



GREEN TICKET SCHEME

CARING FOR GOD'S CREATION TOGETHER

SAINT ANDREW'S EPISCOPAL CHURCH

“The scheme is not about doing everything 100% of the time, it’s about doing the things that work for you in the way that works for you – celebrating the steps that you do take by recording them on a Green Ticket, and not feeling guilty for the impact that you have. Celebrate the wins and don’t panic about the impact. By taking small steps, it will become part of your everyday habits, which will be more sustainable in the long term and help you to shift your mindset to be more conscious of the environment and our impact on it.”

Reproduced with permission from <https://greentalk.fr/sustainable-travel/#transcript>.

There are many ways to reduce our carbon emissions and many resources available to help us calculate how much carbon we’ll save by taking certain actions. This short booklet gives some suggestion as to how savings can be made and explains how to fill in green tickets. We will also provide regular ‘green tips’ in *The NET* to encourage and inspire one another. We would also welcome your ideas for reducing carbon emissions and improving the scheme. Please let us know at greenticket.stasstas@gmail.com.



GREEN TICKET SCHEME

CARING FOR GOD'S CREATION TOGETHER

- We invite you to take part in the re-launching of the Saint Andrew's Church Green Ticket Scheme.
- We hope the scheme will help us to think about our personal carbon emissions as part of caring for God's creation.
- We are doing this as a means of slowing global warming and climate change by contributing to Scotland's ambition of becoming carbon neutral by 2045 and the Scottish Episcopal Church's ambition of the same by 2030.
- We invite you to record any savings you make by using the green tickets.



INVITATION

As God's people, we are called to care for God's creation and to reduce the anticipated effects arising from climate change. In re-launching the Green Ticket Scheme, our church community is inviting us to think about the way we live and see how we might support other concerned Christians by cutting our own carbon emissions.

As part of our contribution to the congregation's nurturing of God's creation, we invite you to fill out green tickets and place them (anonymously) in the collection plate Sunday by Sunday, or less frequently (once a month, once a quarter, etc.) if you prefer.

By tracking our carbon savings in this way, we are making a different type of offering to God, one which reflects our attempts to live more lightly on planet Earth. These will be recorded by the St. Andrews Eco-Congregation and displayed on the website and in the church, allowing the congregation to see how we are working together as a community, living as models and ambassadors of the Kingdom to the broader community around us.

The ticket provides spaces to record carbon savings that arise from travel, the food you eat, home energy use, and the things you buy. A supply of green tickets is available near the church entrance and from the office. You may also submit carbon savings online through www.stasstas.com/greenticket.

Saint Andrew's Episcopal Church - GREEN TICKET

☐ This is the first green ticket I have submitted either digitally or online in this calendar year (2021, 2022, etc.)

FOOD	8 kg CO ₂	kg CO ₂	BUYING
HOME ENERGY	kg CO ₂	27 kg CO ₂	TRANSPORT

Indicate in the appropriate box **the carbon emissions** (or equivalents) you saved by making intentional changes in these four areas.

For more information: <http://www.stasstas.com/greenticket.html>

You may not be keen to calculate the carbon savings you make but may still wish to participate. You can do this by writing in the free text box on one side of the ticket. Please feel free to write anything that will reduce your carbon footprint such as:

*I went to London by train, not plane
I ate 8 oz less beef than usual
I bought a second-hand settee*

Saint Andrew's Episcopal Church - GREEN TICKET

Any feedback or intentional changes you've made to reduce carbon emissions that you'd like to share:

*-I went to London by train, not plane
-I ate 8 oz less beef than usual
-I bought a second-hand settee*

☐ This is the first green ticket I have submitted either digitally or online in this calendar year (2021, 2022, etc.)

We are aware that some of us will see this as a personal choice and will not wish to have their contributions recorded even anonymously. That is completely acceptable, and we hope this booklet will still give some inspiration about what can be done to reduce our carbon emissions.

Please feel free to contact members of the Eco-Congregation if you would like to share ideas and successes, ask for help in filling out green tickets, or have general questions at greenticket.stasstas@gmail.com.



TRANSPORT

About a quarter of the UK carbon footprint can be attributed to travel and the use of transport.¹

Can you think of some small changes that could make a difference? We invite you to record any carbon savings in the travel box on one side of the green ticket. This allows you to record any carbon you have saved by not using a single occupancy car (possibilities include car sharing, giving someone a lift, walking, cycling, taking a bus, or using an electric car if you have one), by not flying on longer distance journeys (train is usually the best option), or by simply not taking a journey that requires a flight (e.g. can a meeting be held online instead?).

Jet fuel is the most difficult to replace. When holidaying, might we consider closer destinations or even staying in the UK?

The table below shows you how much carbon each type of transport emits.¹

CO ₂ emissions per vehicle	kg of CO ₂ per mile
Large car	0.43
Medium car	0.36
Small car	0.28
Electric car	0*
CO ₂ emissions per passenger	kg of CO ₂ per mile
Cruise liner	0.64
Car passenger on ferry	0.64
(Foot passenger on ferry	0.03)
Short haul flight	0.42
Long haul flight	0.36
Bus	0.17
Train	0.10
Long-distance coach	0.08

* If recharged from a renewable supplier

¹ Rosemary Randall and Andy Brown, *In Time for Tomorrow?: The Carbon Conversations Handbook* (Surefoot Effect CIC, 2015) p.85.

TO CALCULATE YOUR CARBON SAVINGS

Multiply the number of miles by the CO₂ emissions (see table) for the transport you might have used, then multiply the number of miles by the CO₂ emissions for the transport you did use. Subtract the second number from the first.

Taking the train to Edinburgh rather than going by medium sized car (return journey 100 miles)

Car would have produced $100 \times 0.36 = 36 \text{ kg}$

Train produced $100 \times 0.1 = 10 \text{ kg}$

Saving = $36 - 10 = 26 \text{ kg}$

CAR SHARING

We would like to offer the opportunity for people to explore car sharing, especially for coming to church.

If you feel you could offer someone a lift (once the easing of lockdown allows this) or would be interested in having a lift to church, please fill in our online form at www.stasstas/greenticket or email greenticket.stasstas@gmail.com.

We shall try to match offers with need.





FOOD

26% of global carbon emissions come from food production, processing, transport, and waste.² For this reason, eating local produce in season greatly reduces carbon emissions. Perhaps we could try growing some of our own food at home or in a community garden. The table below shows carbon emissions from various foods.

Might you be able to reduce your intake of some of the foods giving high carbon emissions?

Food Item	kg of CO ₂ per serving ³
PROTEINS	
Beef	8
Lamb	4
Farmed Prawns	3.5
Farmed Fish	1.75
Pork	1.75
Chicken	1.5
Cheese	1
Eggs	0.6
Beans	0.1
FRUITS & VEGETABLES	
Hot House Tomatoes (in winter months)	6
Tomatoes (in summer months)	0.5
Mangoes	1
Local strawberries in season	0.08
BEVERAGES	
Beer	0.75
Wine	0.3
Milk	0.75
Coffee	0.5
Tea	0.02
SWEETS	
Chocolate	2

² <https://ourworldindata.org/food-ghg-emissions>

³ <https://www.bbc.co.uk/news/science-environment-46459714>; Randall and Brown, *In Time for Tomorrow?* p.114.

TO CALCULATE YOUR CARBON SAVINGS

Subtract the carbon cost of the food you ate from the carbon cost of the food you intentionally chose not to eat.

Example: Beef – Chicken = Carbon Savings
 $8 \text{ kg} - 1.5 \text{ kg} = 6.5 \text{ kg}$

Might you consider trying one or more of the following?

Possible Actions	Carbon Savings	How it adds up over a year
Eat one less portion of red meat a week	Up to 8 kg CO ₂ in a week	400 kg CO ₂
Choose <u>not</u> to eat tomatoes from November to May	6 kg CO ₂ per tomato	1 tonne CO ₂
Eat local strawberries instead of mangoes twice a week	1 kg CO ₂ per serving	40 kg CO ₂
Drink tea twice a day in place of coffee	5 kg CO ₂ in a week	350 kg CO ₂
Have 2 fewer portions of chocolate a week	4 kg CO ₂ in a week	200 kg CO ₂

**You can find out about CO₂ emission from many foods using the handy calculator at [Climate change food calculator: What's your diet's carbon footprint? - BBC News](https://www.bbc.co.uk/news/science-environment-46459714) (<https://www.bbc.co.uk/news/science-environment-46459714>)*

HOME ENERGY

One quarter of carbon emissions in the UK comes from home energy usage. The average UK house produces 6 tonnes of carbon dioxide (CO₂) each year. By being more aware of our home habits, we could not only benefit the planet but save money on our heating and electric bills. Some ways in which we could consider making major savings in carbon emissions would be installing an air source heat pump, solar panels, solar water heating panels, or a biomass boiler.

Could you try one or more of the following?

Possible Actions	Carbon savings	How it adds up over a year
CHANGE TO RENEWABLE ENERGY SUPPLIER		
Change electricity supplier ⁴	28 kg CO ₂ in a week	1.4 tonnes of CO ₂ in a year!
Change gas supplier ⁵	50 kg CO ₂ in a week	2.5 tonnes of CO ₂ in a year!
LIGHTING/ ELECTRICITY		
Turn off lights when you are not using them ⁶	Up to 1.2 kg CO ₂ per week depending on type of light bulb ²	11 kg to 63 kg CO ₂ in a year
Replace/switch to LED light bulbs ⁷	3 kg CO ₂ - per replaced light bulb	

⁴ http://carboncalculator.co.uk/explanation_electricity.php#:~:text=After%20taking%20into%20account%20the%20different%20methods%20of,kWh%20used%20to%20find%20the%20total%20CO2%20emission

⁵ Carbon <https://ourworldindata.org/grapher/carbon-dioxide-emissions-factor>

⁶ <https://www.carbonfootprint.com/energyconsumption.html>

⁷ <https://www.wearedonation.com/do-actions/>

Possible Actions	Carbon savings	How it adds up
HEATING		
Turn thermostat down by 1°C and wear a jumper rather than turning the heating up ⁶	1 kg CO ₂ per °C per week	In a year, that's 53 kg CO ₂ ! 2°C saves 107 kg 3°C saves 160 kg
Turn heating down or off at night or when you are away from home ⁸	6 kg CO ₂ per week	That's up to 320 kg CO ₂ per year!
Draught proof windows and doors ⁶	0.6 kg CO ₂ per week for each window/door	That's 32.5 kg CO ₂ per year for every sealed window/door!
Add insulation to attic: Insulate to recommended 270 mm ⁶	2 kg CO ₂ per week	95 kg CO ₂
Possible Actions	Carbon savings	How it adds up
LAUNDRY		
Drying: Consider hang-drying clothes (indoors/outdoors) ^{7*}	1 kg CO ₂ per dryer cycle	159 kg CO ₂ (from not using dryer for 149 cycles)
KITCHEN		
Dishwasher: Skip pre-rinse step and only run when the dishwasher is full ⁶		40-106 kg CO ₂ per year

**Tip: If you need to run the dryer, include a dry towel with wet laundry to wick up the water quicker.*

⁸ <https://energysavingtrust.org.uk/take-control-your-heating-home/>



BUYING HABITS

Every purchase we make requires carbon. This includes gathering raw materials, the manufacturing process, the transportation required to get it to us, as well as ongoing carbon emissions associated with using the item. With this in mind, making changes in our buying habits is another opportunity to reduce our carbon emissions. The next time you go to buy something, consider doing some research on the carbon impact of your purchase. You may be surprised at what you find.

As an indication, we give the carbon cost of some common items in the table on the next page.

We can also ask questions to help us make an intentional decision about our purchase:

- Do I need this?
- Could I borrow it?
- Could I buy it used (locally)?

The charity shops in St Andrews have some lovely fashion and consumer items at very modest prices.

- Could I make it myself?

Sometimes making it yourself has added value. Think about the personal touch of a handmade gift or the sense of accomplishment that comes from doing something yourself.

- How long will I use this?
- Is there a less carbon intensive alternative that I would like just as well?

Consumer Item	Carbon cost
CLOTHING	
New Pair of Jeans ⁹	33.4 kg CO ₂
New Shirt (Polyester) ⁹	5.5 kg CO ₂
New Shirt (Cotton) ⁹	2.1 kg CO ₂
New Pair of Trainers ¹⁰	13.6 kg CO ₂
CARS	
New small Citroen Car ¹¹	6000 kg CO ₂
New Land Rover Discovery ¹¹	35,000 kg CO ₂
FLOWERS	
10 Roses flown in from Kenya ¹¹	3.5 kg CO ₂
10 Roses (heated green house), Netherlands ¹¹	21 kg CO ₂
HOUSEHOLD PURCHASES	
New Tools ¹¹	0.38 kg CO ₂ per £1 spent
New Domestic Appliances ¹¹	0.40 kg CO ₂ per £1 spent
New Furniture ¹¹	0.43 kg CO ₂ per £1 spent
Remodeling/ Building Work ¹¹	0.60 kg CO ₂ per £1 spent

As with all of the carbon calculations in this handbook, these are estimates. The carbon impact of consumer goods will vary greatly depending on the particular item. However, using these estimates as a guide, we can make strategic choices that make a difference.

⁹ <https://www.bbc.com/future/article/20200310-sustainable-fashion-how-to-buy-clothes-good-for-the-climate>

¹⁰ <https://www.makefashionbetter.com/blog/environmental-impact-of-sneaker-production>

¹¹ Randall and Brown, *In Time for Tomorrow?* p.144.



GREEN TICKET SCHEME

FREQUENTLY ASKED QUESTIONS

Q: How is this different from the previous green tickets?

A: Since 2011, members of the congregation have been recording carbon savings from car-sharing and consciously substituting car travel with a lower carbon form of transport (e.g. walk, bike, bus, or train). These savings have been registered via filling in a green ticket recording the carbon saving and placed in the collection plate on Sundays. The re-launched Green Ticket Scheme allows us to consider additional ways to reduce our carbon emissions.

Q: How do I fill in green tickets?

A: There are two sides of the green ticket. On one side, you can record any **carbon** you saved by making intentional changes to your travel, food, home energy, and/or buying habits. On the other side, you can fill in things you did to save carbon without making the calculations. (See the bottom of page 2 and back of this booklet for a diagram). You only need to fill as many boxes as you wish. There is no pressure to fill them all in.

Q: Where do I get green tickets?

A: Green tickets are available at the front table when you enter the church or at the church office and are downloadable from the church website. There is also an electronic version available via the website www.stasstas.com/greenticket.

Q: How will the information on the green tickets be used?

A: We shall collect the information, tabulate it, and report regularly on how our community is doing. We shall not tabulate individual contributions. This is not a competition, and you do not have to participate if you do not wish to. Total annual savings and other efforts towards carbon reduction will be reported at the church's AGM and there will be regular updates on a noticeboard in the church hall and in *The NET*. The information collected is meant to inspire and encourage one another as we pursue an intentional and lighter footprint as we traverse God's good creation together.

Q: What is a kg of CO₂?

A: When we talk about saving carbon, we mean carbon dioxide equivalents. To give a feel for what this means, 1 kg is the amount of CO₂ taken up by 5 trees in a summer week or given out by a medium sized car being driven for 3 miles.

Q: What if our carbon calculations are not accurate?

A: Anytime we record our carbon savings, we acknowledge that these are rough estimates. There are many variables that could make the actual savings more or less than what we record. In creating this handbook, we have sought estimates from sources we trust. By using the information from this book, our own research, or digital platforms designed to help measure carbon emissions, we are able to represent the actions we are taking. These estimates also help us to start thinking roughly about the relative impact of different actions. Participating in the Green Ticket Scheme allows these estimates to collectively represent the actions we are taking as a community. We hope this shared cumulative action will encourage all of us to keep going and to do more when we can.

Q: Why is our church doing this?

A: The Green Ticket Scheme is an opportunity for our church to express our care for God's earth by making intentional decisions to reduce carbon emissions. Representing these actions in the offering plate is a way to show that these actions are donations in God's name given as part of our community.

Q: I'm just one person; is this really going to make a difference?

A: If you participate in the Green Ticket Scheme, you are acting as part of our church community. In addition, making changes at an individual level makes us more aware and active when these topics enter our community discussions. Only by many people taking small actions can we expect to make big savings in the longer term.

Q: Over what time frame should the savings be recorded?

A: This is a personal choice. For example, shifting to an electricity tariff solely using renewable energy will result in a permanent saving which you might wish to record over several months or even a year; likewise with actions representing permanent change, such as switching from beef twice a week to chicken twice a week. Other savings will be time specific – taking the train to Edinburgh rather than driving – which could be recorded per trip or again reported once per month, quarterly or annually. Whatever works best for you and your family is what we seek to encourage.

FOR FURTHER READING

How bad are bananas? by Mike Berners-Lee

This book takes on the ambitious task of calculating the carbon emissions of all the items we use. It is a great resource. Look for the updated 2020 version.

BBC Smart Guide to Climate Change <https://www.bbc.com/future/smart-guide-to-climate-change>

The BBC has created this special online guide aimed at identifying the most effective ways we can reduce carbon emissions in our day-to-day lives.

LOCAL COURSES

Climate Conversations

These are one-time gatherings (online or in-person) aimed at starting engaging and enlightening conversations about climate and positive change. Find out when the next conversation is happening by emailing greenticket.stasstas@gmail.com.

Carbon Conversations

Carbon Conversations is a 6-session series spread out over ten weeks. These sessions are facilitated conversation engaging the main areas of personal carbon emissions: food, home energy, buying, and transport. Find out when the next conversation is happening by emailing greenticket.stasstas@gmail.com.

WEBSITE

We Are Do Nation <https://www.wearedonation.com/do-actions/>

This is a special website designed to help you find carbon reducing actions that are meaningful and manageable to you. These actions are set up as 2-month pledges aimed at helping you make sustainable changes in your life that will make a difference for climate.