



# Demo

A practical guide to sustainability and building a better future for our planet

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POR DEMO AUTHOR

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# Introduction

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Every choice we make – from what we eat to how we move – leaves a mark on our shared home. This book is a practical starting point for anyone who wants to live more consciously without feeling overwhelmed.

*The Earth does not belong to us. We belong to the Earth. – Chief Seattle*

Understand the systems you are part of

Reduce before you offset

Act in community, not just individually

Measure, learn, and adapt continuously

Each chapter builds on the previous one. Feel free to jump to the section most relevant to your life right now.

The scale of transformation needed is not incremental – it requires rethinking the foundations of how we produce, consume, and discard. Fortunately, the tools, knowledge, and alternatives already exist. What remains is the collective will to apply them consistently. History shows that societies are capable of rapid change when they recognise the urgency of a challenge. The transition to renewable energy has accelerated faster than nearly every major forecast from a decade ago, proving that momentum, once established, is difficult to stop.

The path forward is not about perfection – it is about persistence. Small, consistent actions compound over time in the same way that small.

CHAPTER 1

# Understanding Our Planet

The science behind climate change and why the data demands urgent, collective action.

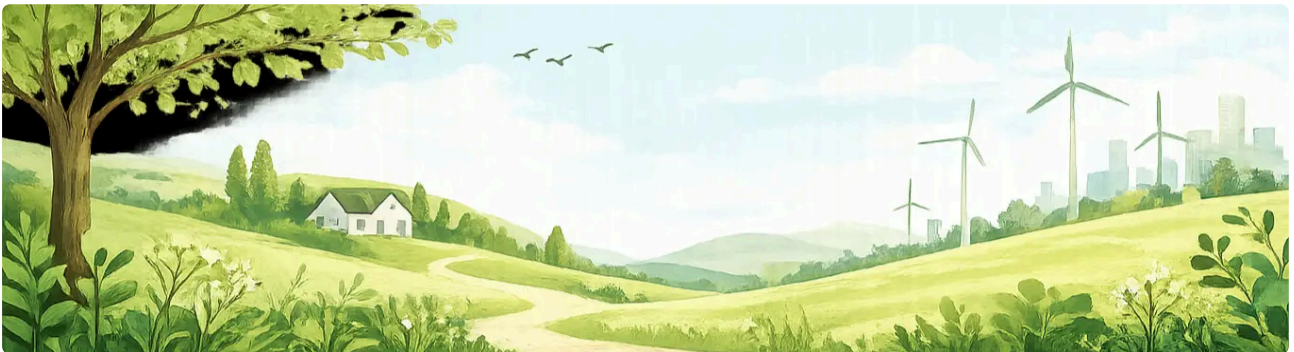


# The Living System

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Earth's biosphere is a single interconnected system. Every species, river, and soil microbe plays a role. When one part is disrupted, ripple effects reach the entire web of life.

**Roughly 80% of Earth's biodiversity exists in tropical rainforests, which cover less than 6% of the planet's surface.**



*Tropical forests are home to more than half of the world's terrestrial species.*

The rate at which species are disappearing today is estimated to be between 100 and 1,000 times higher than the natural background extinction rate. Habitat loss, driven primarily by agriculture, logging, and urban expansion, is the leading cause. When we protect a forest, we are not simply preserving trees – we are safeguarding the carbon stores, freshwater cycles, and genetic diversity that underpin the stability of the entire planet. Conservation is not a luxury; it is infrastructure for the long-term survival of human civilisation as we know it.

The ocean is equally central to planetary stability. Covering over 70% of Earth's surface, it absorbs roughly a quarter of all CO<sub>2</sub> emissions and more than 90% of the excess heat generated by the greenhouse effect. Yet this capacity comes at a cost: as oceans warm and acidify, coral reefs bleach, fish populations migrate poleward, and the delicate chemistry that sustains marine food webs is altered. More than three billion people depend on seafood as their primary source of protein, meaning ocean health is not a distant ecological concern – it is a direct food security issue.

Soil, often overlooked, is among the most biodiverse habitats on Earth – a single teaspoon contains more microorganisms than there are people on the planet.

# Climate Data

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The scientific record on climate change is unambiguous. Global average temperatures have risen by 1.1 °C above pre-industrial levels, and every decade since the 1980s has been warmer than the one before it.

## Key Greenhouse Gases

Not all greenhouse gases are created equal. Their warming impact depends on both their concentration and how long they persist in the atmosphere.

GAS	SYMBOL	GWP (100YR)	MAIN SOURCE
Carbon dioxide	CO <sub>2</sub>	1	Fossil fuels, deforestation
Methane	CH <sub>4</sub>	28	Agriculture, natural gas, landfill
Nitrous oxide	N <sub>2</sub> O	265	Fertilisers, livestock
HFC-134a	HFCs	1,430	Refrigeration, aerosols

*Greenhouse gases and their global warming potential (GWP) over 100 years.*

### TIPPING POINTS

Scientists have identified at least 16 climate tipping points – thresholds beyond which changes become self-sustaining and largely irreversible. We have likely already crossed five.

*We are the first generation to feel the impact of climate change and the last generation that can do something about it. – Barack Obama*

# Observed Changes Since 1850

## KEY INDICATORS

- Global average temperature +1.1 °C above pre-industrial baseline
- Arctic sea ice volume declined by ~75% since 1980
- Frequency of extreme heat events doubled in the last 50 years
- Sea level rise of approximately 20 cm since 1900
- Ocean acidity increased by 26% since the industrial revolution

## Tracking Emissions with Code

Open datasets allow anyone to query historical emissions data. Here is a minimal example using the Our World in Data CSV API:

```
fetch("https://ourworldindata.org/grapher/co2-emissions.csv")
  .then((res) => res.text())
  .then((csv) => {
    const rows = csv.split("\n").slice(1);
    const totals = rows.map((row) => {
      const [country, emissions] = row.split(",");
      return { country, emissions: Number(emissions) };
    });
    console.log(totals.filter((r) => r.country === "World"));
  });
```



CHAPTER 2

## Sustainable Practices

Practical habits and frameworks to reduce your environmental footprint, starting today.

# Conscious Consumption

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Most of our environmental impact is embedded in the things we buy. Shifting purchasing habits is one of the highest-leverage changes an individual can make.

## The 5 Rs – in Order

### APPLY IN THIS ORDER

- 1 Refuse – say no to what you do not need, especially single-use items and unnecessary packaging.
- 2 Reduce – buy less and choose quality over quantity.
- 3 Reuse – find second lives for things before discarding them.
- 4 Recycle – sort and process materials correctly through local programmes.
- 5 Rot – compost organic matter to return nutrients to the soil.

## Home Energy

Heating and cooling typically account for 40–50% of household energy use. Improving insulation and switching to a green energy tariff are the two highest-impact steps.

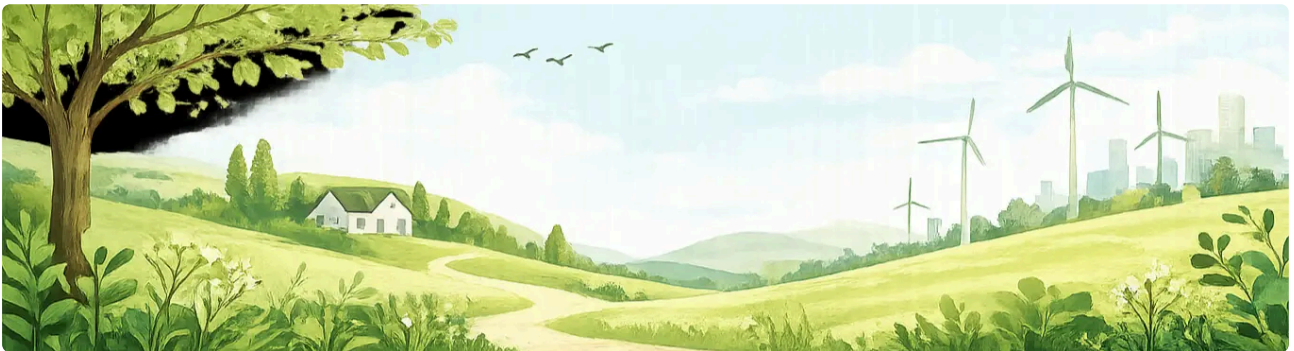
### QUICK WINS

- Replace all remaining bulbs with LED
- Seal air leaks around doors and windows
- Install a smart thermostat
- Switch to a renewable electricity tariff

### GOOD TO KNOW

Solar panel costs have dropped by over 90% since 2010, making rooftop installations accessible to more households than ever before.

Beyond switching tariffs, the way a home is built and maintained has a profound effect on long-term energy demand. Well-insulated walls and double-glazed windows can cut heat loss by more than half, reducing both bills and emissions year after year. Draught-proofing, loft insulation, and hot-water cylinder jackets are low-cost interventions with payback periods often under two years. For those considering deeper retrofits, heat pumps now outperform gas boilers in efficiency under most climates – extracting two to four units of heat for every unit of electricity consumed. Pairing a heat pump with a renewable electricity tariff or rooftop solar creates a home that is almost entirely decoupled from fossil fuels.



*Rooftop solar combined with a home battery can eliminate grid dependence during daylight hours.*

A single reusable water bottle can replace over 1,000 single-use plastic bottles across its lifetime.

YOUR NEXT STEP

Share one insight from this book with someone you care about. Small conversations are how big movements begin.

CHAPTER 3

# Taking Action

From individual habits to collective movements – how to translate awareness into lasting change.

# Community Action

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Individual action is amplified when it happens in community. Research shows that social context multiplies the impact of personal behaviour change by a factor of 3 to 7.

Join or start a local sustainability group

Advocate for green policies at the local council level

## Setting Targets

### GOAL-SETTING PROCESS

- 1 Calculate your current baseline footprint using a reputable online calculator.
- 2 Identify your three highest-impact categories.
- 3 Set a 12-month reduction target for each – aim for 10–20%.
- 4 Log progress monthly and adjust every six months.

*We do not need a handful of people doing sustainability perfectly. We need millions doing it imperfectly. – Anne-Marie Bonneau*

# Acknowledgements

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This book would not exist without the scientists, researchers, and activists who have dedicated their lives to understanding and protecting our planet. Their work is the foundation everything here is built upon.

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Thank you to every reader who chose to engage seriously with these ideas. Awareness is the first step, and by picking up this book you have already taken it.

Emissions data sourced from Our World in Data and the IPCC Sixth Assessment Report (2021–2022). Biodiversity figures from WWF Living Planet Report 2022.