



FAITHS TOGETHER IN CROYDON

“The idea behind Faiths Together in Croydon (FTiC) is to bring together all major faith groups; to share common concerns and to find solutions to them, talk to one another and acknowledge each other, the dangers that the world faces today and how we can contribute to moving things on”.

FAITH AND THE ENVIRONMENT

- “HOW ARE WE DOING AS STEWARDS OF PLANET EARTH?”



FAITH AND THE ENVIRONMENT

- “HOW ARE WE DOING AS STEWARDS OF PLANET EARTH?”
- “WHAT IS THE EARTH FOR?”



FAITH AND THE ENVIRONMENT

- “HOW ARE WE DOING AS STEWARDS OF PLANET EARTH?”
- “WHAT IS THE EARTH FOR?”
- “WHAT IS MONEY FOR?”



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A sustainable future?

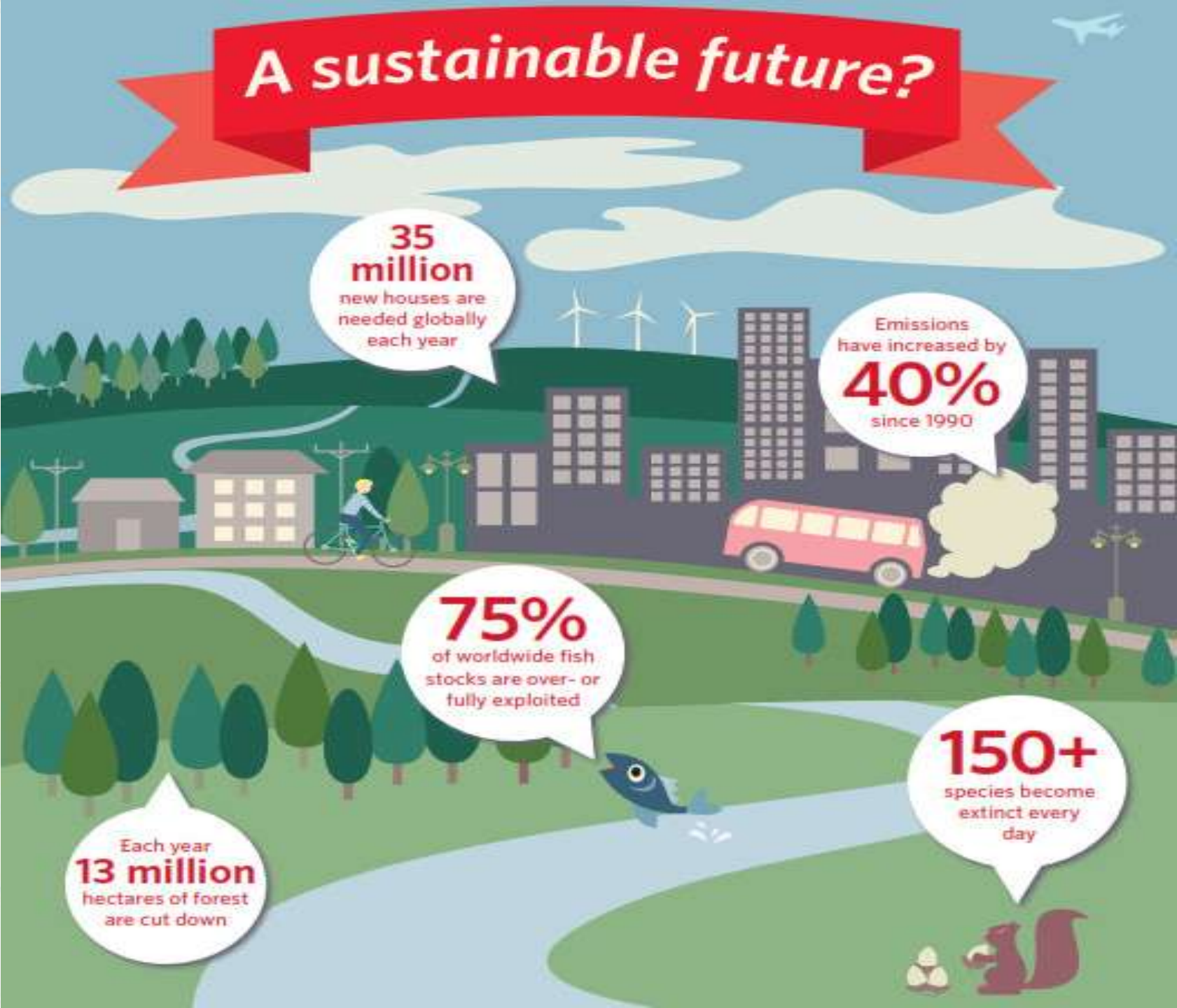
35 million
new houses are
needed globally
each year

Emissions
have increased by
40%
since 1990

75%
of worldwide fish
stocks are over- or
fully exploited

Each year
13 million
hectares of forest
are cut down

150+
species become
extinct every
day



Climate Change – Small Actions, Big Impact

What is Climate Change?

- Climate change is a change of the earth's climate due to changes in the earth's atmosphere.
- Climate reflects the long-term, regional and global weather patterns.
- Changes in regional and global climate will affect local weather.

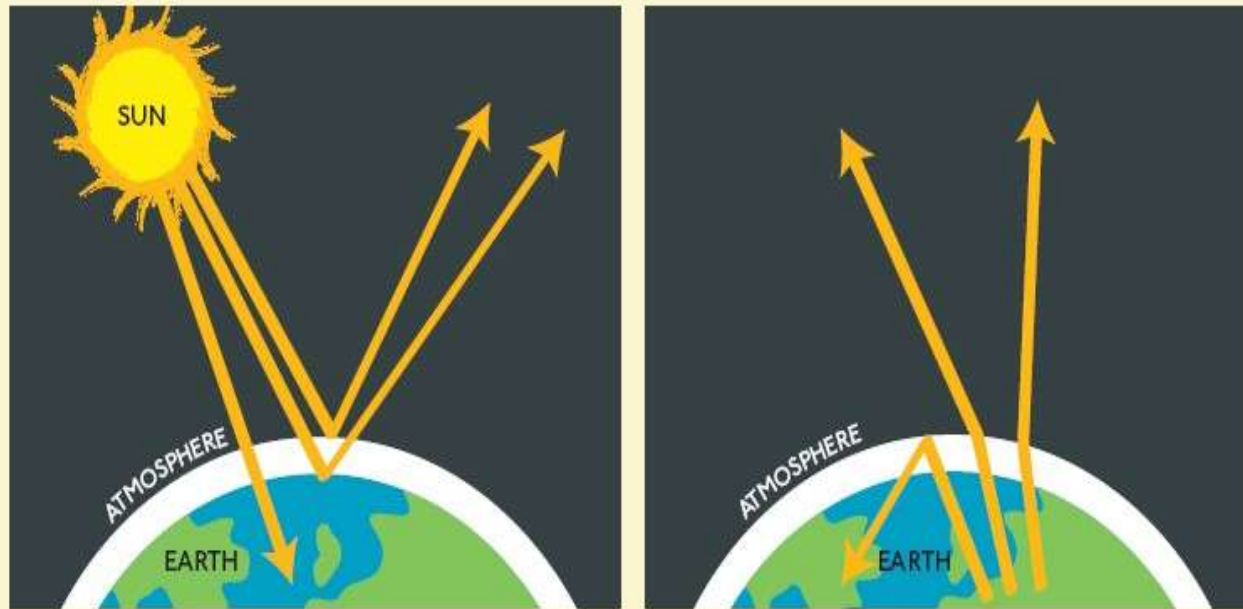
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Climate Change – Small Actions, Big Impact

What Causes Climate Change?

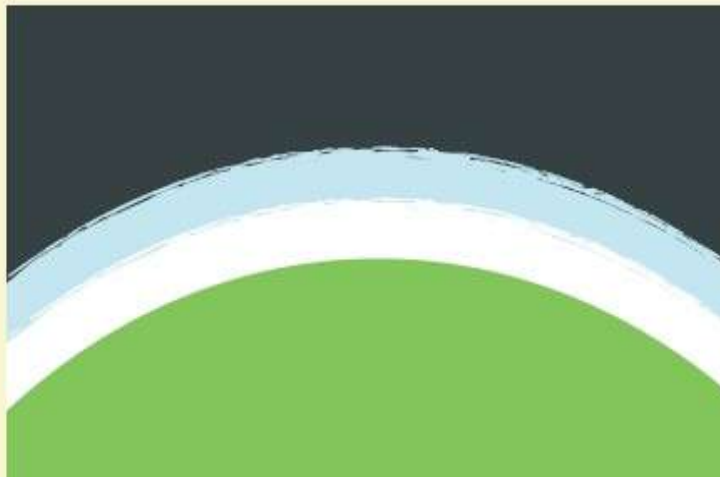
- Naturally, a layer of gases in the earth's atmosphere traps heat around the earth, keeping it warm enough for life. This is known as the 'Greenhouse Effect'.



Climate Change – Small Actions, Big Impact

What Causes Climate Change?

- Burning fossil fuels releases additional carbon dioxide (CO²) into the atmosphere. (Often in the media they shorten this to just 'carbon', but they are talking about the gas 'carbon dioxide'.)
- The extra gas traps more heat in the atmosphere and increases the greenhouse effect.



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Climate Change – Small Actions, Big Impact

Effects of Climate Change

- The earth's climate is delicately balanced.
- Small changes in the temperature of the earth's atmosphere can mean that places on earth can become unsuitable for humans and many other species to live.
- Think about your own body when you get a temperature or fever. Your body temperature only increases by a small amount $\sim 0.5^{\circ}\text{C}$, but you feel very ill.
- The earth's climate is similarly balanced. A small change in overall temperature ($\sim 2\text{--}3^{\circ}\text{C}$) can lead to big impacts for life on the planet.

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Climate Change – Small Actions, Big Impact

Impacts of Climate Change

Globally:

- Drought
- Sea level rise and flooding
- Migration / refugees
- Disease
- Species extinction

Locally:

- Less rainfall – potential fresh water shortages
- Sea level rise – flooding of Thames
- Loss of species, migration of new species, more pests
- Seasonal change

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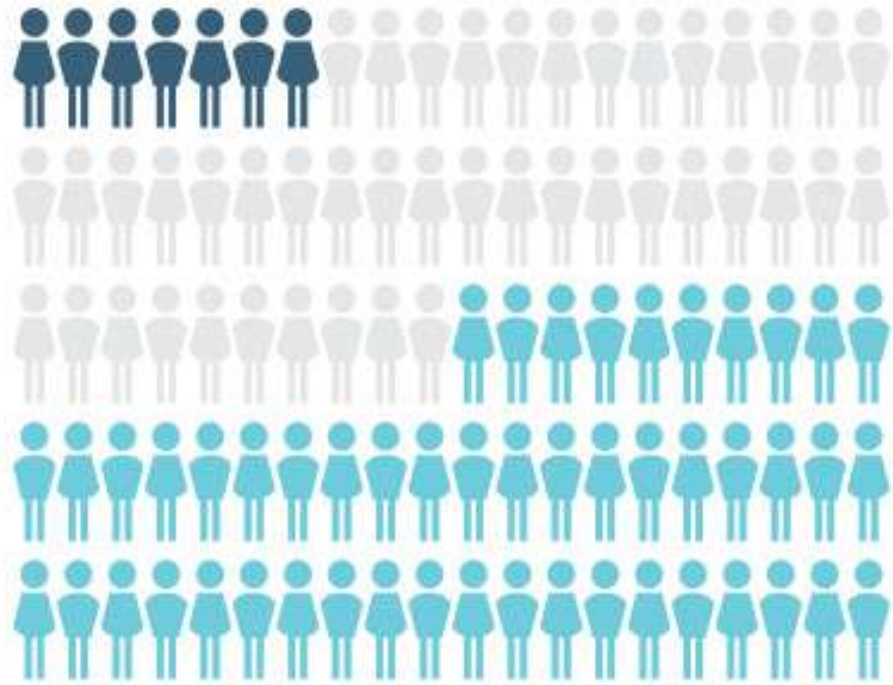
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Wealth and responsibility for co2 emissions

The world's richest
7%
produce
50%
of global CO₂ emissions



The world's poorer
50%
produce
7%
of global CO₂ emissions



Climate Change – Small Actions, Big Impact

How do People in the UK Contribute to Climate Change?



- This chart shows the 'carbon footprint' for an average UK person. It shows how many tonnes of carbon dioxide we are personally responsible for.
- Home Energy and Personal Travel are our 'direct' carbon footprint.
- Also, don't forget that when we buy goods and use services, we are indirectly responsible for the carbon dioxide produced in their manufacture, transport, waste etc.

Source: UK Carbon Footprint Calculator,
<http://www.carbonfootprint.com/results.php>

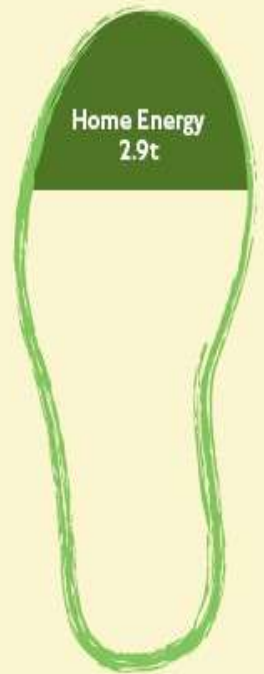
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Climate Change – Small Actions, Big Impact

Home Energy Use and Climate Change

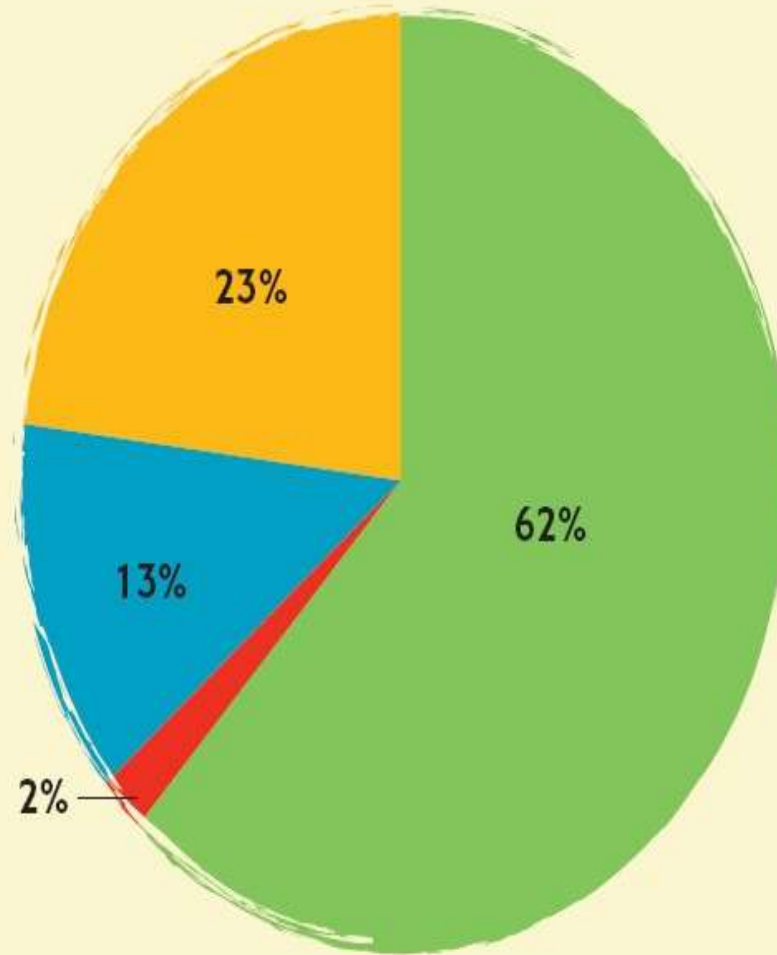
- We are responsible for generating carbon dioxide when we are at home through heating, lighting, using electrical appliances and cooking.
- Home energy use is 2.9 tonnes or 27% of our total carbon footprint. We can take simple direct steps to reduce this.
- Activity 1 – Home Energy.



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Climate Change – Small Actions, Big Impact



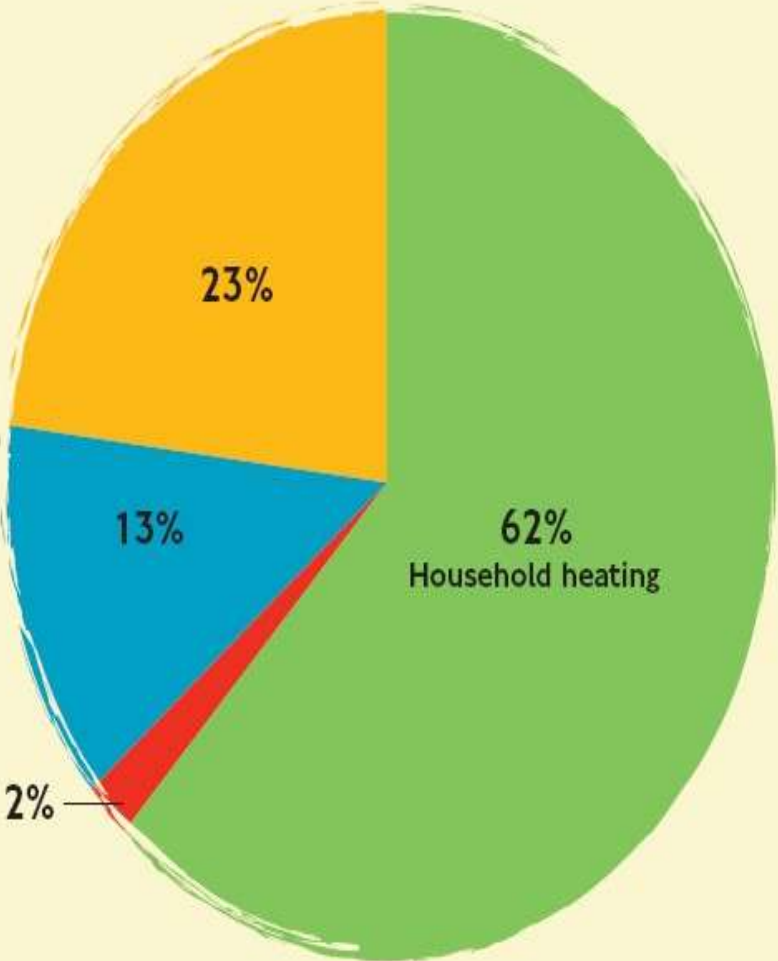
Source: Energy Saving Trust

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Climate Change – Small Actions, Big Impact

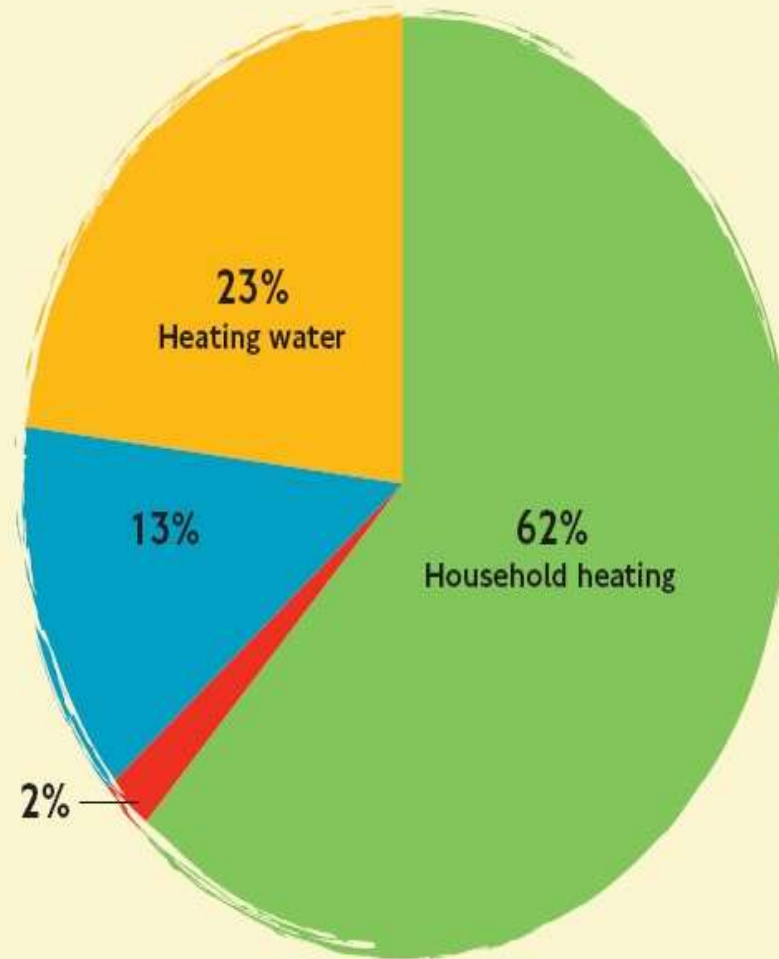
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Source: Energy Saving Trust



Climate Change – Small Actions, Big Impact



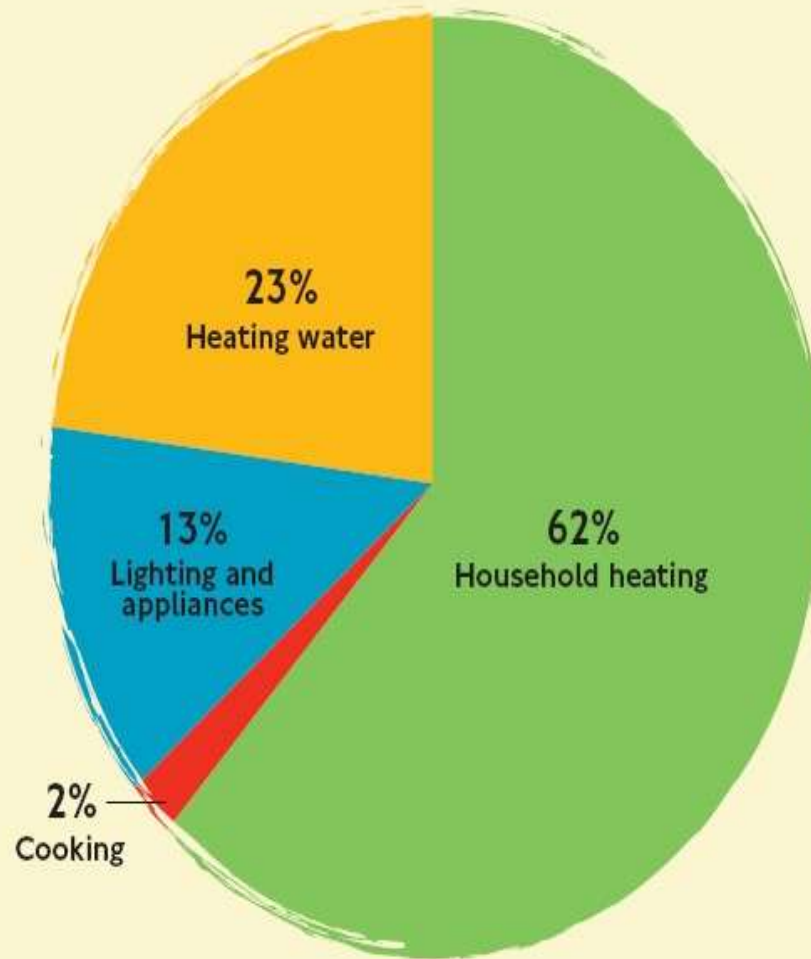
Source: Energy Saving Trust

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Source: Energy Saving Trust



Climate Change – Small Actions, Big Impact

Home Energy Use: What Can You Save



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Climate Change – Small Actions, Big Impact

Home Energy Use: What Can You Save



Low Energy Light bulbs
CO2: 0.09t**£7/year per bulb

Turn Thermostat down
3 degrees (to 18 degrees)
CO2: 0.9t** £150/year

Turn off standby
CO2: 0.07t** £37/year***

Data sources: *Solar for London
Paul Mobbs, author *Government
All other data: Energy Saving Trust

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Climate Change – Small Actions, Big Impact

Home Energy Use: What Can You Save

10" loft Insulation
CO2: 0.9t £110/year

Low Energy Light bulbs
CO2: 0.09t**£7/year per bulb

Draft Proofing
CO2: 0.15t £20/year

Turn Thermostat down
3 degrees (to 18 degrees)
CO2: 0.9t** £150/year

Turn off standby
CO2: 0.07t** £37/year***



Data sources: *Solar for London
Paul Mobbs, author *Government
All other data: Energy Saving Trust

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Climate Change – Small Actions, Big Impact

Home Energy Use: What Can You Save

10" loft Insulation
CO2: 0.9t £110/year

Cavity Wall Insulation
CO2: 0.75t £90/year

Draft Proofing
CO2: 0.15t £20/year

Internal Wall Insulation
CO2: 2.4t £300/year

Turn off standby
CO2: 0.07t** £37/year***

Floor Insulation
CO2: 0.47t £55/year

Low Energy Light bulbs
CO2: 0.09t**£7/year per bulb

Turn Thermostat down
3 degrees (to 18 degrees)
CO2: 0.9t** £150/year

External Wall Insulation
CO2: 2.6t £300/year



Data sources: *Solar for London
Paul Mobbs, author *Government
All other data: Energy Saving Trust

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Climate Change – Small Actions, Big Impact

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Climate Change – Small Actions, Big Impact

Home Energy Use: What Can You Save



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SOME ADDITIONAL THOUGHTS



Climate Change – Small Actions, Big Impact

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FOOD - FRESH OR FROZEN ?



FREQUENT PURCHASE

**BULK/BACK UP
OWN GROWN**

TRAVEL COSTS

TRAVEL COSTS

+ ELECTRICITY



Climate Change – Small Actions, Big Impact

***WE COULDN'T LIVE WITHOUT A FRIDGE
BUT MAYBE WE COULD LIVE WITHOUT THE FREEZER !***

FRIDGES RUN AT +6C	15C	TEMP DROP
FREEZERS RUN AT -22C	43C	TEMP DROP

DON'T LEAVE EITHER OPEN LONG!

***ENERGY SAVING TIP: A FRIDGE NEEDS TO BE IN
THE HOUSE ,THE FREEZER COULD BE SOMEWHERE
COOLER LIKE A GARAGE / UTILITY SPACE***

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Climate Change – Small Actions, Big Impact

WASHING MACHINES / DISHWASHERS

FULL LOADS ARE THE MOST EFFICIENT

LOWER TEMPERATURE POWDERS

**DON'T ALWAYS USE THE NORMAL CYCLE THE
ECO OPTION IS FINE FOR LIGHT SOILING!**

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Climate Change – Small Actions, Big Impact

CENTRAL HEATING

THERMOSTATS

BALANCE THE RADIATORS

THERMOSTATIC VALVES SHUT OFF INDIVIDUAL RADIATORS

**DOORS ARE IMPORTANT IN THE COLDER MONTHS
SMALLER COMPARTMENTS LOSE LESS HEAT**

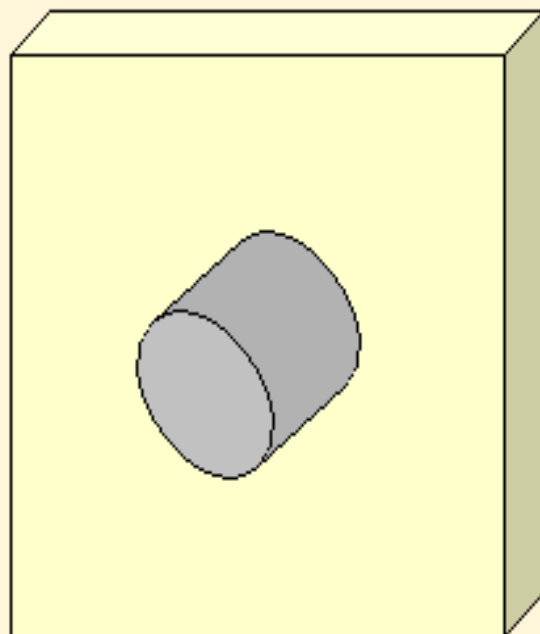
HOT AIR RISES – DO YOU LIVE UPSTAIRS DURING DAY?

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Dimmer switch

Function:

**To reduce the
Lighting level**

How:

**By reducing the
power to the lamp**

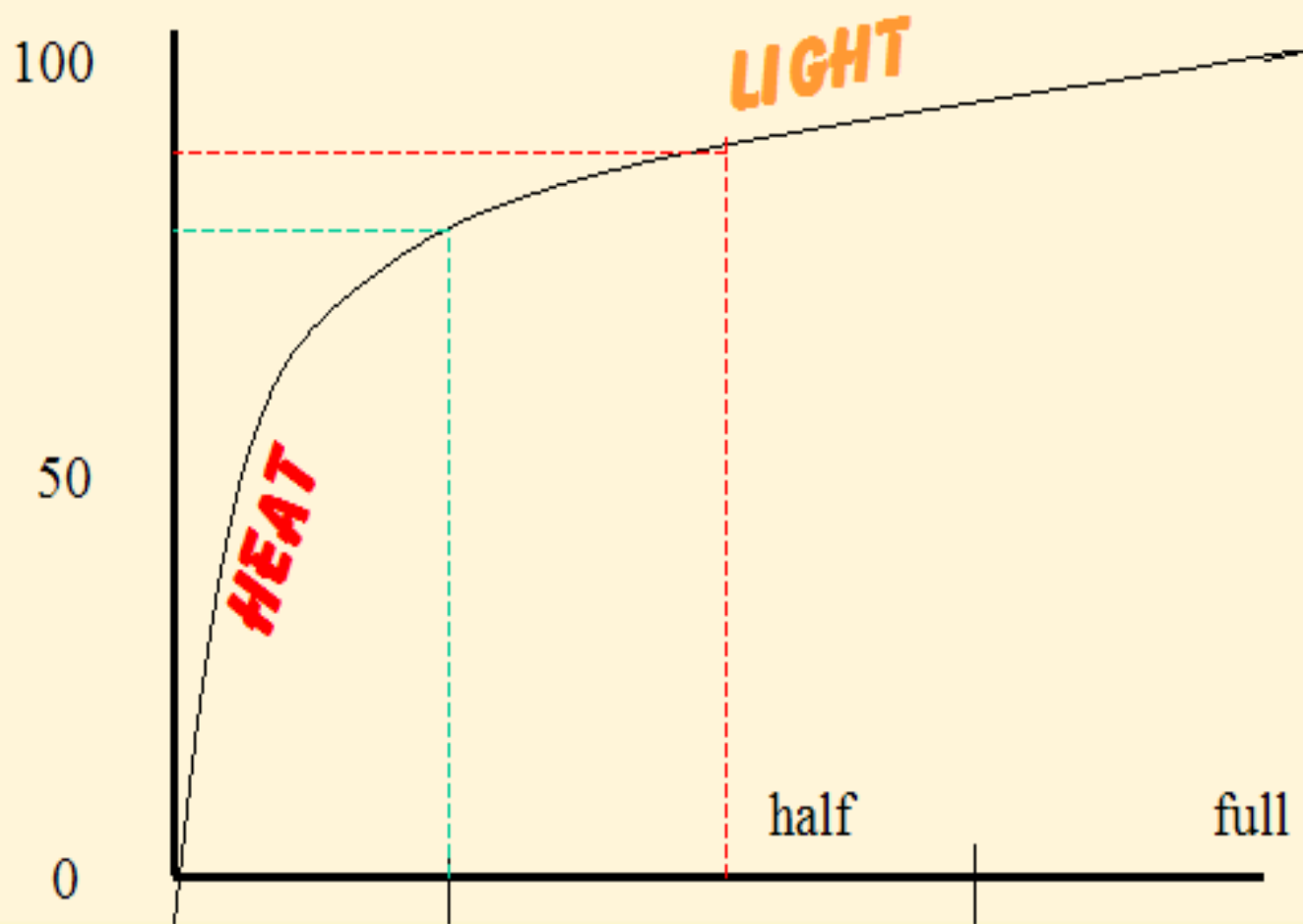


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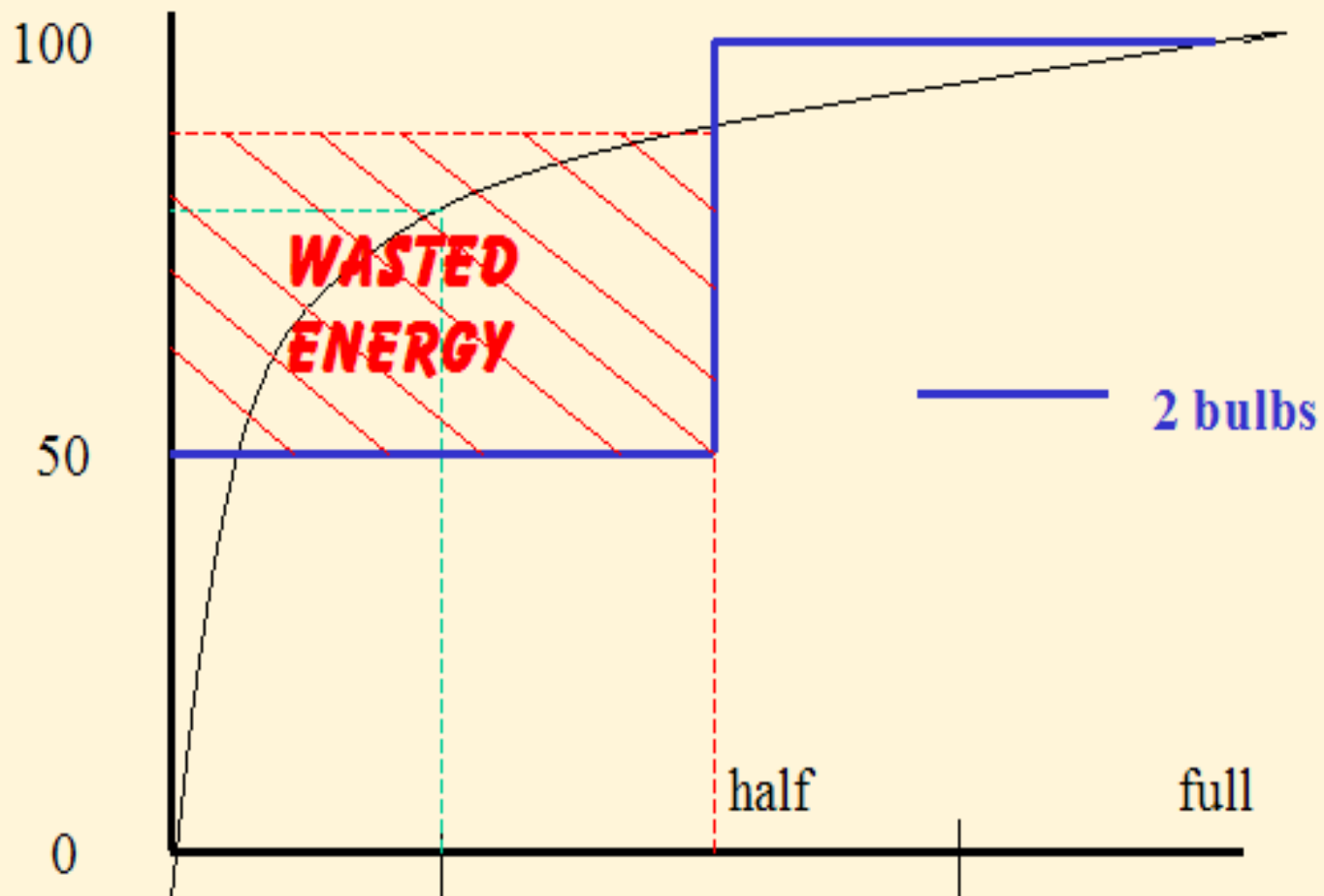
Dimmer Switch



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Dimmer Switch



Climate Change – Small Actions, Big Impact

Low energy lamps:

The total solution - NO!

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Climate Change – Small Actions, Big Impact

Low energy lamps:

The total solution - NO!

SOMETIMES A LITTLE HEAT IS DESIRABLE

***MANY LOW ENERGY LAMPS ARE FLUORESCENT TYPES
AND CAN CAUSE HEADACHES FOR SOME PEOPLE***

***HALOGEN LAMPS CAN GIVE A BRIGHTER LIGHT
FOR THE SAME POWER***

***LED LIGHTING IS BECOMING AVAILABLE IN HIGH
OUTPUT VERSIONS***

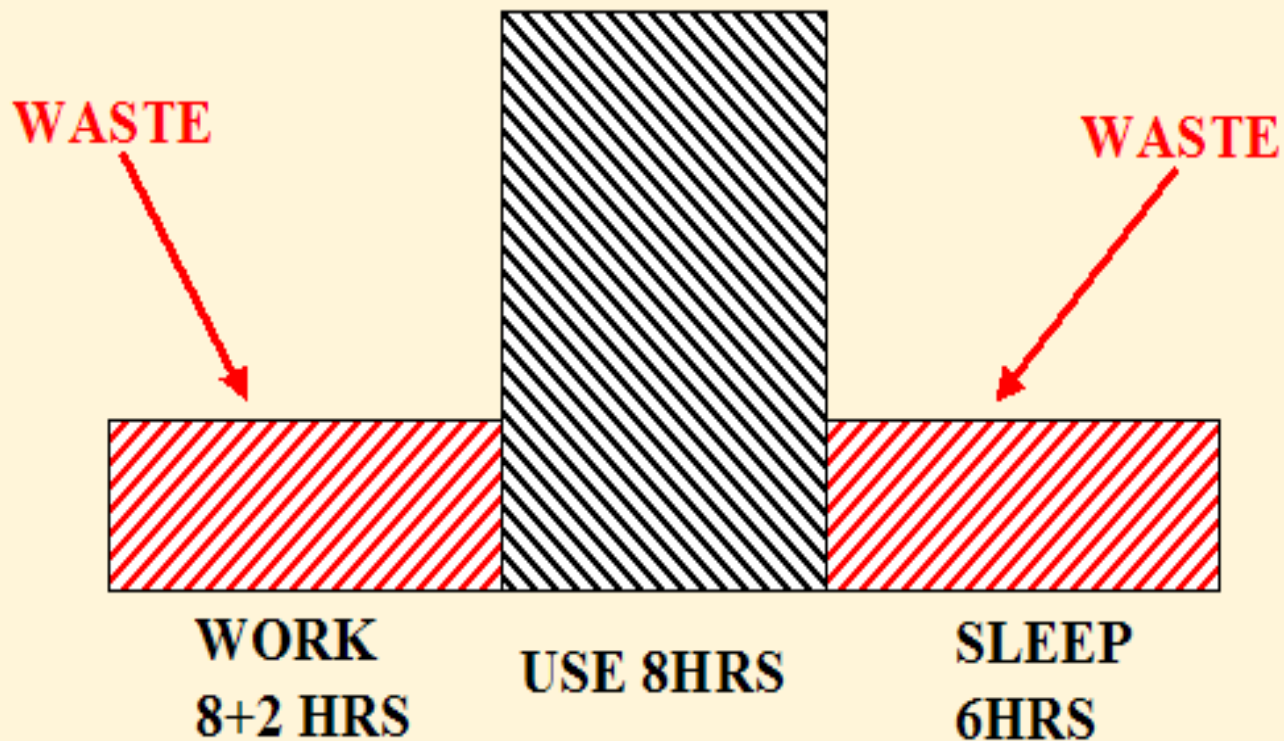
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Climate Change – Small Actions, Big Impact

STANDBY MODE

(TV, HI FI, VIDEO RECORDERS, CLOCK RADIOS)



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Climate Change – Small Actions, Big Impact

CHARGERS

MOBILE PHONES , LAPTOPS, MP3, ETC ETC.

SEEMS EASIER TO LEAVE POWERED AND JUST PLUG INTO DEVICE DAILY!

JUST LIKE STANDBY! AT BEST 85% EFFICIENT WHEN CHARGING AND STILL CONSUMES 15% WHEN NOT.

IT'S LOST IN HEAT – FEEL IT BEFORE YOU ATTACH THE DEVICE.

EVERY 24 HRS IT'S 25% EXTRA WASTED ENERGY

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Climate Change – Small Actions, Big Impact

***I HOPE SOME OF THOSE IDEAS WERE
HELPFUL AND INTERESTING***

THANKS FOR LISTENING

LES

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Climate Change – Small Actions, Big Impact

Personal Travel and Climate Change

- Moving either ourselves, or goods that we need, around uses a great deal of energy.
- 2.1 tonnes or 19% of the the average UK household's carbon dioxide emissions come from personal transport – cars, motorbikes and flights.
- The average car journey in outer London is 2 km or less. This distance can be walked in 20 minutes, so if we want to, we can choose to make big savings in our carbon emissions just by changing the way we get around.
- Activity – Personal Travel and Climate Change.



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Climate Change – Small Actions, Big Impact

Personal Travel Actions

	Carbon saved
Start with (easy steps): Replace a frequent very short journey of just 1 mile (eg the school run) with walking or cycling	0.28t/year**
Then try: Replace a long haul flight holiday (eg to Australia) with a short haul flight holiday (eg to Italy)	7.52t**
Work towards: Not owning a car	3t/year**

Sources: * Paul Mobbs, author of Energy Beyond Oil **Government

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Climate Change – Small Actions, Big Impact

Commodities and Climate Change

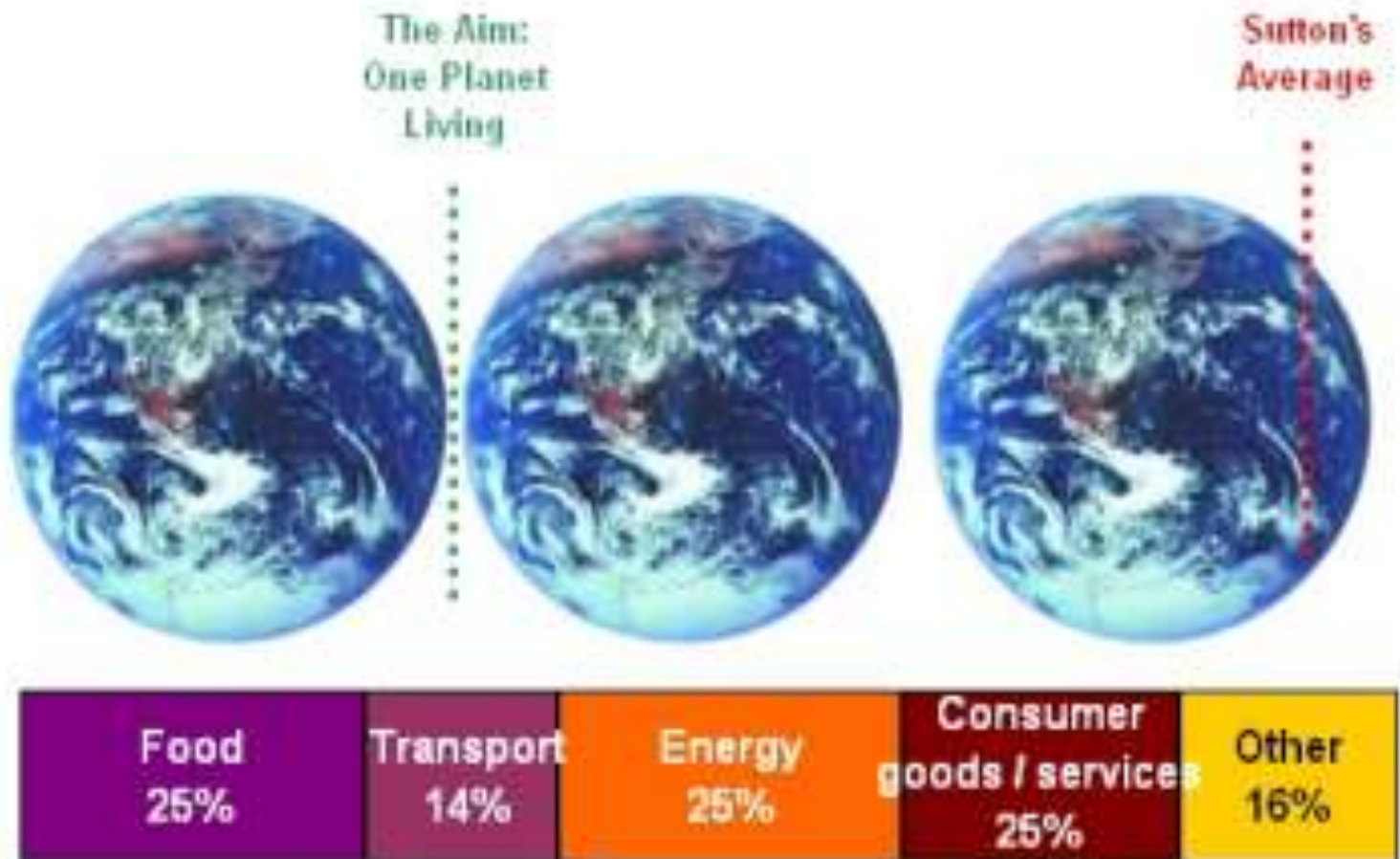
- **Food Miles:** Everything we buy needs to be transported, either by road, sea or air, contributing to climate change. When talking about buying food this is often called 'Food Miles'.
- **Products and Waste:** All the new products we buy in the shops need energy to make and package them; clothing, household good, electrical goods, furniture – everything! Energy is also needed to transport the waste when we throw things away and landfill sites produce greenhouse gas.
- **Water:** It takes energy to pump and purify water, and then to heat it at home. Climate Change will mean more water shortages in the UK.



Local Food: What's the issue?

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Sutton's Ecological Footprint



What's in the 25%

- Food miles
- Water use
- Resource use
- Climate change & CO₂
- Land use
- Waste

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Food Miles

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Food Miles

- Fossil Fuels
- Air pollution
- Carbon Dioxide

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Food Miles

- 6.9 million tonnes of food were consumed in London in 2000, 81% was imported from outside the UK
- 95% of all our fruit and 50% of all vegetables are imported

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Food Miles

- 80% of all UK carrots in supermarkets travel to just 10 major packers in East Anglia, Scotland and the north of England, regardless of where they are grown
- 60% of our fresh milk has to travel from farms around the country to six locations for processing



Water Use

- Only 3% of the earth's water is freshwater
- Only one third of 1% is available to use
- Of that, 70% is already used for agriculture*
 - Growing crops
 - Raising livestock
 - Processing



*Defra (2010) UK Food Security Assessment



Water Use

- The average Briton will use about 145 - 150 litres of water a day for cooking, cleaning, washing and flushing



Waterwise

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Water Use

- Add in all the water used in producing, transporting and processing goods, this rises to nearer 3,400 Litres a day
- Of this, about 2,210 Litres a day comes from food



Waterwise

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Water Use

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Resource Use: Oil

- 10 calories of oil are typically consumed to produce one calorie of food including chemical fertilizers, pesticides, transport and packaging
- Oil supplies are finite, and are expected to peak and then start to decline by 20??
- Oil prices will start to rise and products will become less available



Resource Use: Phosphorus

- Phosphorus (P) is one of the three major nutrients **essential** for plant growth, along with nitrogen (N) and potassium (K)
- Supplies of Phosphorus are finite

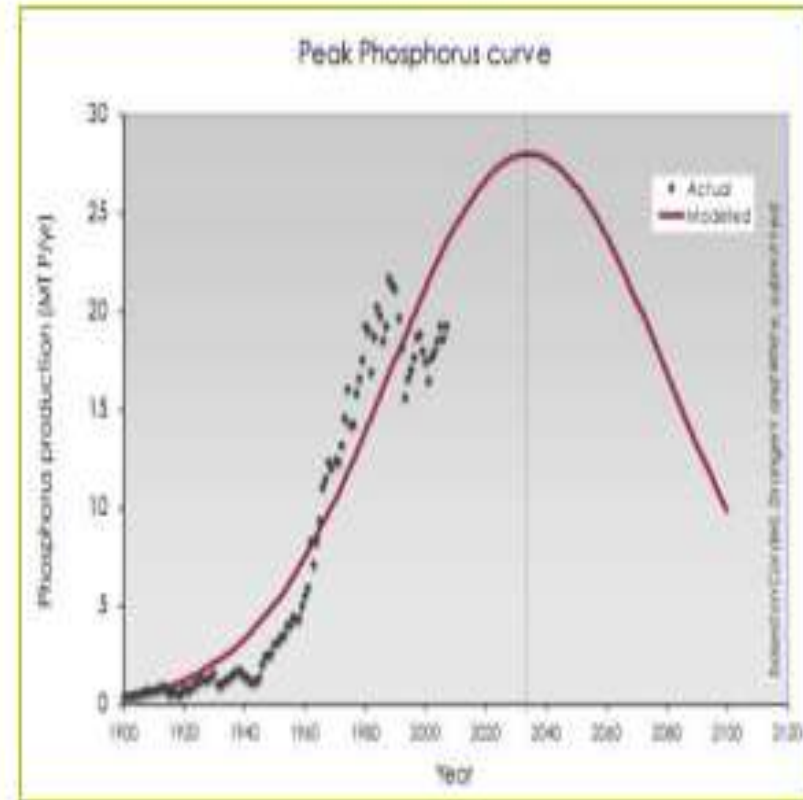


Peak Phosphorus: the sequel to Peak Oil, S White and D Cordell, GPRI 2009



Resource Use: Phosphorus

- Peak production of phosphorus is expected to occur in 2034
- Supplies of phosphorus will therefore become increasingly more expensive and difficult to obtain



Peak Phosphorus: the sequel to Peak Oil, S White and D Cordell, GPRI 2009

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Land Use

- 30% of the Earth's land area is used for livestock production
- Livestock production accounts for 70% of all agricultural land
- 33% percent of all arable land is used to produce feed for livestock



Millennium Ecosystem Assessment (2005)

FAO (2006) *Livestock's Long Shadow – Environmental Issues and Options 2006*



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*Each year, an area
of forest equivalent
in size to Nicaragua
is cut down*



Land Use

- Clearing increased land for agriculture has serious implications for the world's forests, peatlands and biodiversity



- 70 % of former forests in the Amazon have been turned over to grazing

Millennium Ecosystem Assessment (2005)



Land Use

- Meat consumption is projected to more than double in the first half of this century to 465 million tonnes in 2050
- Milk output is set to climb from 580 to 1043 million tonnes
- It is predicted that a further 10-20% of grassland and forest will be taken for food growing by 2050



Millennium Ecosystem Assessment (2005)



Food Waste

- 25% of food purchased in the UK ends up as waste
- 16% of this is, or was, perfectly edible



WRAP Household Food and Drink Waste in the UK 2009

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Food Waste

- 45% of the fresh potatoes we buy are binned, along with:
- 29% of bread and
- 31% of fresh apples



WRAP Household Food and Drink Waste in the UK 2009

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Food Waste

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Food Waste

- Equivalent of approximately 20 million tonnes of carbon dioxide per year



WRAP Household Food and Drink Waste in the UK 2009



Activity 1

The eatwell plate

Use the eatwell plate to help you get the balance right. It shows how much of what you eat should come from each food group.



1/3 fruit and vegetables

The eatwell plate



Use the eatwell plate to help you get the balance right. It shows how much of what you eat should come from each food group.



1/3 Carbohydrates

The eatwell plate

Use the eatwell plate to help you get the balance right. It shows how much of what you eat should come from each food group.



1/7 Dairy and milk

The eatwell plate



Use the eatwell plate to help you get the balance right. It shows how much of what you eat should come from each food group.



Minimal fats and sugar

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The eatwell plate



Use the eatwell plate to help you get the balance right. It shows how much of what you eat should come from each food group.



1/7 meats and protein

The eatwell plate



Use the eatwell plate to help you get the balance right. It shows how much of what you eat should come from each food group.



What can we do?

- Meat free Mondays
- Land use
- Sustainable as well as healthy – esp. for meat
- Plan and don't waste



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What is Local Food?

- Grown, caught, reared or produced within 40 miles
- Hard to source food (e.g. seafood) within 100 miles

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Why local food is good

- Fresher
- Grown longer
- Smaller scale
- Less resource intensive
- Less food miles
- Less waste
- Traceable
- Seasonal
- Supports local farmers
- Supports local economy

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French farmer checking for radiation post Chernoble



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Local Food and food security

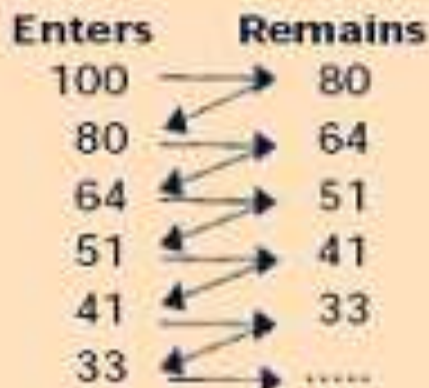
- Peak Oil
- Peak Phosphorous
- Water
- Climate Change



More benefits of Local

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*80% of money
stays locally*



Total: 500

*20% of money
stays locally*



Total: 125

The starting point in each situation is that £100 enters the local economy. If 80% of each £1 spent stays in the local economy, the total amount of spending that that £100 will generate is about £500 – a multiplier of 5 (500 divided by 100). If only 20% of each £1 spent stays in the local economy, the total spending is only £125. This gives a multiplier of only 1.25 (125 divided by 100).



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Percentage change between
2000 and 2010

Global population

+16.5%



Family
planning aid

-31.7%



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Investment needed to avert
one tonne of CO₂ emissions



Family planning:

\$4.50



Solar power:

\$30.00



Carbon capture & storage:

\$60.00

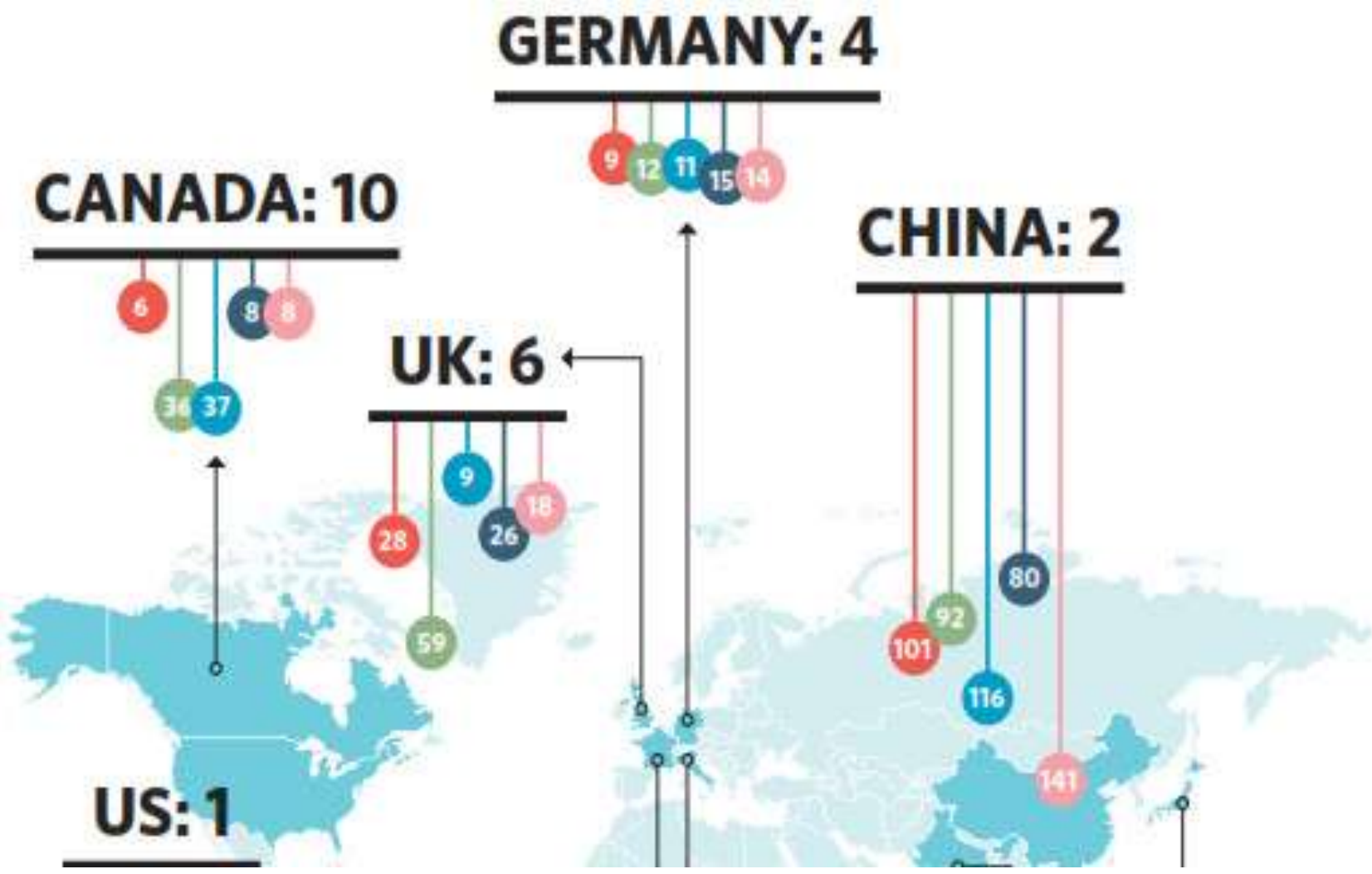


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The world's top 10 economies, ranked by gross domestic product and:

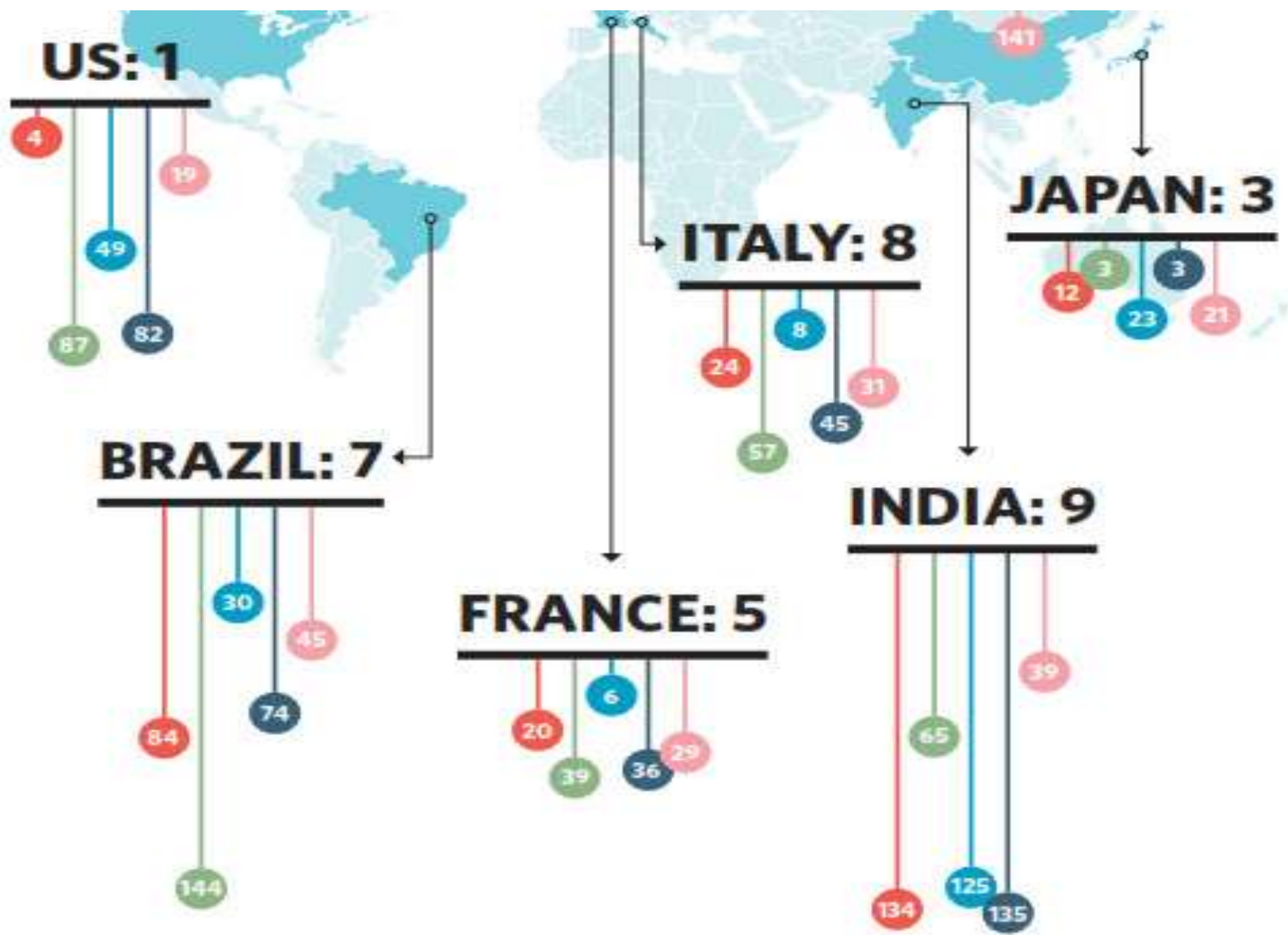
- Human development
- Income equality
- Environmental performance
- Peace and security
- Civil and political freedoms



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The world's top 10 economies, ranked by gross domestic product and:

- Human development
- Income equality
- Environmental performance
- Peace and security
- Civil and political freedoms



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That's it folks

thank you for participating, I hope you found it useful and thought provoking.

Finally take good care of yourself and our mutual home!

