



```
import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.ensemble import RandomForestClassifier

# Load dataset
df = pd.read_csv('water_potability.csv')

# Features: pH, Hardness, Solids, Chloramines, Sulfate,
X = df.drop('Potability', axis=1)
y = df['Potability']

# Split data
X_train, X_test, y_train, y_test = train_test_split(X
```



7 Steps to ICT Sustainability

IMPERIAL

Supported with Research England
research culture funding via
Imperial College London

IMPERIAL
Information and Communication
Technologies (ICT)

ICT SUSTAINABILITY ROADMAP 2026-2031



Buy less

Buy better

Use better

Use for longer

Imperial College London

imperial.ac.uk/ict-sustainability



1. Buy less and buy better

A large volume of greenhouse gas emissions is released during the manufacturing process of ICT equipment, including phones, laptops, desktops, workstations and servers.

This is called embodied carbon.



Only buy what is needed

Consider purchasing certified refurbished & remanufactured devices

Consider using Imperial's **Research Computing Service** instead of buying workstations/new servers for your research

2. Use Better - With great AI power comes great responsibility

AI comes with a significant environmental cost, consuming vast amounts of electricity and water, with its impact growing exponentially each year.

It has been predicted that during 2026 the electricity used by data centres will reach a level equivalent to the fifth largest electricity consuming country*



For everyday use, ask:
Is it truly necessary for this task? e.g. Do you need to use dAlsy or MS Copilot for that email?

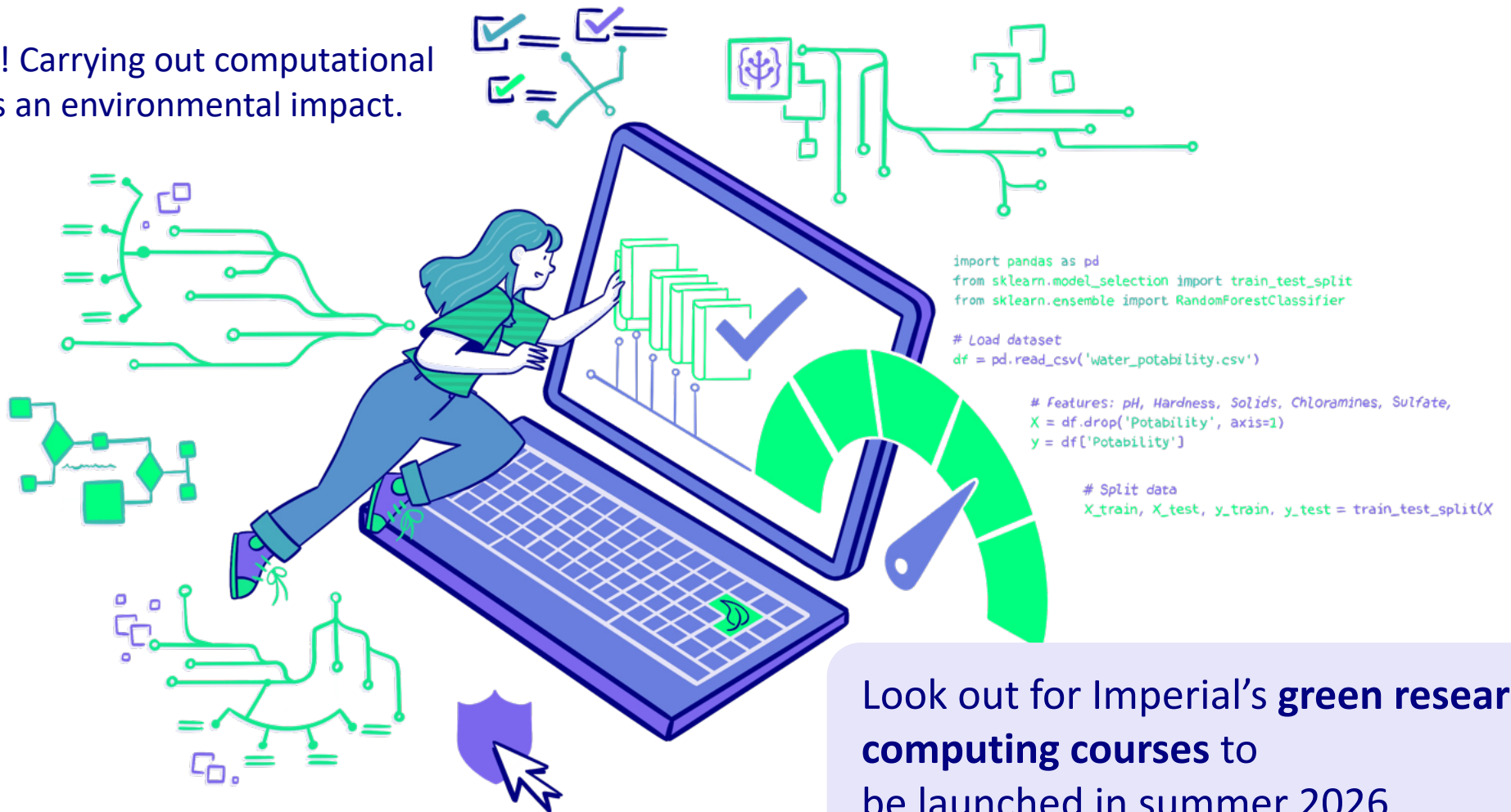
For research, use it **well, wisely** and **efficiently** and when it adds real **additional value**.

Thoughtful use helps us **balance innovation with sustainability**.

*A. Zewe. Explained: Generative AI's environmental impact. MIT News. 17th Jan 2025

3. Use better - Geek out, the green way

Researchers! Carrying out computational research has an environmental impact.



Look out for Imperial's **green research computing courses** to be launched in summer 2026.

4. Use better - Delete what you don't need

Data is filling up **OneDrive** and **BOX** at a fast pace, like millions of garages filled with filling cabinets. Additional storage requires more hardware which results in more embodied carbon and more energy use!

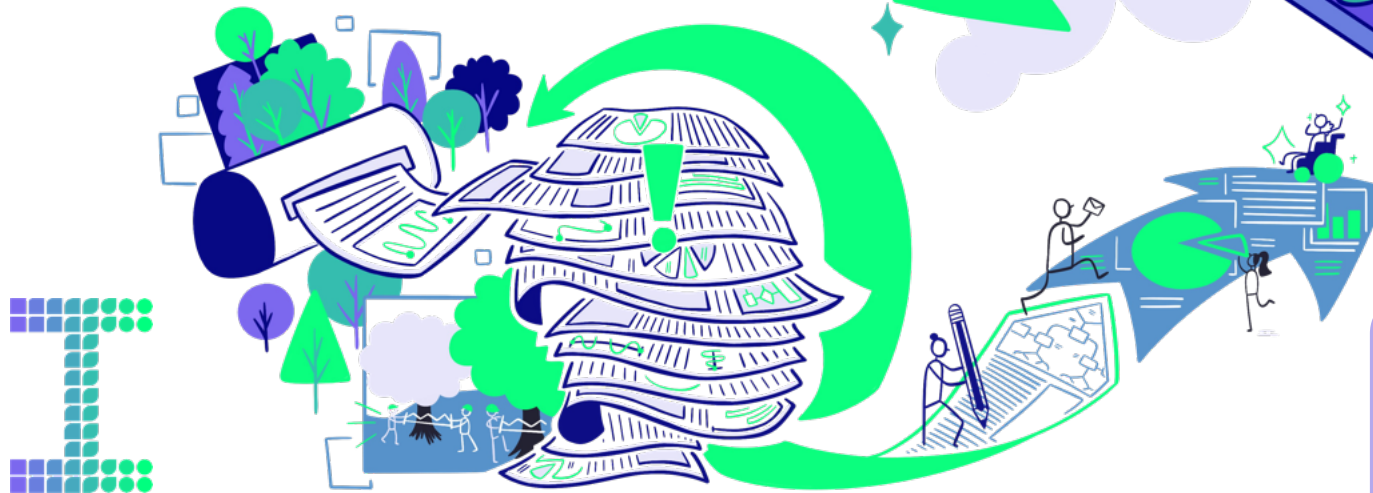


Please review your electronic data regularly and **delete what's no longer needed.**

Set a **6 monthly reminder** to do this within your calendar.
Let's spring clean our cloud garages!

5. Use better – Shut the lid to save the grid and think before you print

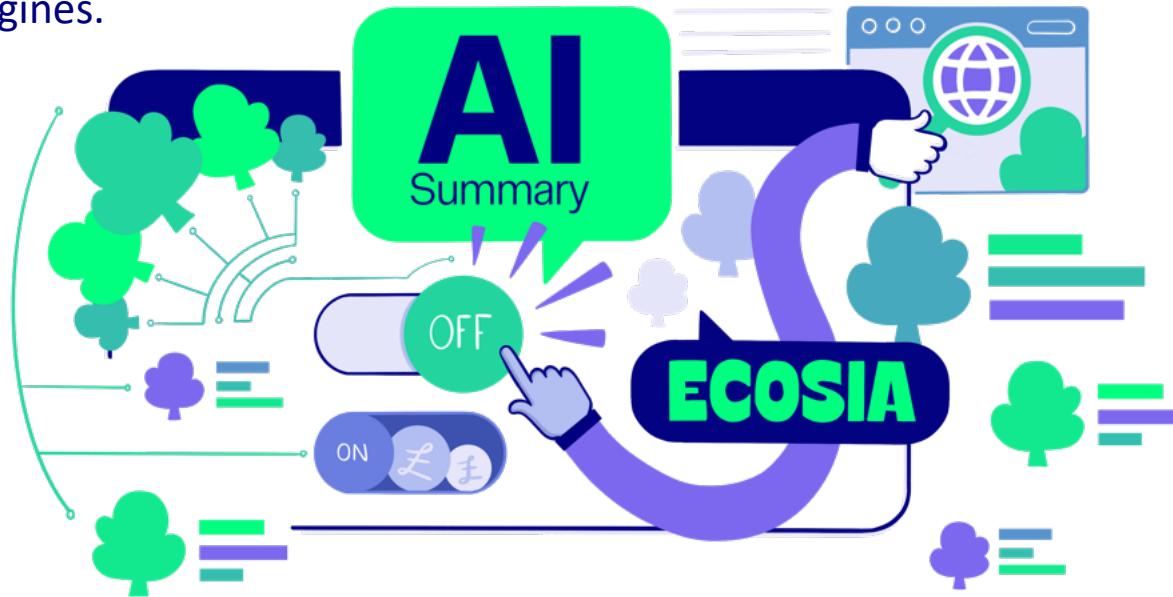
The electricity our devices use create greenhouse gas emissions when running. Also, Imperial prints over **5.1 million pages** a year, using **over 600 trees** annually just for our paper demand!



Please **turn devices off** when not required and **don't print** unless you really need to.

6. Use better - Switch to Ecosia.

Ecosia is a privacy-friendly search engine that uses **100% of its profits to plant trees** and fund climate action. You can also **switch off automatic AI summaries** in Ecosia, which you cannot do easily with many search engines.



Switch to Ecosia and plant trees whilst searching the web. Go to Ecosia.co/ImperialCollegeLondon or follow the QR code:

Turn off AI summaries in Ecosia and save electricity and water!



7. Use for longer

We have extended the warranty of **ICT-managed laptops** to **5 years**.

We want to encourage everyone to keep their laptops for at least **5 years**.



Please reuse devices less than 5 years old within your team/department when staff members leave.

Please ensure that good-quality computers, monitors, keyboards, etc., are reused during property refurbishment projects.