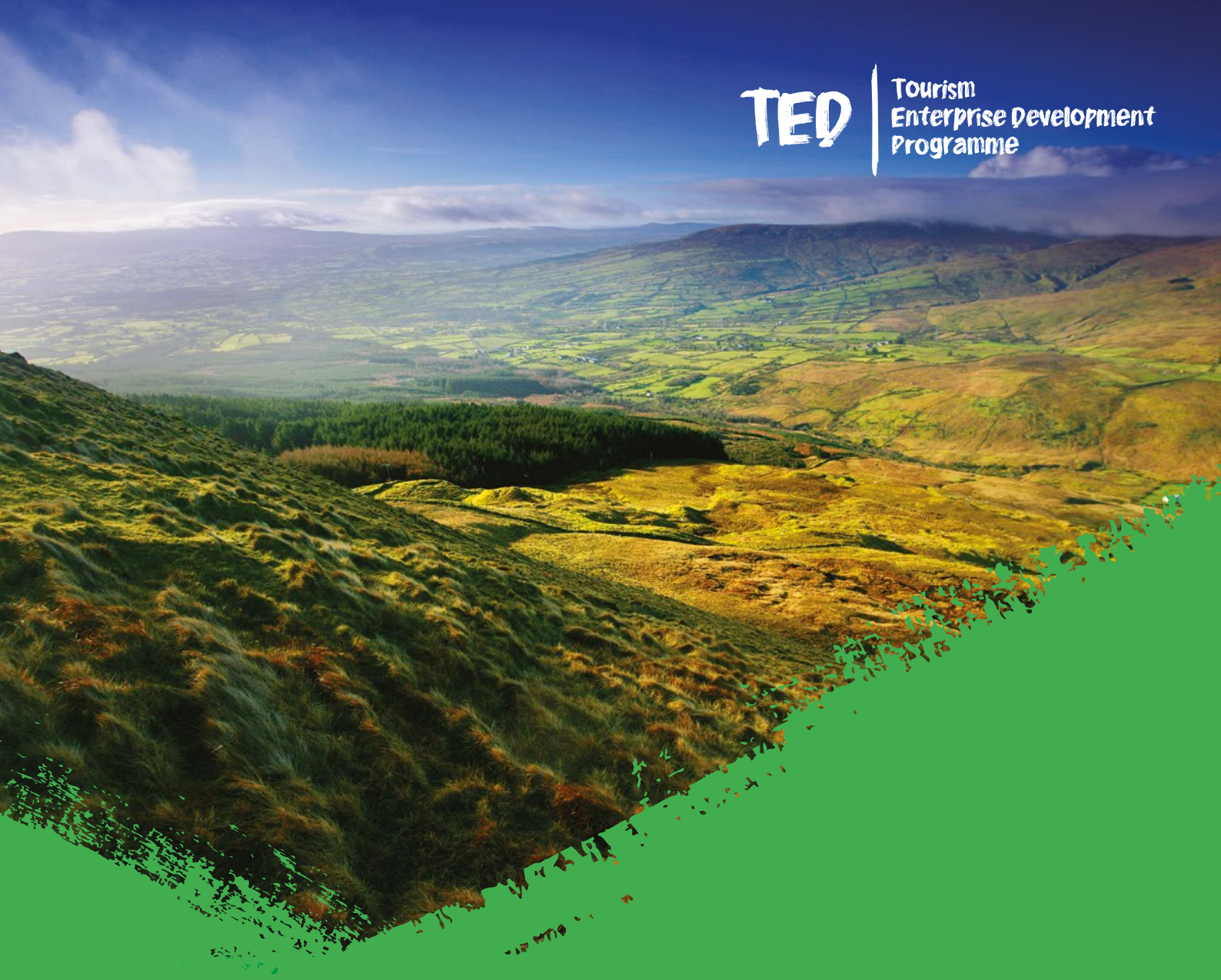


TED | Tourism Enterprise Development Programme

LEANER & GREENER

Guide To Energy Management

How to conserve energy, reduce emissions and reduce costs in your tourism business

TOURISM NORTHERN IRELAND

Contents

PART 1: CLIMATE, CARBON AND COSTS

1.1 What does 'Going Green' mean?

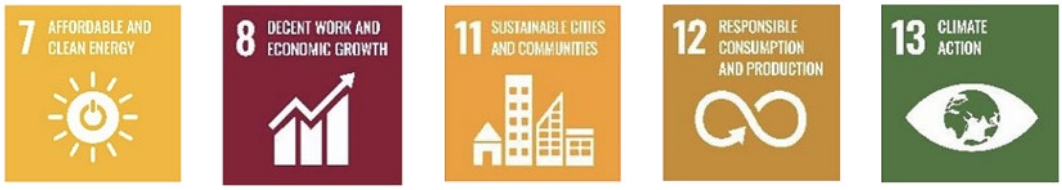
'Going Green' is a common term to describe the process of reducing carbon emissions caused directly or indirectly by your business. 'Going Green' means taking intentional action to reduce the carbon emissions of your business, mainly by managing energy, waste, water and transport more responsibly and more efficiently.

'Going Green' means being proactive and:

a) taking control of your use of energy and water, and setting targets to reduce the amounts you use
b) taking responsibility for waste and setting targets to reduce the amount of waste generated in your business
c) taking the actions that will make sure you reach those targets
d) monitoring and measuring performance and impacts

'Going Green' is a legislative requirement. In June 2019, the UK became the first major economy to commit to a 100 per cent reduction in greenhouse gas emissions by 2050. The Climate Change Act (Northern Ireland) 2022 has re-affirmed Northern Ireland's commitment to this target. To meet it, every business sector will have to massively reduce its carbon footprint. See Part 3 of this guide for more information on carbon footprint and carbon emissions.

Energy Management Actions that reduce carbon emissions contribute to the following UN Sustainable Development Goals:



1.2 Leaner & Greener Energy Management

Managing Energy is now also a key business priority. Costs of energy are high. Energy supply is uncertain. Emissions from energy account for a significant part of the carbon footprint of your business.

Systematically managing energy will reduce the running costs of your business (making you leaner) and will also reduce carbon emissions from your business (making you greener). It is a win-win situation – it is good for business and it is good for the environment.

It's a simple equation: the less energy you consume, the less money you pay, the less carbon you emit.

1.3 Understanding Carbon Emissions

What is a Business Carbon Footprint?

"A Carbon Footprint measures the total GreenHouse Gas (GHG) emissions caused directly and indirectly by your business." (Carbon Trust)

Carbon Footprint Calculators will require you to know how many kilowatt hours (kWh) of energy you use in your business in order to calculate your carbon footprint.

Why is it good to know your Business Carbon Footprint?

"It will help you understand what your key emission sources are and what opportunities you have to reduce them. It gives you an initial benchmark against which you can measure progress." (Carbon Trust)

Know your Scopes

Internationally, greenhouse gas emissions are categorised as either Scope 1, Scope 2 or Scope 3. The following table explains what is included in each of these categories and also summarises the key actions you can take to reduce each one. You will note that Scopes 1 and 2 relate specifically to energy management.

What are Scope 1 Emissions?	How can you reduce them in your business?
Emissions your business produces directly e.g., through burning fossil fuels such as gas and oil to run your heating system.	1. Train staff to use energy and equipment more efficiently 2. Invest in more energy-efficient equipment 3. Use less energy that is derived from fossil fuels – replace fossil fuels with renewable alternatives
What are Scope 2 Emissions?	**How can you reduce them in your business?**
Emissions your business produces indirectly e.g., when you buy electricity which is produced by burning fossil fuel.	1. Switch to a certified green electricity supplier 2. Switch to your own renewable energy sources
What are Scope 3 Emissions?	**How can you reduce them in your business?**
Emissions not directly owned or controlled by your business, but that your business is indirectly responsible for e.g., through the products you buy from suppliers or through the transport of staff and visitors to your premises.	1. Minimise food waste and general waste 2. Conserve water 3. Source more supplies locally 4. Enable staff and guests to travel sustainably 5. Upgrade insulation in your building

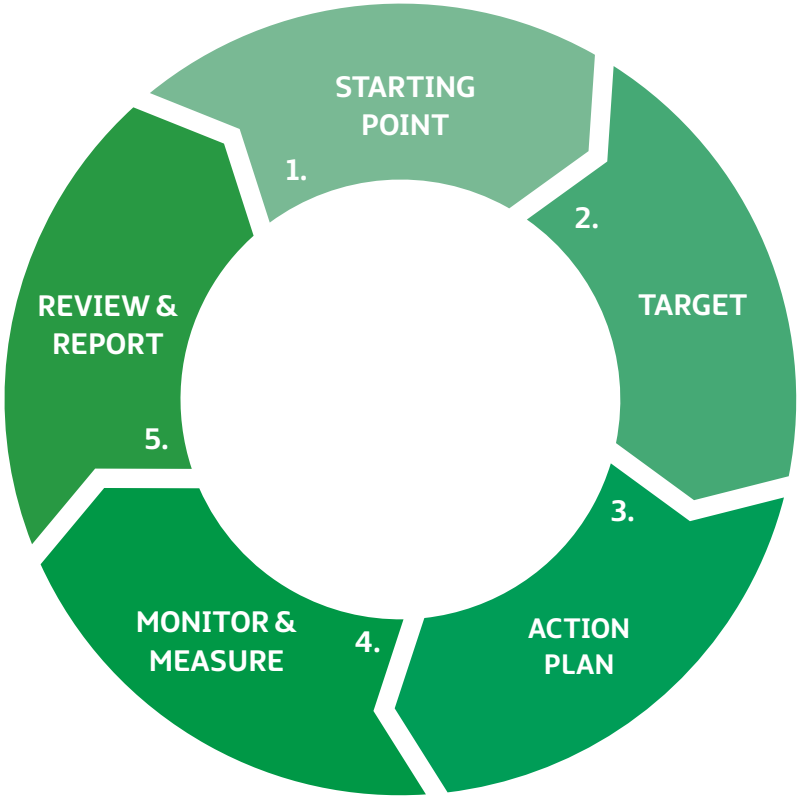
PART 2: A LEANER & GREENER ROADMAP

2.1 A process for managing energy costs and carbon emissions in your business

The single most important determinant of successful energy management is the commitment and leadership of the business owners and senior managers. Only senior management can make this topic a strategic business priority. Only senior management can create the conditions for change to happen.

Assuming that managerial support exists, the diagram below shows a good approach to energy management. You will see that it is the same cycle that would apply to the management of any process or system within your business.

1. Where are you now?	This is your Starting Point.
2. Where do you want to get to?	This is your Target.
3. How will you get there?	This is your Action Plan.
4. How will you keep track of progress?	Use our Leaner & Greener Energy Spreadsheets to help you measure and monitor.
5. How will you keep everyone informed?	Schedule times for review and reporting within your business.



2.2 Best practice step-by-step approach to managing energy

	Action	Top Tips
1	Appoint a Green Champion or Green Team	Appointing a Green Champion or a Green Team is the very first step in saving energy and costs. In a small business, one person may be responsible for this – a Green Champion. In a larger business, it is wise to bring a team of people together – a Green Team. They must have both the responsibility and authority to drive your cost-saving and carbon-saving ambitions. Team members may also need training, meetings, resources and above all time to lead through the rest of the steps below.
2	Gather data on Annual Energy Use (kWh) and Energy Cost (£) in your business (Use Leaner & Greener Energy Worksheet 1 – Section 3.1)	The very first job of your Green Champion or Green Team is to establish your Starting Point. The task is to find out how much energy, in kilowatt hours (kWh), that your business used in the last year and how much that energy cost (£). To do this, you need to be able to measure all your sources of energy (e.g. electricity, oil, gas, wood) in a common currency i.e. kWh. This in turn will allow you to determine the Average Unit Price (AUP) of each one, which allows you to compare the costs of the different energy sources.
3	Establish your benchmark against which you will measure future performance (Use Leaner & Greener Energy Worksheet 1 – Section 3.1)	Benchmarking allows you to track energy use over time. It allows you track your own performance and also to compare your business against others. When you have worked out your annual costs and consumption, you can establish kWh and cost per person/per metre/per cover/per room/per ticket – whichever benchmark is the most relevant for your business and that you can track consistently over time. Make note of how you calculate your benchmark so that you and other team members calculate it in the same way each time. That's the only way to ensure you have comparable data.
4	Identify the biggest users of energy in your business and rank them from highest to lowest (Use Leaner & Greener Energy Worksheet 2 – Section 3.2)	Now it's time to get behind those baseline figures and understand what's driving them. How can you know which items of equipment are costing you the most? Use the Leaner & Greener Energy Worksheet 2 (see Section 3.2). You will need to know the kilowatt rating of each piece of equipment*, approximately how long it is on for every day and your Average Unit Price (which you calculated in Step 2). The worksheet will help you work out exactly how much money each piece of equipment costs over the course of a year. You may be surprised! You will then be able to prioritise actions around equipment.
5	Observe staff and customer behaviour in managing and using equipment	Take time out to walk around your business focusing specifically on energy usage. Just observe how things are done in your business on a day-to-day basis. Ask yourself 'where are we wasting energy?' Consider where changes in behaviour or standard practice could lead to significant savings. For example, are doors left open while the heat is on? Is the oven switched on much earlier than it needs to be? Write down what you observe and where you believe improvements could be made. Try not to judge or blame. Right now, you're just gathering information.

6	Evaluate the options for replacing your current energy sources with renewable energy alternatives	Renewable sources of energy reduce your carbon footprint and reduce your costs over the longer term. Incorporating renewables will also minimise your exposure to external price increases. They do require research and investment so may take some time to work through. That investment can be recouped over time based on savings achieved. Once the initial payback time has elapsed, your energy will be effectively free aside from maintenance costs. The options to consider are : Solar PV Panels, Solar Thermal Technology, Heat Pumps and Biomass.
7	Develop your Energy Action Plan (Use the Leaner & Greener Energy Action Plan Template)	By now, you have great information on where and how energy is used in your business, as well as how much it costs. Once you know which equipment and operations use the most energy, determine best ways to cut that use without impacting the business. The plan should include immediate and short-term actions as well as medium to long-term ones. It is important to set goals that are specific and measurable. Be clear on who is responsible for each action and the deadline by which it is to be complete.

* How to establish the kilowatt rating of a piece of equipment? You may find it in the manual or you may be able to find it on the product specification online. You can also use a meter to get the exact kilowatt rating of any piece of equipment.

Data is your Friend

There are a number of important reasons why measuring and monitoring data is central to your energy management journey:

- Your ability to report accurately and memorably on your successes in saving energy depends on how well you keep track of your key numbers.
- To apply for independent certification, you must provide data on energy consumption in your business and be able to demonstrate improvements as a result of actions you take.
- Similarly, to apply for and win green awards, you must provide evidence of improvements. Your data is that evidence.
- Sharing data with your staff makes the Energy Saving Project meaningful and transparent. When the data reveals the impact of their actions on the consumption and cost figures, your team will be motivated and inspired to continue with the journey.

PART 3: USEFUL TEMPLATES

3.1 Leaner & Greener Worksheet 1: Annual Units & Costs

What is this template for?

This template is available in Excel format and allows you to convert all energy sources to a common currency, kWh (kilowatt hours).

Why should you use it?

Once you have all energy sources in the same currency, kWh, you can calculate the Average Unit Price (AUP) for each unit of energy. This allows you to compare prices of different energy sources. This template also allows you calculate a benchmark against which you can measure performance over time.

How do you fill it out?

You only need to complete the shaded fields in green. The columns in white are then automatically calculated.

- Annual Units and Annual Costs: You will find these on your bills or you can request them from your supplier.
- Benchmark: select a relevant unit of activity for your business e.g. number of customers/covers/tickets/transactions/rooms/square metre that your business handles in a year. Use it to track performance over time. (The first one is completed as an example)

ENERGY ANNUAL USE AND COSTS							
Type of Energy	Unit of Measurement	Annual Units	Annual kWh	Annual Cost ex VAT	Average Unit Price £/kWh	kWh Benchmark	Cost Benchmark
Electricity	kWh		0				
Mains Gas	kWh		0				
LPG	Litres		0				
Oil	Litres		0				
Wood Pellets	KG		0				

Benchmark

Editable versions of these templates can be downloaded at www.tourismni.com/leanergreener

3.2 Leaner & Greener Worksheet 2: Energy Equipment Audit

What is this template for?
This template is available in Excel format and allows you to log the energy use of all energy-using equipment in your business.

Why should you use it?
It allows you to identify the biggest users and prioritise areas for action.

How do you fill it out?
You only need to complete the fields in green. The columns in white are then automatically calculated.

- Rating (kW): Enter the Energy Rating for that piece of equipment
- Hours On/Week: Estimate how many hours per week that item of equipment is switched on.
- Average Unit Price: Enter the Average Unit Price which you calculated in Worksheet 1 Annual Use and Costs (The first line is completed as an example)

ENERGY EQUIPMENT AUDIT						
Equipment	Rating (kW)	Hours On /Week	Hours On /Year	Annual Use (kWh)	Average Unit Price £	Annual Cost
Fridge			0	0		0
Freezer			0	0		0
Air-Con Unit			0	0		0
Extractor Fan			0	0		0
Dishwasher			0	0		0
			0	0		0
			0	0		0
TOTALS				0		0

Editable versions of these templates can be downloaded at www.tourismni.com/leanergreener

3.3 Leaner & Greener Energy Savings Action Plan Template

What is this template for?
This template, which you can re-create yourself, allows you to document a practical Action Plan to reduce energy consumption and reduce costs.

Why should you use it?
This creates a single document where all actions that you can commit to are listed. It establishes priorities and responsibilities within the team, as well as timelines for action.

How do you fill it out?
- Action: State the Action you will take
- Responsibility: Clearly identify who is responsible for delivering on this action.
- Deadline: Set a specific date when this action is targeted for completion.
- Notes: Add any information here that is relevant to the particular action e.g. additional resources required. (The first line is filled in as an example)

ENERGY SAVINGS ACTION PLAN				
No.	**Action**	**Responsibility**	**Deadline**	**Notes**
1.	Check temperature in all fridges in kitchen and set to 4 degrees Celsius	Green Manager & Head Chef	30.11.2022	Create a record sheet that lists every fridge and the date it was checked.

Editable versions of these templates can be downloaded at www.tourismni.com/leanergreener

PART 4: TOP ACTIONS YOU CAN TAKE TO SAVE ENERGY AND SAVE MONEY

EQUIPMENT

Introduce a strict Switch Off Policy and train staff on same

Display Switch On and Switch Off times as well as temperature settings on equipment

Prioritise replacing older equipment with high energy ratings

LIGHTING

Install LEDs – replace all halogen and CFL bulbs

Install motion and light sensors

Eliminate unnecessary lights and optimise natural light

HEATING

Service your boiler regularly

Install thermostats and train staff on operating the controls. Reduce the temperature in your building where possible.

Upgrade the insulation in your building

REFRIGERATION

Check and maintain door seals

Ensure temperature is no lower than 3-4 degrees C in fridges and -18 degrees in freezers

Install a PVC curtain on large fridges

STAFF

Invest in communication, training and monitoring – especially of heating systems or new technology

Invite ideas for energy-saving from the team

Recognise and reward great suggestions and the impact of staff actions on consumption and costs

RENEWABLES

Research options thoroughly

Work with a reputable supplier and check with others who have availed of their services

Calculate how long it takes to recoup the initial investment so you can look forward to when your business generates its own free energy

PART 5: SUPPORTS

Tourism NI

Leaner and Greener Cost Saving Hub

Growing Greener Experiences Together

Sustainability for your People: Recruitment and Retention

Invest Northern Ireland

Reduce Waste and Save Energy

Energy and Resource Consultancy Support

NI Business Info

Save Energy and Cutting Cost Guides

Power NI

Reduce your lighting cost by up to 80%

Energy saving products (powerni.co.uk)

NI Carbon Trust

A Guide to Carbon Footprinting for your Business

Keep Northern Ireland Beautiful

Carbon Literacy Programme for Tourism Businesses

Business in the Community

Cost of Living Action Plan for Businesses

Consumer Council

Save Energy and Money this winter