS** : Source new materials sustainably if possible. Avoid PVC, tropical hardwoods and polystyrene where possible.
- **DELIVERIES** : Consolidate deliveries where possible. Avoid last-minute deliveries where possible.

Step 4 Rehearsing and Running a Sustainable Production

- **STAGE MANAGEMENT and CAST** : Make sure cast and stage management understand Baseline standard, and can contribute to achieving it.
- **TECHNICAL** : Use re-used or hired equipment where possible. Make a plan to reduce the impact of your practice across all technical departments (see Technical worksheet).
- **WARDROBE, WIGS, HAIR, MAKEUP** : Avoid harmful chemicals where possible.
- **CO-PRODUCTION / TOURING** : Use sustainable transport methods where possible. Choose accommodation within walking distance of venues.

Step 5 After the Production

- **REUSE AND RECYCLING** : Check you've achieved the target of **65%** reused / recycled for sustainable disposal.
- **REVIEW** : Assess results. Share lessons learned with future teams.

Done? v, NO or N/A

Source

Disposal

You can download this page with the Production Calculator from **RESOURCES**

Intermediate Production

This is **Intermediate** standard.

In an **Intermediate** production:

- 60% of everything on stage must be reused or recycled
- 70% must be stored or used again afterwards

Step 1

Prepare for a Sustainable Production

- **PRODUCING** : Provide an information pack of in-house and local resources to support sustainability. Offer climate literacy training to key team members, including freelancers.
- **CO-PRODUCTION / TOURING** : Agree a Green Contract Rider with receiving venues (see Toolkit), including resources available. Review sustainable haulage options.

Done? v, NO or N/A

Step 2

Concept and Development

- **CONCEPT and DEVELOPMENT** : Connect with productions in the same season to **SHARE and REUSE** materials.
- **CO-PRODUCTION / TOURING** : Minimise business travel. Record all journeys. Technical design to use local resources where possible.

Step 3

Making a Sustainable Production

- **REUSE AND RECYCLING** : Keep an inventory of materials: sets and scenery, props and furniture, costumes. **60%** of each category should have been used previously. **70%** should be used again after the show.
- **NEW MATERIALS** : Source all new materials sustainably. Avoid PVC, tropical hardwoods and polystyrene where possible.
- **DELIVERIES** : Record deliveries related to the production.

Source

Disposal

Step 4

Rehearsing and Running a Sustainable Production

- **STAGE MANAGEMENT and CAST** : Use the Toolkit to make a Sustainability Plan for the rehearsal / production period and run.
- **TECHNICAL** : Begin to implement your plan to reduce the impact of your practice across all technical departments (see Technical worksheet).
- **WARDROBE, WIGS, HAIR, MAKEUP** : Source sustainable products where possible. Minimise laundry cleaning temperatures. Avoid dry cleaning where possible.
- **CO-PRODUCTION / TOURING** : Record travel distance and transport methods. Choose accommodation with green accreditation.

Step 5

After the Production

- **REUSE AND RECYCLING** : Check you've achieved the target of **70%** reused / recycled for sustainable disposal.
- **REVIEW** : Assess results. Share lessons learned with future teams.

You can download this page with the Production Calculator from **RESOURCES**

Advanced Production

This is **Advanced** standard.

In an **Advanced** production:

- Everything on stage must be reused or recycled, or ...
- Accredited net zero

Step 1

Prepare for a Sustainable Production

- **PRODUCING** : Use **CARBON CALCULATORS** (included in Production Calculator) to aid decision-making on new scenery materials and travel. Encourage the creative team and cast to promote the production's sustainability.
- **CO-PRODUCTION / TOURING** : Plan the tour route to reduce travel and use sustainable travel methods. Only co-produce with companies that have reached overall Baseline standard, and tour to theatres that have a commitment to sustainability.

Done? v, NO or N/A

Step 2

Concept and Development

- **CONCEPT and DEVELOPMENT** : Use **MODULAR COMPONENTS** where possible to support recycling.
- **CO-PRODUCTION / TOURING** : Calculate the carbon footprint of **TRAVEL and TRANSPORT**, to help plan reductions. Use local resources where they support reductions.

Step 3

Making a Sustainable Production

- **REUSE AND RECYCLING** : **75%** of materials should have been used previously. **80%** should be used again after the show. Make sets for easy disassembly to support recycling.
- **NEW MATERIALS** : Source all new materials from accredited zero carbon sources. Completely avoid PVC, tropical hardwoods, polystyrene and harmful chemicals.
- **DELIVERIES** : Calculate the carbon footprint of deliveries, to help plan reductions.

Source

Disposal

Step 4

Rehearsing and Running a Sustainable Production

- **STAGE MANAGEMENT and CAST** : Fully implement a Sustainability Plan for the rehearsal / production period and run.
- **TECHNICAL** : Fully implement your plan to reduce the impact of your practice across all technical departments (see Technical worksheet).
- **WARDROBE, WIGS, HAIR, MAKEUP** : Completely avoid harmful chemicals and materials.
- **CO-PRODUCTION / TOURING** : Calculate the carbon footprint of tours, to help minimise and offset impacts. Publish results and highlight blockers to sustainability.

-

Step 5


After the Production

- **REUSE AND RECYCLING** : Check you've achieved the target of **80%** reused / recycled for sustainable disposal. Ensure any residual waste is sustainably disposed of.
- **REVIEW** : Assess results. Share lessons learned with future teams.

You can download this page with the Production Calculator from **RESOURCES**

Go to PRODUCTIONS RESOURCES

- for ...
- *Detailed Guidance*
 - *The Production Calculator and downloadable standards*
 - *Case studies*
 - *Toolkits*



Go to
Productions
resources

SUSTAINABLE OPERATIONS

Click [here](#) to go straight to **Operations Resources** for:

- *Detailed guidance*
- *The Operations Tracker and standards*
 - *Case studies*
 - *Toolkit pages*

Establish a green structure for your organisation

Leadership

Sets **clear goals** and empowers everyone to change what they do

Green Team

Co-ordinates actions, agrees **targets**, and **records** progress

Everyone

Shares **expertise**, provides **feedback** and implements **actions**

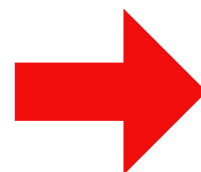


Be methodical

Don't waste time on things you can't control.



Preliminary
Commit



Basic
First steps

Intermediate
Development

Advanced
Sustainable operations

Paper and digital

Marketing

Where paper is unavoidable, make sure it's sustainably sourced and recyclable.

Communication

Remember to inform staff, visitors and audiences of your targets and achievements.

Rehearsals

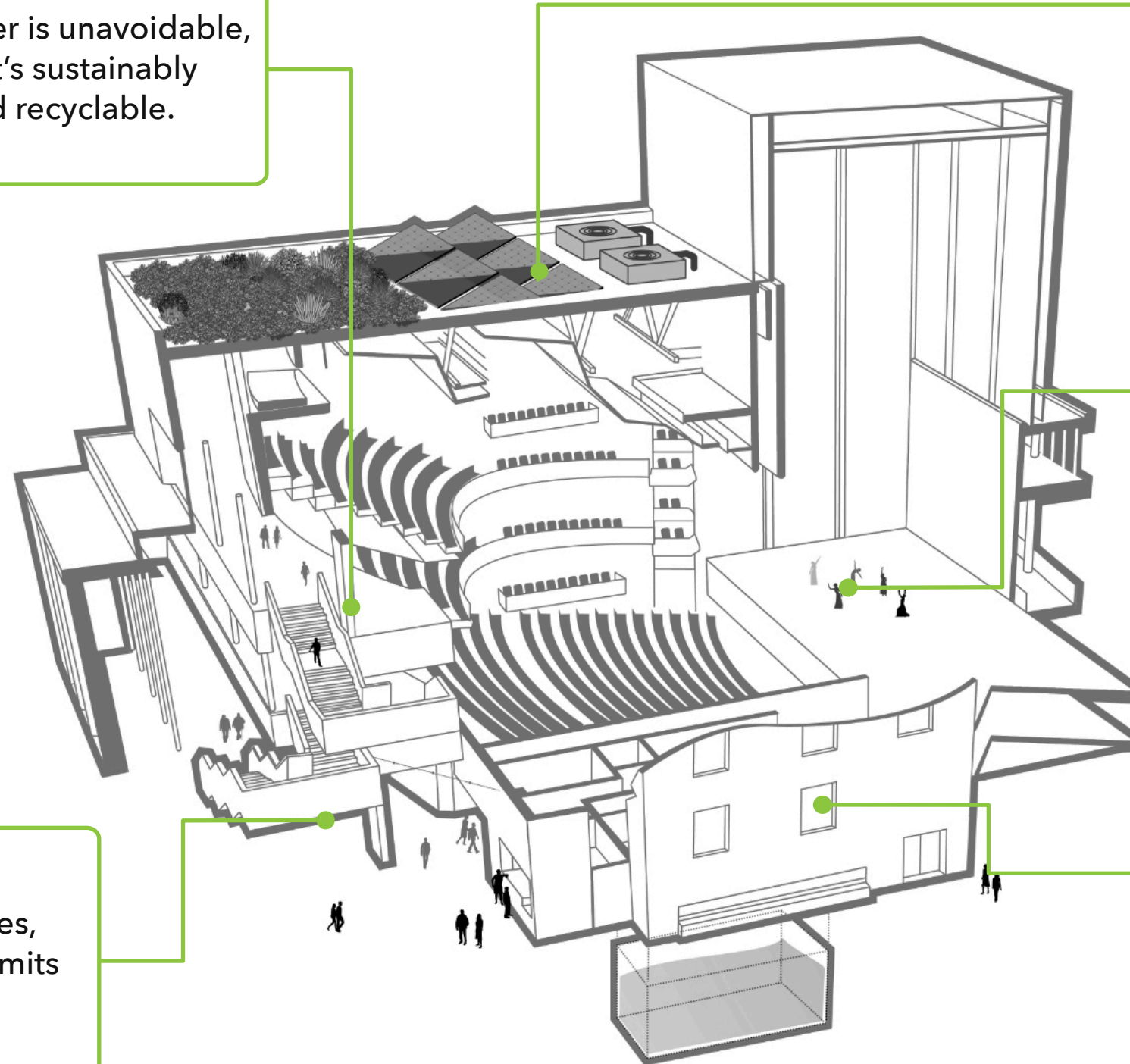
Limit printed scripts. Avoid reprinting multiple copies with every re-write.

Back of house

Avoid printing. Use shared digital schedules. Establish best practice for digital and storage.

Digital

Cloud storage of websites, photos, clips and films emits carbon. Avoid storing multiple copies.



Food, drink, retail

Catering and bars

Food, drink, service, packaging and waste all have a big impact.

Communication

Encourage staff, visitors and audiences to share your targets and achievements.

Food

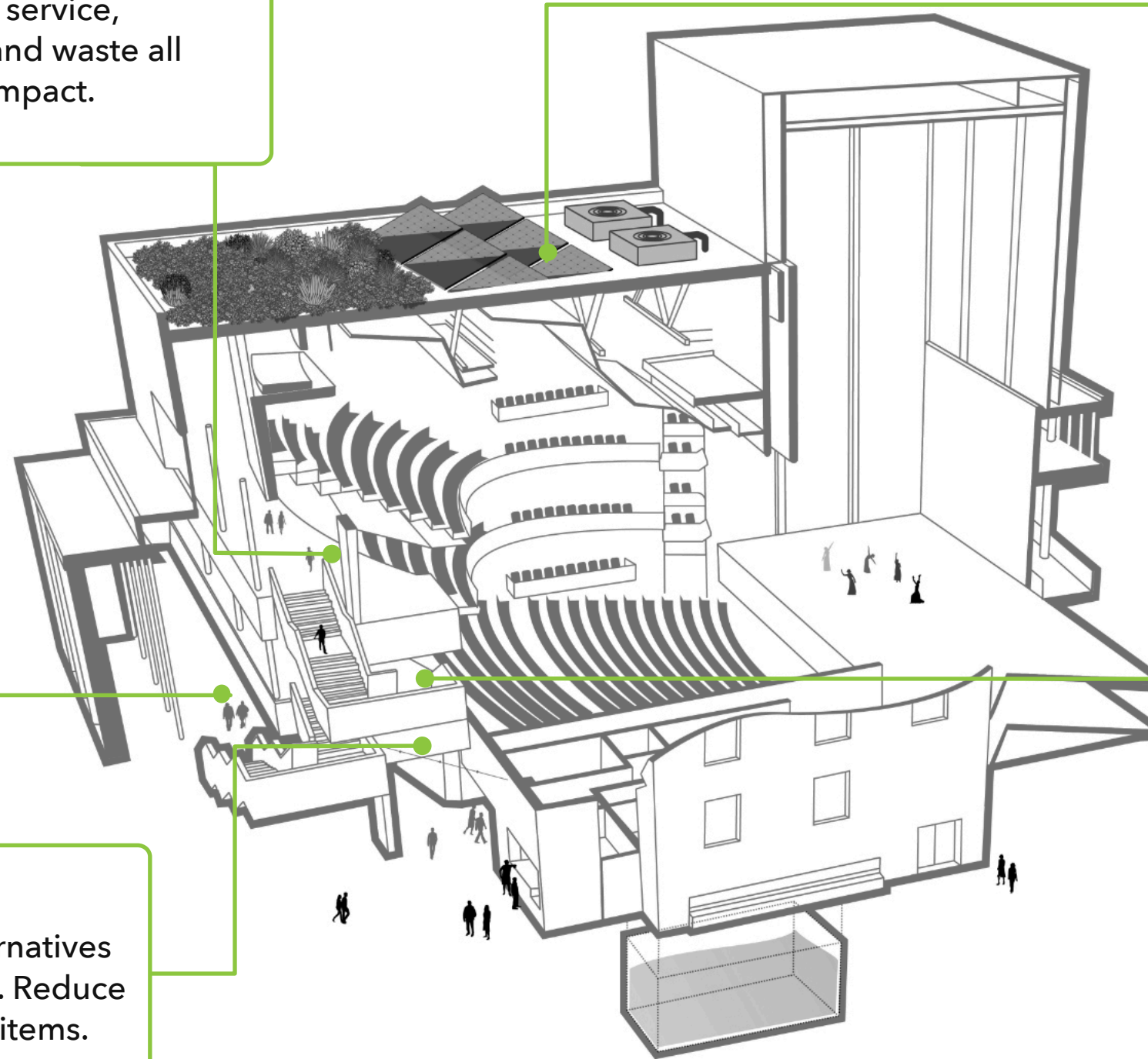
Start to move menus towards more plant-based items. Source locally and sustainably.

Retail

Procure responsibly. Partner sustainable brands. Reduce packaging and deliveries.

Single-use plastics

There are good alternatives for drinks and water. Reduce packaging for retail items.



Managing the building

Changing behaviour

Train staff and visitors to reduce energy by turning off lights, heating and cooling, and closing windows and doors.

Data

Track utility bills to see where you're using energy. Sub-meter each area to show more detail.

Building Systems

Manage systems so they're switched on as little as possible, and as low as possible.

Maintenance

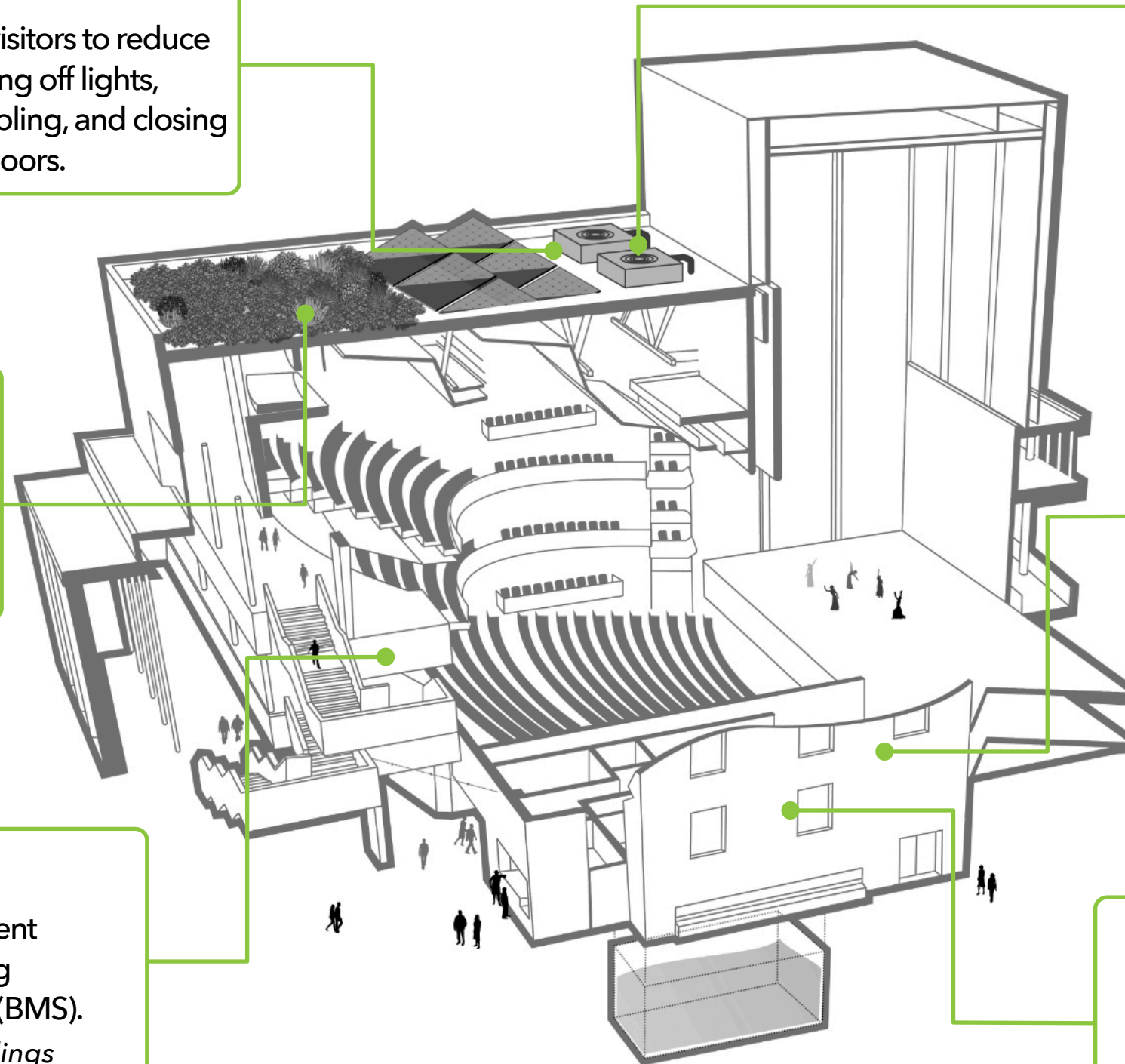
Maintain plant carefully to improve sustainability, performance and cost.

Better controls*

Fit timers and movement detectors, or a Building Management System (BMS).
* See *Sustainable Buildings*

Housekeeping

Avoid environmentally harmful cleaning products and procedures.



- This section shows how to **manage** buildings as sustainably as possible.
- The next, 'Sustainable Buildings', shows how to **upgrade** them to make them more sustainable.

Reuse and recycling

Reduce

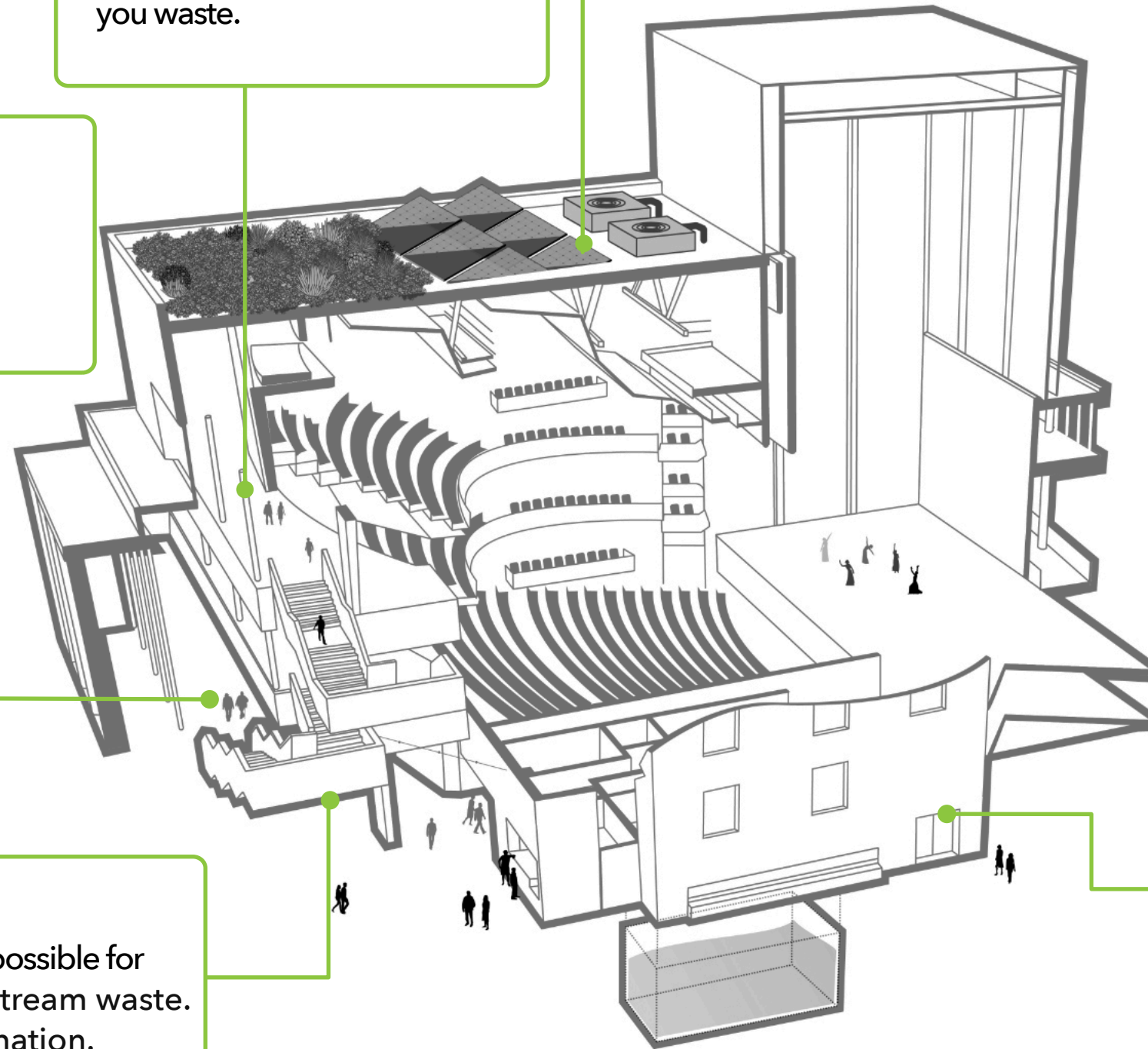
Think through the lifecycle of every product to cut how much you waste.

Reuse

Choose reusables over disposables. Try to make everything last.

Communication

Set targets and let everyone know how you're doing.



Recycle

Make it as easy as possible for visitors to recycle. Stream waste. Reduce contamination.

Data is Key

Monitor waste generation and recycling. Use data to set targets.

Travel and transport

Communication

Use sales, website and inductions to communicate sustainable travel options.

Staff and Visitors

Explore flexible working, and support sustainable options.

Deliveries

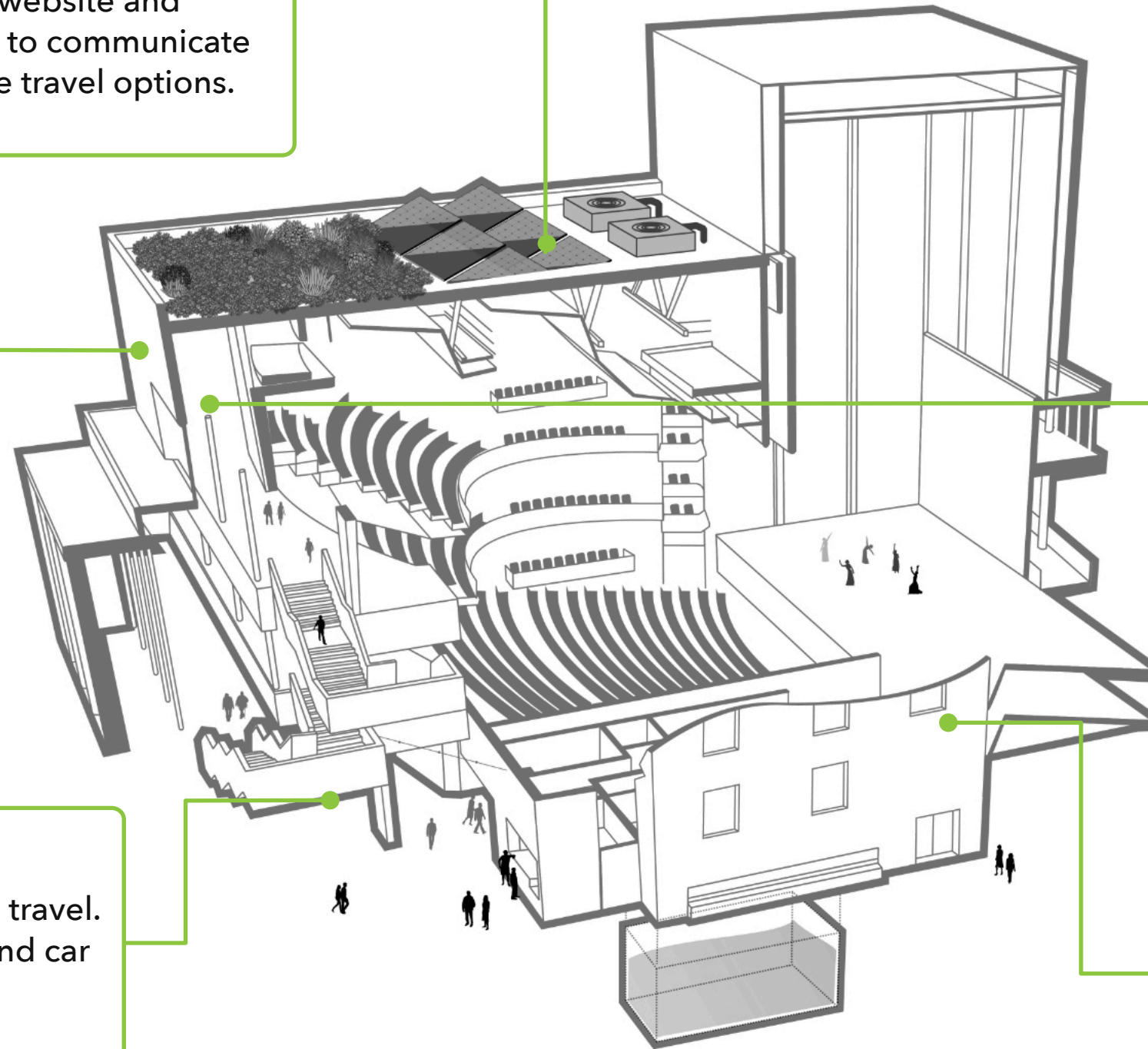
Reduce numbers of deliveries and how far they come.

Audiences

Encourage sustainable travel. Help with timetables and car sharing.

Data

Start to record travel and delivery data to help make reductions.



Contracts and procurement

'Third parties'

Sustainable operations need outside contractors and suppliers to share your goals.

Procurement

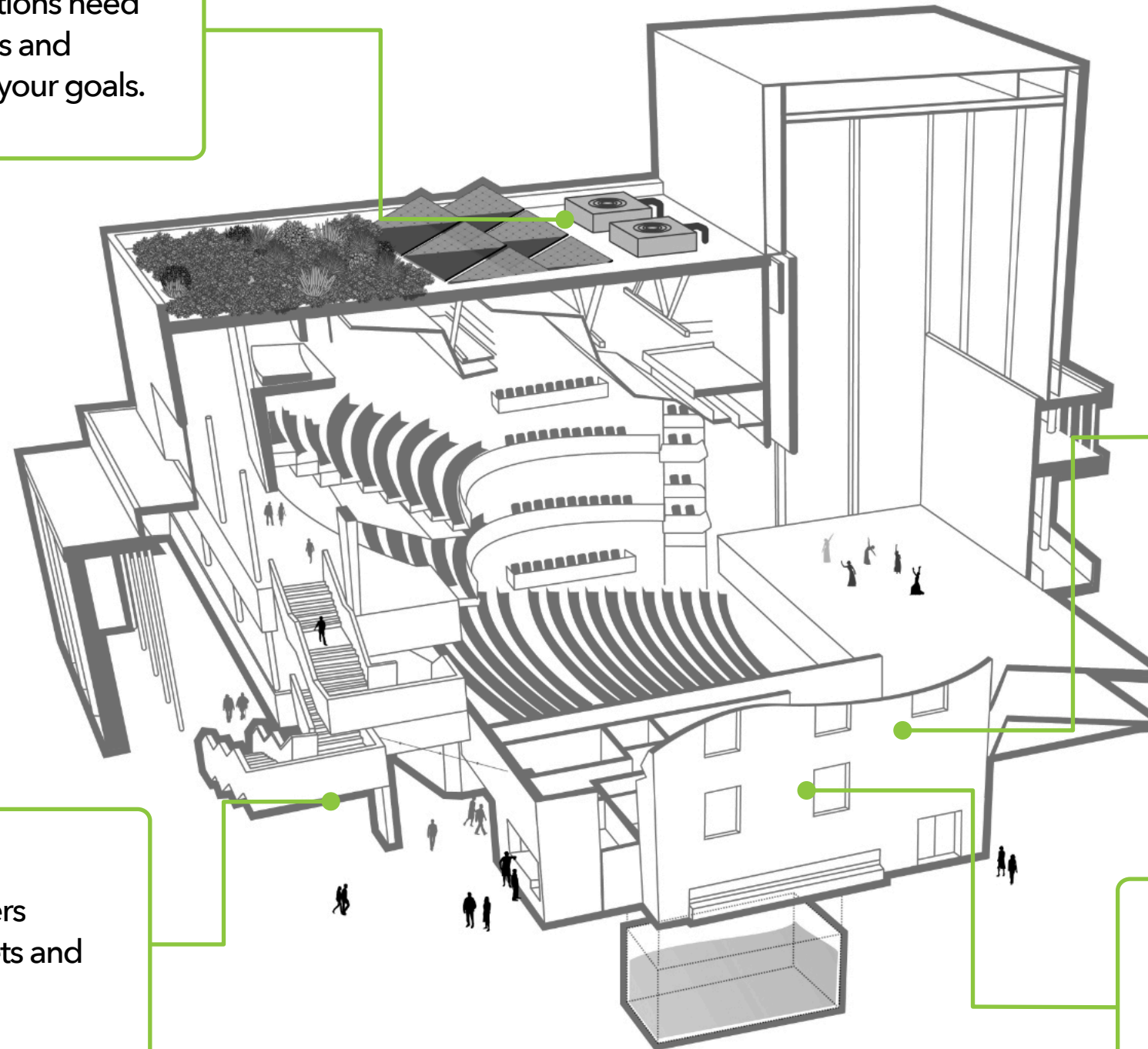
Set sustainability standards for the goods and services you buy.

Communicate

Make sure your partners understand your targets and achievements.

Contracts

All your contracts can contain sustainability clauses.



Basic Operation

To reach **Basic** in your operations:

- **Plan** for a Sustainable Organisation
- Reach **Basic** in at least four of the six areas (steps 2 to 7)

The Green Book **Operations Tracker** helps you assess your progress in each area.

Step 1 Plan for a Sustainable Organisation

- Establish a **GREEN COMMITTEE** and staff sustainability network. Set a timescale to achieve Basic standard.
- **COMMUNICATE** your Sustainability goals and systems, to staff, visitors and the public. **ENGAGE** your audiences on the journey.

Step 2 Managing Paper and Digital

- Make a plan and timetable to **REDUCE PAPER** and switch to digital alternatives for tickets, documents etc.
- Make a plan and timetable to make **DIGITAL SYSTEMS** (e.g. websites and emails) sustainable.

Step 3 Managing Food, Drink and Retail

- Make a plan and timetable to manage **FOOD AND DRINK** outlets sustainably. If you have a restaurant or staff canteen, make **20%** of starters & mains vegetarian or vegan.
- Make a plan and timeable to reduce **SINGLE-USE PLASTICS** in your Front and Back of House operations.

Step 4 Managing Buildings

- **RECORD** energy readings every month.
- **TRAIN** staff and visitors in energy-saving behaviour. Set **CONTROLS** (timers and thermostats) to minimise energy use.

Step 5 Managing Waste

- Separate **WASTE** between recycling and general waste and measure both.

Step 6 Managing Travel and Transport

- Provide **STAFF, ARTISTS, VISITORS** and **AUDIENCES** with information on sustainable transport options.
- Record **BUSINESS TRAVEL**, using the Travel Calculator.
- Prepare a **DELIVERIES PLAN** to consolidate and reduce deliveries, and share it with every department.

Step 7 Contracts and Procurement

- Include sustainability criteria in **PROCURING** major suppliers and contractors. Include Sustainability standards in major **CONTRACTS**.

fills in spreadsheet

You can download this page with the Operations Tracker from **RESOURCES**

Intermediate Operation

To reach **Intermediate** in your operations:

- **Develop** your Sustainable Organisation
- Reach **Intermediate** in at least four of the six areas (steps 2 to 7)

Step 1 Plan for a Sustainable Organisation

- Arrange **CLIMATE LITERACY TRAINING** for at least 25% of staff. Set a timescale to achieve Intermediate standard.
- **COMMUNICATE** your Theatre Green Book experience to other theatres.

Step 2 Managing Paper and Digital

- Implement your plan to **REDUCE PAPER** and switch to sustainable printing.
- Implement your plan to make **DIGITAL SYSTEMS** sustainable.

Step 3 Managing Food, Drink and Retail

- Implement your plan to manage **FOOD AND DRINK** outlets sustainably. If you have a restaurant or staff canteen, make **20%** of starters and mains plant-based.
- Implement your plan to reduce **SINGLE-USE PLASTICS** from your Front and Back of House operations.

Step 4 Managing Buildings

- Make a **FULL ANALYSIS** of energy use in each part of the building.
- Make a **PLAN** for further reductions in energy use, using the findings of the analysis.

Step 5 Managing Waste

- Eliminate waste to landfill. Make a plan to reduce **WASTE** and increase **RECYCLING**, to make sure you stream waste as much as your waste collector allows.

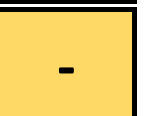
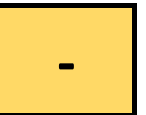
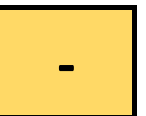
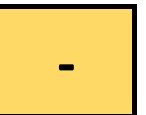
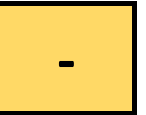
Step 6 Managing Travel and Transport

- Survey **AUDIENCES** to find out how they travel.
- Make a **SUSTAINABLE TRAVEL PLAN**, including a limit on **AIR TRAVEL**.
- Implement your **DELIVERIES PLAN** to reduce the annual carbon footprint of deliveries.

Step 7 Contracts and Procurement

- Make a **SUSTAINABLE PROCUREMENT POLICY** to define standards and requirements for all major suppliers and contractors, and share with all relevant departments.

fills in spreadsheet



You can download this page with the Operations Tracker from **RESOURCES**

Advanced Operation

To reach **Advanced** in your operations:

- **Develop** your Sustainable Organisation
- Reach **Advanced** in all areas

NOTE

As a minimum, publish your carbon footprint using the Theatre Green Book tools, to include:

- Significant new materials in productions (steel, aluminium, timber)
- Travel (touring, deliveries, business travel)
- Building energy use

You may also use general calculators (e.g. Julie's Bicycle), but make sure you use the same method every year

Step 1 Plan for a Sustainable Organisation

- Arrange **CLIMATE LITERACY TRAINING** for at least 75% of staff. Offer training to freelance partners. Set a timescale to achieve Advanced standard.
- **PUBLISH** your carbon footprint (see note below) every year.

Step 2 Managing Paper and Digital

- Complete your plan to **REDUCE PAPER** and switch to sustainable printing.
- Complete your plan to make **DIGITAL SYSTEMS** sustainable.

Step 3 Managing Food, Drink and Retail

- Complete your plan to manage **FOOD AND DRINK** outlets sustainably. If you have a restaurant or staff canteen, make **75%** of all menu items plant-based.
- Complete your plan to reduce **SINGLE-USE PLASTICS** from your Front and Back of House operations.

Step 4 Managing Buildings

- Switch to a **GREEN ENERGY SUPPLIER** if possible.
- Implement your **PLAN** for energy reductions.

Step 5 Managing Waste

- Complete the plan to minimise **WASTE** and maximise **RECYCLING**.

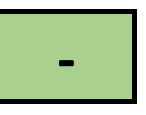
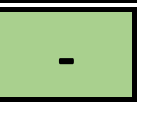
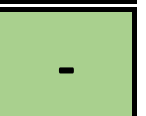
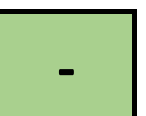
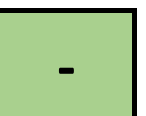
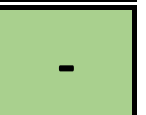
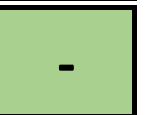
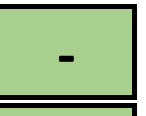
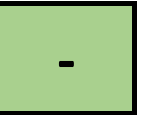
Step 6 Managing Travel and Transport

- Incentivise **AUDIENCES** to travel sustainably.
- Implement your **SUSTAINABLE TRAVEL PLAN** to minimise the carbon footprint of your business travel.
- Minimise the carbon footprint of your **DELIVERIES**.

Step 7 Contracts and Procurement

- Require all major suppliers and contractors to comply with **KEY PERFORMANCE INDICATORS** for sustainability.


fills in spreadsheet



You can download this page with the Operations Tracker from **RESOURCES**

Go to OPERATIONS RESOURCES

- for ...
- *Detailed Guidance*
 - *The Operations Tracker and downloadable standards*
 - *Case studies*
 - *Toolkits*



Go to
Operations
resources

SUSTAINABLE BUILDINGS

Click [here](#) to go straight to **Buildings Resources** for:

- Detailed guidance
- The Building Survey Tool and downloadable standards
 - Case studies
 - Toolkit pages

If you don't have a building, ignore this section

Theatre buildings emit a lot of carbon

- *The previous section, Sustainable Operations, shows how to **manage** buildings as sustainably as possible.*
- *This section shows how to **upgrade** buildings to make them more sustainable.*
- *Sustainable buildings **cost less** to run.*

These are the priorities, in order:

Insulation

*Roofs, walls and windows ... so your building **needs** less energy*

Efficiency

*Efficient plant and good controls ... so your building **uses** less energy*

Renewables

*So you generate **renewable** energy*

Biodiversity (and use less water)

Insulation (so you need less energy)

Roofs

Roofs are a major source of heat loss, particularly above auditoriums

Walls

Walls can be insulated to keep energy in.

Floors

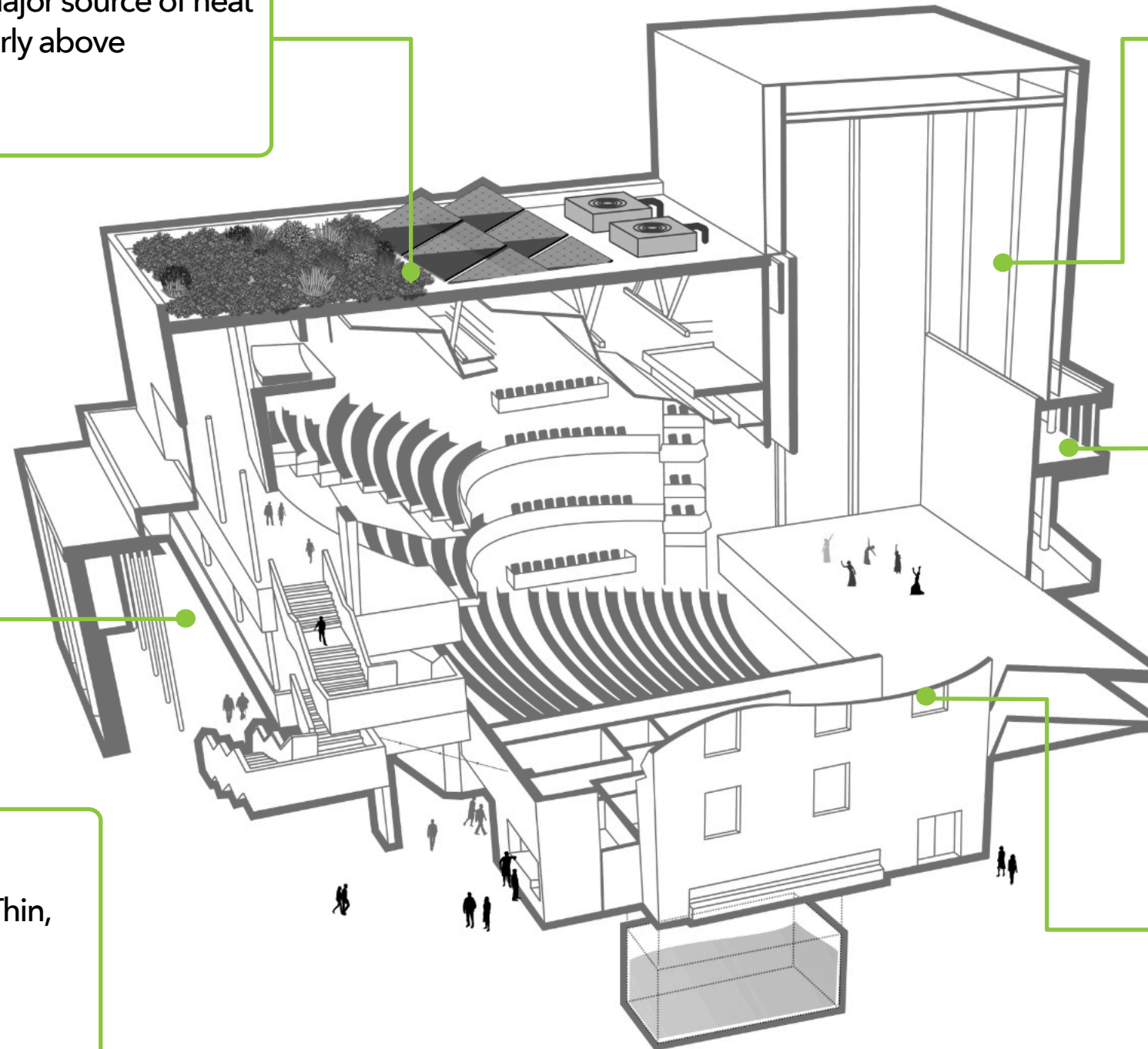
Uninsulated overhangs and balconies let energy escape.

Entrances

Entrances need lobbies. Thin, leaky doors waste heat.

Doors and windows

Double or secondary glazing stops heat going out of the windows.



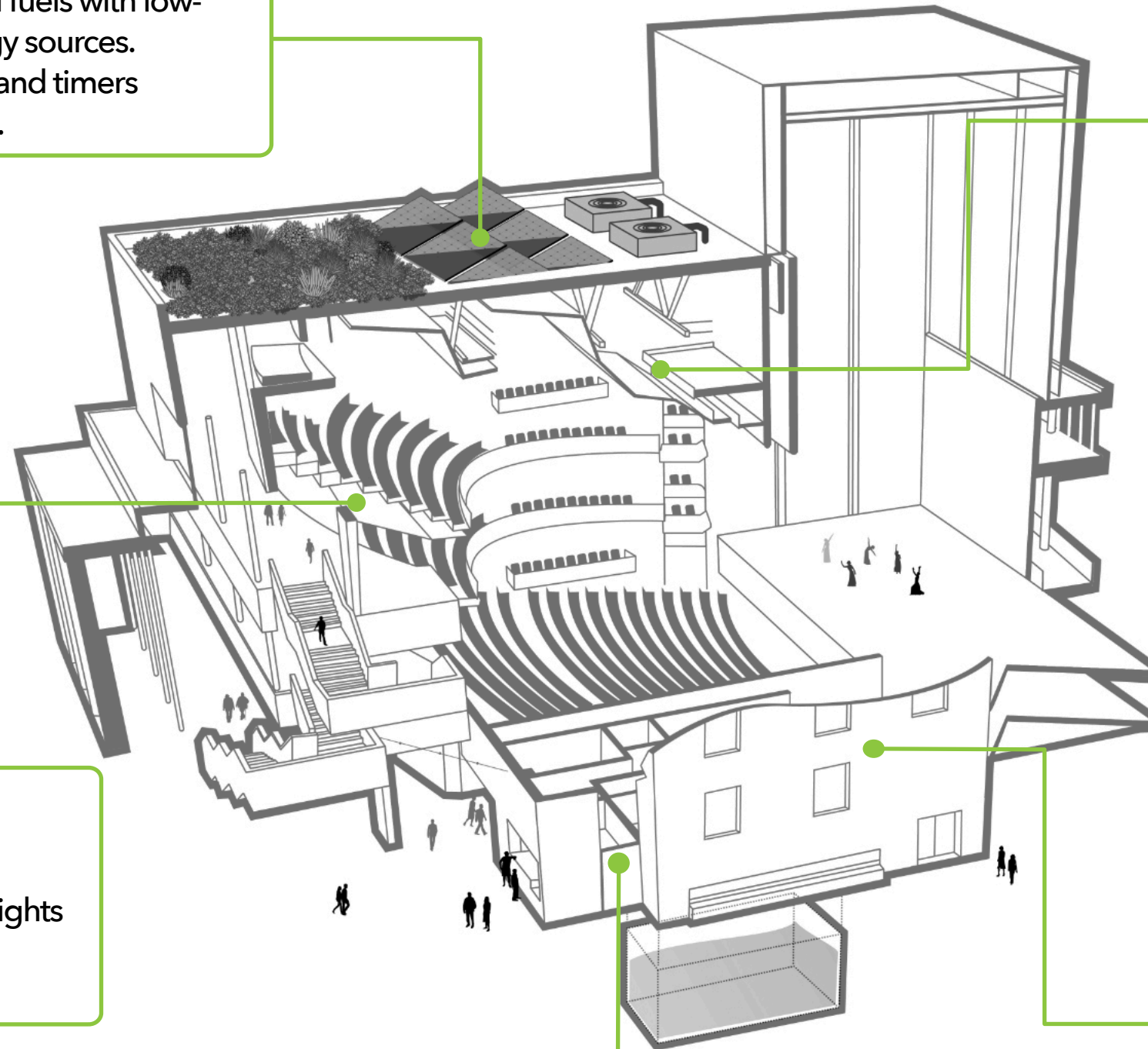
Efficiency (so you use less energy)

Heating and cooling

Replace fossil fuels with low-carbon energy sources. Thermostats and timers minimise use.

Ventilation

Efficient fans and pumps prevent energy waste. Timers and controls switch them off.



Lighting

Switch to LED. Timers and movement sensors keep lights off unless they're needed.

Hot water

Hot water supply for taps and showers must be heated sustainably.

Other Systems

Lifts, servers, security systems and catering are all big energy users.

Renewables (make your own energy)

Solar panels

'PVs' and thermal panels work well on auditorium or back of house roofs

Turbines

Wind power rarely works in towns and cities, but may help rural theatres.

Air source heat pumps

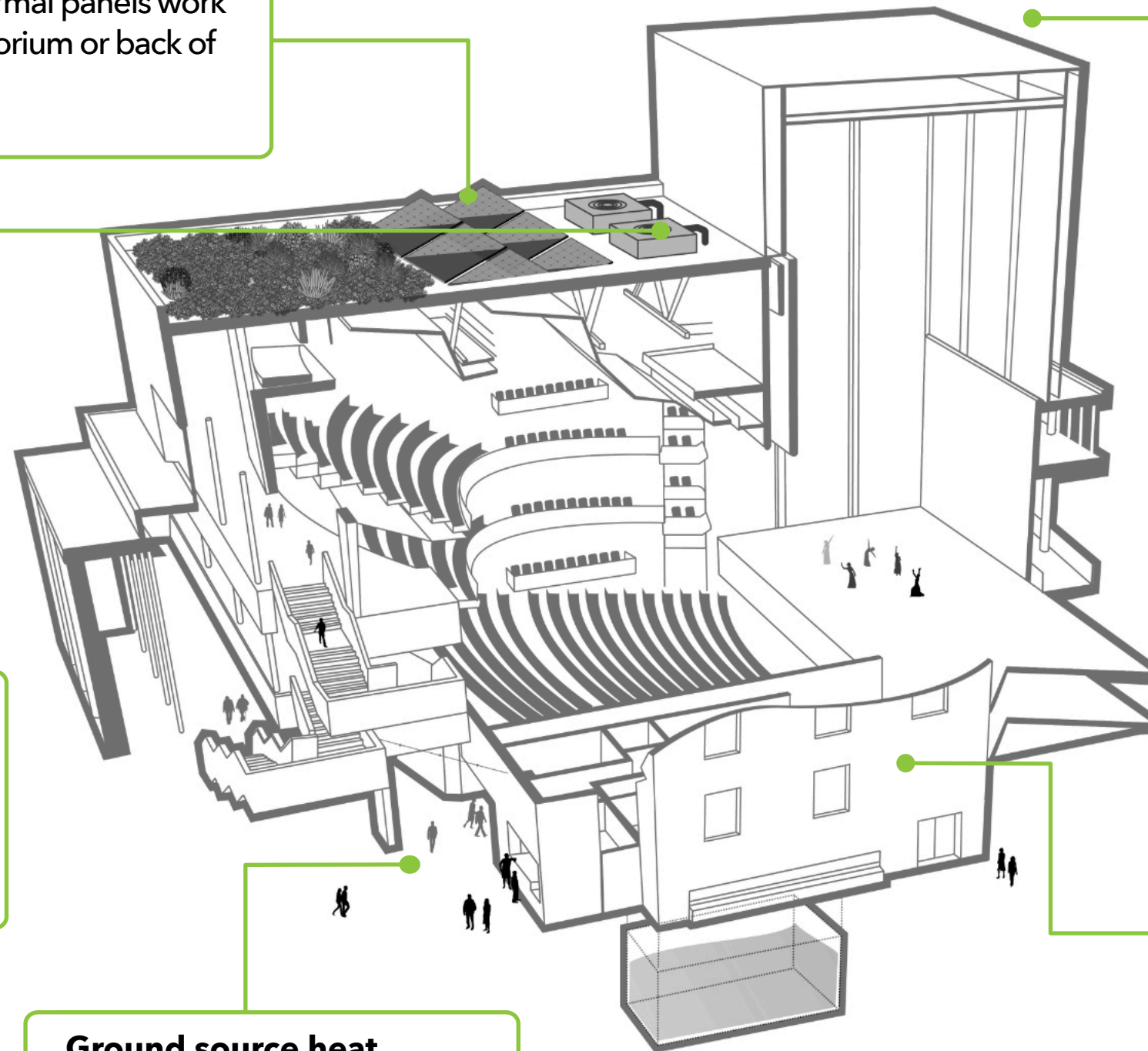
Easier to install than GSHPs, these can work well for some theatres.

Ground source heat pumps

Warmth in the ground is an energy source, but 'GSHPs' often require major works.

Electricity

In some countries, electricity already comes from renewable sources.



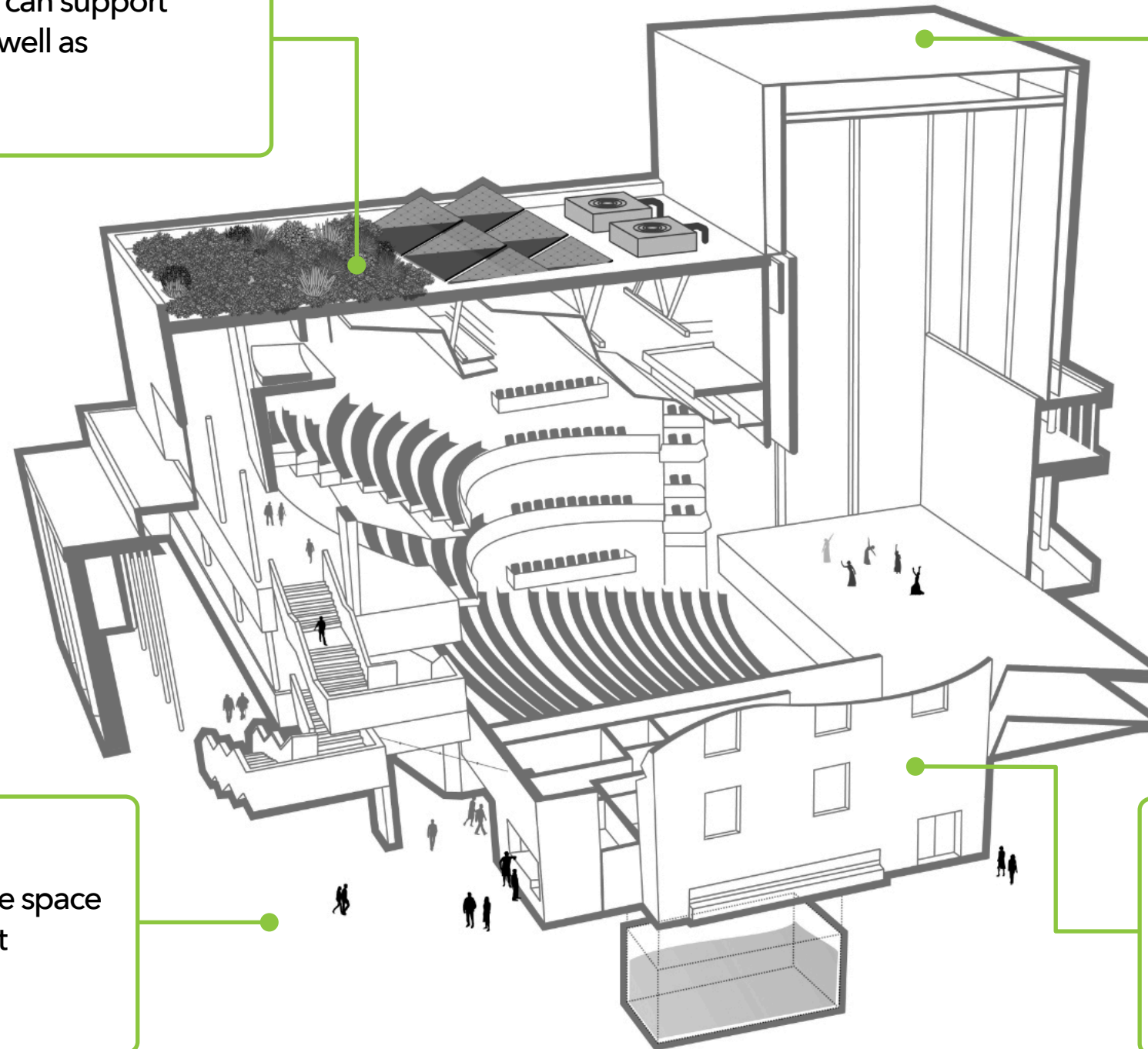
Support biodiversity and use less water

Green roofs

Planted roofs can support wellbeing as well as biodiversity.

Rainwater

Rainwater can be captured to irrigate plants, but needs storage space.



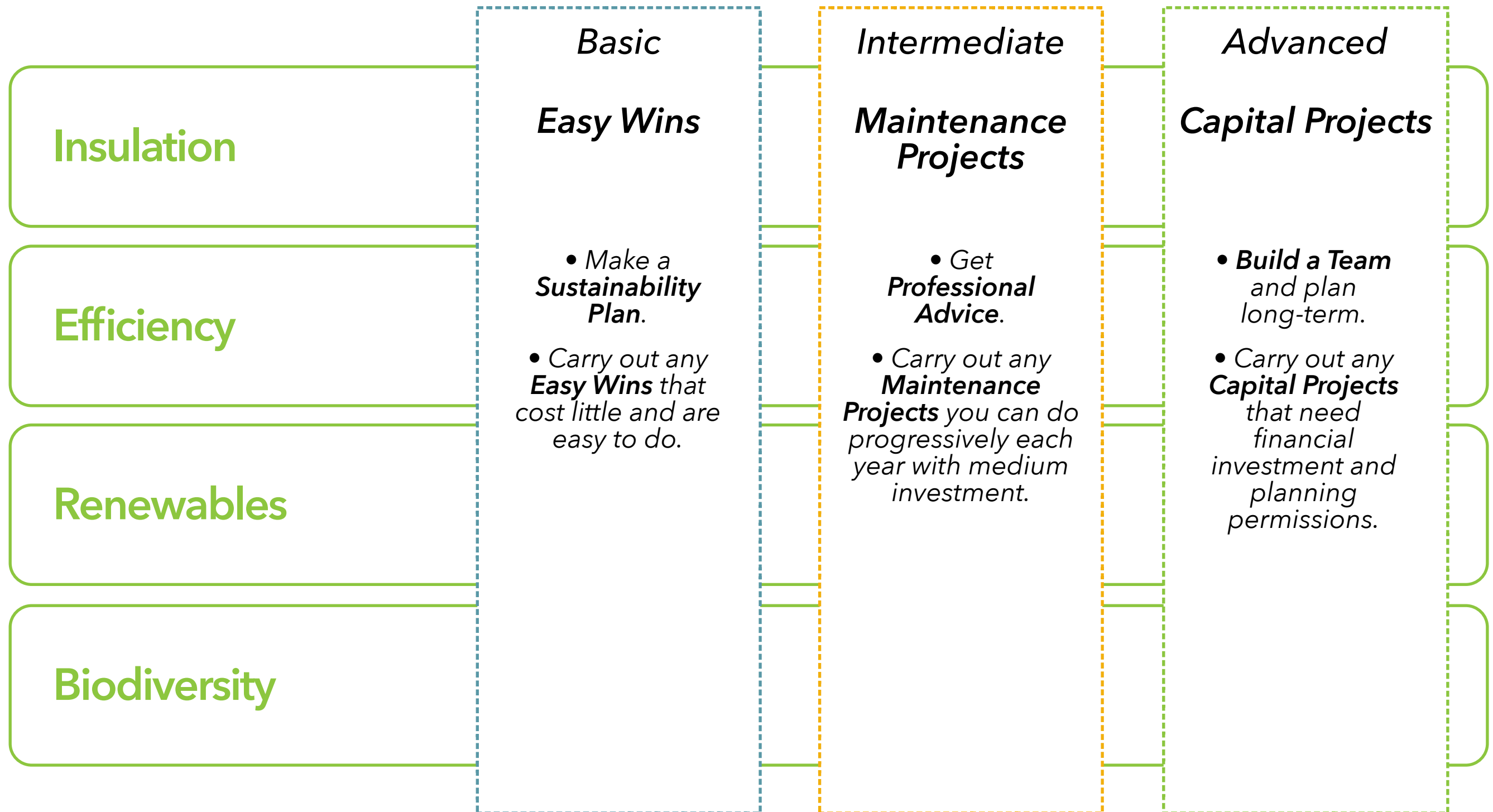
Landscape planting

Any theatre with outside space has a chance to support biodiversity.

Low-flow taps and WCs

You can restrict the amount of water you use in taps, urinals and cisterns.

Make a Sustainability Plan



Sustainability cuts energy costs

If you don't own your building:

- Create a **Sustainability Plan**
- Share it with the **Building Owner**

Basic

Low cost

Saves money through energy savings

Intermediate

Medium cost

Saves money through energy savings

Advanced

High cost

Saves money long-term, but needs major investment through:

- *Subsidy*
- *Fundraising*
- *Energy contracting*

Basic Building

To reach **Basic** for your building:

- Make a **Sustainability Plan**
- Put in hand the **Easy Wins**

The **Building Survey Tool** helps you start a Sustainability Plan. Answer questions about your building. It will help you divide actions into

- **Easy Wins**
- **Maintenance Projects**
- **Capital Projects**

It will put them in order of priority, and suggest where you need professional advice.

You can download this page with the Building Survey Tool from **RESOURCES**

Step 1 Plan for a Sustainable Building

- Prepare a Sustainability **PLAN**, identifying Easy Wins, Maintenance projects and Capital Projects
- Gather **INFORMATION**. Record energy use monthly.

Done? *v, NO or N/A*

Step 2 Insulation: so your building needs less energy

- Identify Easy Wins (if any) to insulate **ROOFS**, balconies and **WALLS**. Put them in hand and list next steps.
- Identify Easy Wins (if any) to upgrade **DOORS** and **WINDOWS**. Put them in hand and list next steps.

Step 3 Efficiency: so your building uses less energy

- Learn all you can about your **HEATING AND COOLING** system(s). Identify Easy Wins (e.g. better timers, thermostats and controls). Put them in hand and list next steps.
- List all your **LIGHTING** systems and how they're controlled. Identify Easy Wins (e.g. movement detectors or timers). Put them in hand and list next steps.
- Learn all you can about your **HOT WATER** system(s). Identify Easy Wins (e.g. better timers, thermostats and controls). Put them in hand and list next steps.
- Learn all you can about your **VENTILATION** system(s). Identify Easy Wins (e.g. better timers and CO2 detectors). Put them in hand and list next steps.
- Learn all you can about **OTHER SYSTEMS** (lifts, servers, security, catering equipment, electrical appliances etc). Identify Easy Wins . Put them in hand and identify next steps.

Step 4 Renewables: so you make your own energy

- Research **RENEWABLE** energy generation systems (Solar panels, Photovoltaic ('PV') cells or (more rarely) wind turbines). Identify next steps.
- Research **HEAT PUMPS** as a replacement for boilers and chillers. Identify next steps.
- Switch to a green **ELECTRICITY** supplier if possible.

Step 5 Support Biodiversity and use less water

- Install **PLANTERS** around your building, where possible. Identify opportunities for new planting, or **GREEN ROOFS**.
- Install butts to collect **RAINWATER**, where possible.

Intermediate Building

To reach **Intermediate** for your building:

- Develop your **Sustainability Plan**
- Put in hand the **Maintenance Projects**

Step 1 Plan for a Sustainable Building

Done? *v, NO or N/A*

- Develop the Sustainability **PLAN** with professional advice. Complete the Easy Wins and put in hand the Maintenance Projects.
- Where possible, install **SUB-METERS** to show clearly where energy is being used.

Step 2 Insulation: so your building needs less energy

- Identify Maintenance Projects (if any) to insulate **ROOFS**, balconies and **WALLS**. Put them in hand and list next steps.
- Identify Maintenance Projects (if any) to upgrade **DOORS** and **WINDOWS**. Put them in hand and list next steps.

Step 3 Efficiency: so your building uses less energy

- Identify Maintenance Projects for your **HEATING AND COOLING** system(s), and put them in hand.
- Identify Maintenance Projects for your **LIGHTING** system(s), and put them in hand.
- Identify Maintenance Projects for your **HOT WATER** system(s), and put them in hand.
- Identify Maintenance Projects for your **VENTILATION** system(s), and put them in hand.
- Identify Maintenance Projects for your **OTHER SYSTEMS**, and put them in hand.

Step 4 Renewables: so you make your own energy

- Get professional advice to confirm feasibility of **RENEWABLE** energy systems. Identify next steps.
- Get professional advice to confirm feasibility of **HEAT PUMPS** as a replacement for boilers and chillers. Identify next steps.
- Identify systems you could switch from fossil fuels to **ELECTRICITY**.

Step 5 Support Biodiversity and use less water

- Install new **PLANTING** areas. Get professional advice to confirm feasibility of **GREEN ROOFS**. Identify next steps.
- Identify Maintenance Projects to reduce **WATER USE**, and put them in hand.

You can download this page with the Building Survey Tool from **RESOURCES**

Advanced Building

To reach **Advanced** for your building:

- Carry out a **Capital Project**

Step 1 Plan for a Sustainable Building

- Carry out a Capital Project(s) to achieve your Sustainability **PLAN**, raising funds and obtaining permissions as necessary.
- Monitor energy **RECORDS** to compare planned energy savings with actual outcomes.

Done? *v, NO or N/A*

Step 2 Insulation: so your building needs less energy

- Carry out all possible works to improve insulation to **ROOFS**, balconies and **WALLS**.
- Carry out all possible works to upgrade **DOORS** and **WINDOWS**.

Step 3 Efficiency: so your building uses less energy

- Carry out all works to make your **HEATING AND COOLING** system(s) as energy-efficient as possible.
- Carry out all works to make your **LIGHTING** systems(s) as energy-efficient as possible.
- Carry out all works to make your **HOT WATER** system(s) as energy-efficient as possible.
- Carry out all works to make your **VENTILATION** system(s) as energy-efficient as possible.
- Carry out all works to make your **OTHER SYSTEMS** as energy-efficient as possible.

Step 4 Renewables: so you make your own energy

- Install **RENEWABLE** energy generation systems, if they are part of your Sustainability Plan.
- Install **HEAT PUMPS** where feasible, if they are part of your Sustainability Plan.
- Switch systems wherever possible from fossil fuels to **ELECTRICITY**.

Step 5 Support Biodiversity and use less water

- Installing **PLANTERS**, planted areas and **GREEN ROOFS** wherever feasible.
- Install systems for recycling **RAINWATER** or **GREYWATER** wherever feasible.

You can download this page with the Building Survey Tool from **RESOURCES**

Go to BUILDINGS RESOURCES

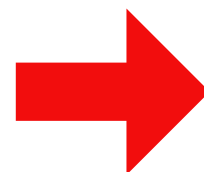
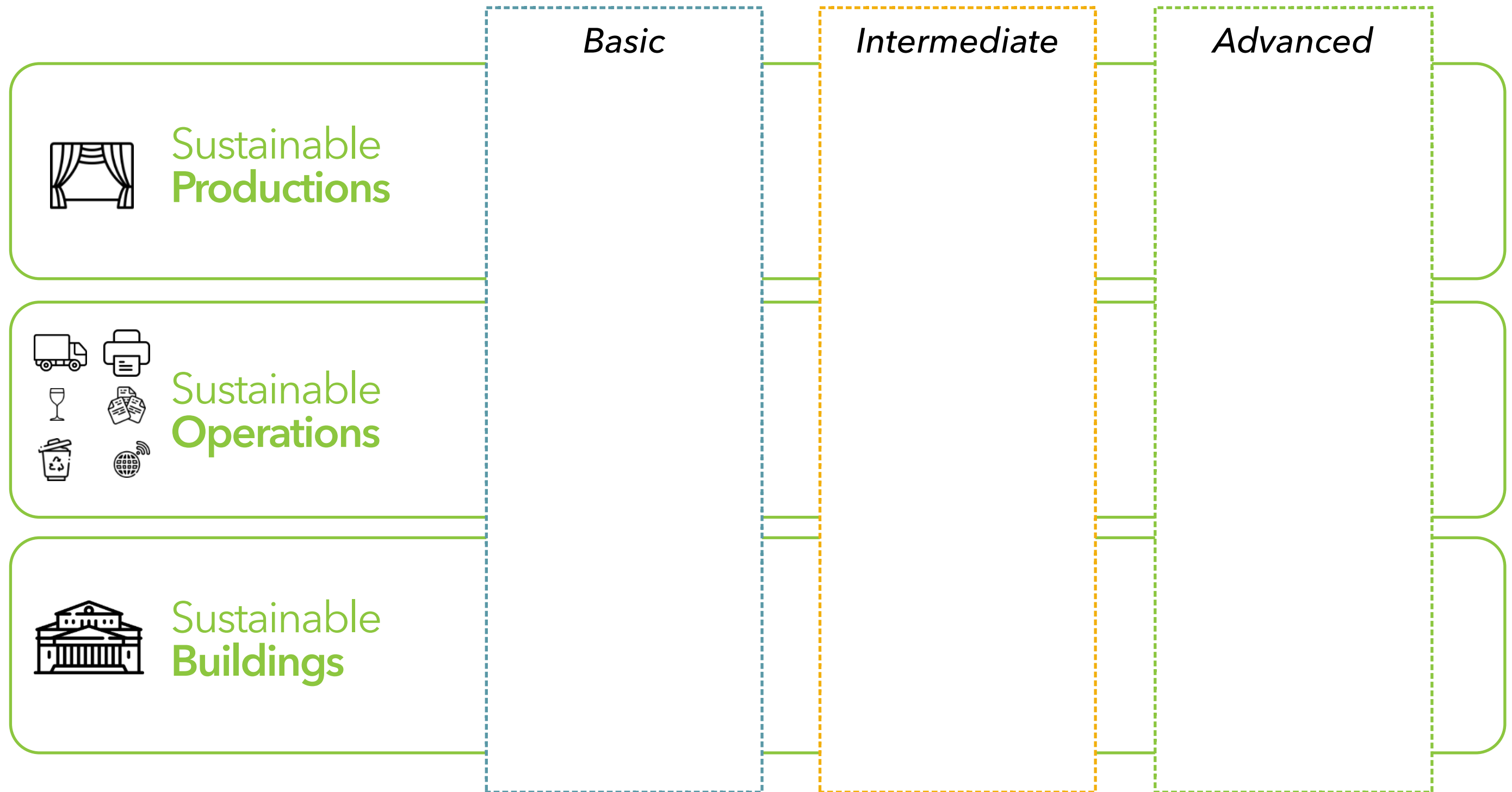
- for ...
- *Detailed Guidance*
 - *The Building Survey Tool and downloadable standards*
 - *Case studies*
 - *Toolkits*



Go to
Buildings
resources

How do I measure progress?

Self-certify using the Theatre Green Book standards





How to Start :

Make a **Commitment** to sustainability, with

- A **Timescale** to reach Baseline.
- An immediate **Action Plan**.

Form a **Green Team** and develop a sustainability culture within your organisation.

Appoint someone to lead on **Data** gathering and someone to lead on **Communications**.

Preliminary

- **COMMIT** to reducing your environmental impact, and starting the transition to net zero.
- Establish a **GREEN COMMITTEE** including a sustainability lead, a member of the senior leadership team, and a lead for each area - Productions, Operations and Buildings – and key staff members.
- Agree an **ACTION PLAN** setting out the steps you need to reach the next Green Book stage, and a timescale to achieve it.
- Make a **DATA PLAN** to set out what you are going to measure and who is responsible.
- Set a **COMMUNICATIONS PLAN** to explain how you will share your targets and achievements, involving staff, partners and audiences.

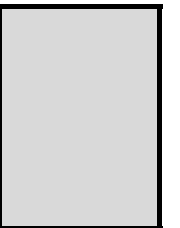
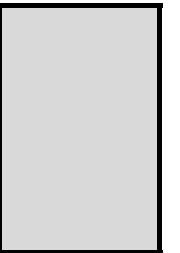
It's essential to make sure your environmental commitment is clear to everyone.

Leadership is key but a senior team is needed to decide which Theatre Green Book level to target, make change, involve staff and report progress.

You must be clear on the key actions needed to deliver measurable progress towards the environmental goal.

You need to be in a position to report and analyse your progress, to achieve each Green Book standard.

Sustainability needs a cultural change. Good communication helps everyone share the challenge.





To reach Basic :

- All **Productions** target Basic and two thirds achieve it (only include productions for which you have lead responsibility).
- You have a Sustainable **Operation** and have achieved Basic in 4 out of 6 areas.
- You have a Sustainability Plan for your **Building** (if applicable), and have put in hand the Easy Wins in each area. (Include Easy Wins you have carried out in the past 5 years).

You can download this page from **RESOURCES**

Sustainable Productions

Target?

Achieved?

Production		
Production		
Production		
Production		
Production		
Production		

Sustainable Operations

Organisation

Paper and digital	
Food, drink, retail	
Managing the buildings	
Reuse and recycling	
Travel	
Contracts and procurement	

Sustainable Buildings

Plan

Easy win no. 1	
Easy win no. 2	
Easy win no. 3	
Easy win no. 4	
Easy win no. 5	
Easy win no. 6	



To reach Intermediate :

- All **Productions** target Intermediate and two thirds achieve it (include productions where you are a co-producer).
- You have a Sustainable **Operation** and have achieved Intermediate in 4 out of 6 areas.
- You have developed the Sustainability Plan for your **Building** (if applicable), and have put in hand the Maintenance Projects in each area. (Include Projects you have carried out in the past 5 years).

You can download this page from **RESOURCES**

Sustainable Productions	Target?	Achieved?
Production		
Production		
Production		
Production		
Production		
Production		

Sustainable Operations	Organisation	
Paper and digital		
Food,drink, retail		
Managing the buildings		
Reuse and recycling		
Travel		
Contracts and procurement		

Sustainable Buildings	Plan	
Maintenance Project no. 1		
Maintenance Project no. 2		
Maintenance Project no. 3		
Maintenance Project no. 4		
Maintenance Project no. 5		
Maintenance Project no. 6		



To reach Advanced :

- All **Productions** target Advanced and three quarters achieve it (include touring productions where you are a receiving venue).
- You have a Sustainable **Operation** and have achieved Advanced in all areas.
- You have achieved Advanced for your **Building** (if applicable).

Sustainable Productions	Target?	Achieved?
Production		
Production		
Production		
Production		
Production		
Production		

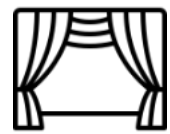
Sustainable Operations	Organisation	
Paper and digital		
Food,drink, retail		
Managing the buildings		
Reuse and recycling		
Travel		
Contracts and procurement		

Sustainable Buildings	Plan	
Capital Project no. 1		
Capital Project no. 2		
Capital Project no. 3		
Capital Project no. 4		
Capital Project no. 5		
Capital Project no. 6		

You can download this page from **RESOURCES**

How do I measure outcomes?

Assess your practice using the standards



Sustainable
Productions



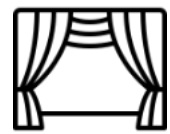
Sustainable
Operations



Sustainable
Buildings



Measure circularity and carbon using the tools



Sustainable
Productions



%
reused /
recycled

kgCO2e
new
materials



Sustainable
Operations



%
waste
recycled

kgCO2e
travel



Sustainable
Buildings



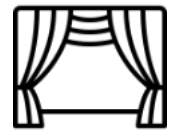
kgCO2e
building

Note: 'kgCO2e' is 'kilograms of CO2 equivalent', a standard measure of carbon emissions.

kgCO2e
total

What tools do I need?

You'll find all you need in the **RESOURCES** area



Sustainable Productions

for...

- Downloadable Production Calculator
- More detailed guidance
- Case studies
- Toolkit

Go to **Productions** resources



Sustainable Operations

for...

- Downloadable Operations Tracker
- More detailed guidance
- Case studies
- Toolkit

Go to **Operations** resources



Sustainable Buildings

for...

- Downloadable Building Survey Tool
- More detailed guidance
- Case studies
- Toolkit

Go to **Buildings** resources

Certification

for...

- Downloadable Self-certification forms

Go to **General** resources

The Theatre Green Book is a pathway to climate and ecological sustainability.

It aligns theatre with UN Sustainable Development Goals:

- *Goal 9 : Industry, Innovation and Infrastructure*
- *Goal 11 : Sustainable Cities and Communities*
- *Goal 12 : Responsible Consumption and Production*
- *Goal 13 : Climate Action*

You need action on health, equality and justice to align theatre with all 17 UN Sustainable Development Goals.

- *<https://www.undp.org/sustainable-development-goals>*

Renew Culture are co-founders and co-authors of the Theatre Green Book. We have pioneered the growth of Green Book networks across the world, and are leaders in theatre's journey to sustainability.

<https://www.renewculture.co.uk>

Renew Culture
The Theatre Green Book

Buro Happold is an international, integrated consultancy of engineers, consultants and advisers. After leading the construction industry in declaring a climate emergency, we've committed to reduce our own impact by achieving challenging science-based targets. We are collectively working towards an equitable and green future by adapting our business to mitigate climate change and the biodiversity crisis and helping others achieve their sustainability goals.

<https://www.burohappold.com/about/>

BURO HAPPOLD

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