

White Paper on Environmental Economics

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Introduction

There is a growing bank of evidence now to support the link between economics and environmental matters, both at the macro level (within the realm of nations), and at the micro level (within the realm of companies).

We currently use economic systems which are based on the consumption of resources, and there is now an overwhelming force of opinion which tells us that this is not sustainable within just a few decades, and therefore we need to change our practices urgently.

This white paper looks at some of the issues we face in the UK, what's been done so far, and what we still need to do to improve our situation.

A Green Economy

The essence of a green economy is that it should provide us with the opportunity for a good standard of living, and that we can't achieve this without a healthy planet and the food, clean air and fresh water it gives us.

What's the problem?

The global economy is driven by natural resources - timber, oil, metals, minerals, water, coal and gas, but for too long it has been too cheap and easy to consume these without regard for the natural systems that provide them. There is growing evidence that this is causing environmental problems on an alarming scale, including:

- climate change;
- rising sea levels;
- increased levels of CO₂
- dependence on fossil fuels from volatile parts of the world;
- environmental injustice where poor communities are hit hardest by pollution;
- habitat destruction;
- resource consumption at an unsustainable level;
- improvements in living standards of former 3rd world countries.

The planet can no longer support these trends in consumption by the human race.

To exacerbate the problem, for every altruistic scientist who has evidence to support environmental change, there is a wealthy corporation that has made its fortune consuming resources, and has the legal and lobbying clout to influence the opinions of governments and the public.

What's already in place?

There are 100's of agreements already in place; from the "International convention for the prevention of pollution of the sea" (1954), to the Kyoto protocol which binds certain nations on their environmental performance until 2020.

There is also fledgling legislation already in place in the UK and Europe to start influencing the population and companies to do the right thing. However, it is meeting with a lot of resistance.

What we need to do next!

We need to change the way our economy works. We need to transform what industries make and do, what we buy and how we power our homes and cars.

A green economy can protect our natural world and ensure that we have a sustainable future. The following are just some suggestions:

- **Reduce, Reuse, Recycle**
By penalising waste and rewarding reuse, public attitudes will change.
- **Renewable energy**
A green economy would promote low-carbon energy sources and energy efficiency, providing new jobs and a reduction in our dependency on polluting fossil fuels.
- **Tax reform**
Financial incentives could help business make greener choices, and be supported with increased taxes on pollution, to force polluters to pay for environmental damage.
- **Spending reform**
This would favour schemes that are good for the economy and environment, including public transport - and put a halt on those that aren't.
- **Climate justice**
Wealthier nations can help developing countries tackle climate change.

Waste – Reduce, Reuse, Recycling

As a consumer based society we have become used to discarding that which we've finished with, and sending it all to landfill. However, just because an item has reached the end of its life for its first user, shouldn't mean that it can't have a second user; from unfinished food to computers and games.

What's the problem?

Landfills are full of rotting things. This creates 40% of the UK's methane emissions and other pollutants like carbon dioxide. The average person in the UK throws out their body weight in rubbish every three months.

The following breakdown of an average bin highlights what is going to landfill. Most of this could be easily recycled or reused instead.

- 37% kitchen waste - most of this is compostable.
- 23% paper and cardboard - this can all easily be reused or recycled.
- 9% plastics - plastics take hundreds of years to degrade and should be avoided wherever possible. Use cloth bags instead and buy items that aren't over packaged.
- 8% glass - bottles and jars can be reused and recycled.
- 6% metals - such as steel and aluminium. These are easily recycled.
- 17% the rest - unwanted shoes, clothes, toys, and electrical goods can usually be repaired or be re-used via charity shops.

For every computer that is thrown away, another will have to be manufactured. This uses further natural resources and energy.

What's already in place?

There are many companies set up to exploit waste. At "Recycling Your IT" we collect end-of-life IT assets, and where ever possible, refurbish them for re-introduction into the market place.

This has the benefit of saving the energy and raw materials that would be required for a brand new computer to be manufactured.

Additionally, if it is not possible to repair a broken computer, then the case can be recycled as steel, the circuit boards can be processed for gold and copper, the heat sinks for aluminium, and so on.

Similar businesses are springing up all over the country with industries as diverse as converting old cooking oil into biodiesel, and others converting spent hi-tech components into jewellery.

A key step in the right direction is the waste hierarchy. This is a piece of legislation which requires any business to consider a number of options before they discard their waste, e.g., can I reuse it else where in my business, can it be reused by another user, can its component parts be re-used, and so on.

What we need to do next!

Getting to grips with **recycling, repairing, and re-using** resources is the best way to slim your bin and help manage our resource consumption. Areas to concentrate on are:

- Reduce waste at home and in the workplace.
- Repair, reuse and recycle.
- Investigate whether your discarded products are useful to someone else.
- When getting rid of old products use a company that will refurbish.
- Always use reputable recycling companies.

Renewable energy

Climate change is one of the most urgent environmental threats facing us. As well as doing all we can to save energy, we need to switch to forms of renewable energy that don't produce CO₂.

What's the problem?

In Britain we consume energy for three main uses: heating, electricity and transport. 90% of this still comes from fossil fuels (gas, oil, and coal) which emit large amounts of carbon dioxide when burned.

The UK has signed a Europe-wide agreement to get 20% of all energy from renewables (such as sun, wind, and tides) by 2020. These can be harnessed without releasing CO₂ to the atmosphere.

Our demand for energy is higher than ever, but burning fossil fuels like coal, oil and gas to generate energy, releases the climate-changing gas, carbon dioxide (CO₂).

In the UK around a third of our carbon dioxide emissions come from power stations producing electricity. And our demand for energy continues to grow.

Climate change is the result of certain gases - especially carbon dioxide (CO₂) - building up in the atmosphere. These act like a blanket around the planet, trapping heat. These persist for years and as the blanket thickens, the Earth warms.

These so-called greenhouse gases are already having profound impacts - from changes in seasonal weather patterns, and unpredictable natural events like heat waves and floods, to the melting of sea ice. These changes are having significant effects on our food and farming, health and wellbeing.

What's already in place?

There are cleaner ways to generate power - from renewable sources like the sun, wind, water and biomass. The feed-in tariff and renewable heat incentive are designed to help us meet the UK's legal target to cut carbon emissions.

The **feed-in tariff (FIT)** is a payment to people generating their own electricity from renewable sources. The electricity you generate and use during the day is free, and you also get paid for every unit that you don't use but export back into the grid.

The **renewable heat incentive (RHI)** is similar to the FIT, but rewards people producing clean green heat.

Wind power is a good source of renewable energy. It is free and inexhaustible, with no waste. Wind power is a key tool in the effort to provide energy we can all afford. But it's often surrounded by controversy.

- Can wind farms produce sufficient amounts of electricity?
- Is wind power expensive and heavily subsidised?
- Is wind energy reliable?
- How much land do wind farms take up?

What we need to do next!

It is vital that we find cheap and clean ways of generating electricity rather than relying on fossil fuels and nuclear power.

A combination of green energy sources will enable us to achieve a low-carbon future.

- Onshore and offshore wind;
- Sun (through solar photovoltaic and concentrated solar power);
- Wave power;
- Tidal lagoons;
- Hydro-electric power ;
- Biomass;
- Combined heat and power (CHP);
- Carbon capture and storage (CCS);
- Solar hot water;
- Ground source heat.

Installing a renewable energy system is a great way to get renewable energy - and there are other benefits too. It makes us all less reliant on the dwindling supplies of imported gas and oil. It also helps protect against a future of power cuts, price increases and petrol queues.

What we shouldn't do next!

Bio fuels are made from crops such as soy and oil palm. They are used in fuel in cars, but increasingly they are also burned in power stations.

Bio fuels aren't the magic fix they appear to be. Vast areas of forests and land are being cleared to farm enough bio fuels to meet government targets. This is causing some serious problems:

- **Climate change**
Millions of tonnes of carbon dioxide emissions are being released due to deforestation. This is making climate change worse not better.
- **Ruined livelihoods**
Land is being taken away from indigenous peoples without any compensation. They are being stripped of their livelihoods and are suffering from hunger and violent conflicts.
- **Forest destruction**
Natural habitats are being replaced by ever-larger plantations pushing orang-utans and other wildlife closer to extinction.

To avoid going too far down the wrong path we need to address the following urgently:

- The UK and EU to scrap targets which increase our use of bio fuels.
- The UK to scrap government subsidies for bio fuel power stations, and support renewables instead.
- Europe to account for its CO₂ emissions from bio fuel production.

Transport

This is key to the growth of our economy; we can travel faster and further than ever before, giving us greater independence and mobility, this in turn leads to more competitive business. However, road and air transport have a huge impact on our environment as well as our economy.

What's the problem?

The traffic on our roads has more than doubled over the last 30 years. This trend is set to continue as car use increases. Building more motorways and wider roads may even make congestion worse, and will certainly add to the harmful emissions generated.

Over the same period rail fares have risen and public transport services have declined as more people take their own transport to the roads.

Parliament is also debating a huge expansion in aviation which would mean the building of new runways and terminals. Aviation fuel is the fastest growth source of climate-changing gases. Airlines do not pay any tax on fuel and pay no VAT on many parts of their operations. Any expansion of this industry will therefore be subsidised by tax payers. The increase in noise and air pollution will also have an environmental impact on the lives of those living near flight paths.

What's already in place?

Some progress has been made on reducing the emissions from transport. We have:

- Electric cars.
- Re-introducing sailing liners.
- Development on fuel cells.

However, aviation is still a problem.

What we need to do next!

We need to work towards a sustainable transport system that is good for people, communities, business and the environment. We need less congestion on our roads and in the air.

To make the biggest changes drastic actions would be needed. These include:

- **Public transport**
Divert funding away from road building, and direct it towards improvements in public transport and paths that are safer for walking and cycling.
- **Greener cars**
A move towards more fuel efficient cars, to help cut carbon emissions.
- **Fair tax for aviation**
Airlines should pay the real cost of the environmental damage they cause by paying fair taxes.

We can all make a big difference by changing our habits - for instance by cutting down on business flights and using the train for holiday travel, cycling, shopping locally and walking the children to school.

Conclusions for a healthy planet

A healthy planet is our life-support system. Not only does it give us food, but also clean air, a stable climate and fresh water. Yet the natural world we depend on is under attack by us, and its ability to sustain life is under threat. However, it's not too late to change things for the better.

What's the problem?

Our planet is our life-support system providing us with all we need to survive. Yet human activity is wrecking it - which in turn affects its ability to support us. A healthy planet matters to our existence and what nature's systems do for us.

Some of our actions have a direct impact on the planet including:

- **Resource consumption**
Our demand for raw materials is too high and not sustainable. Too many valuable resources are being wasted.
- **Pollution**
Our use of energy and transport are producing changes to our environment that if continued will render it unable to support human life.
- **Food and farming**
Farming practices - mechanisation, chemical pesticides and fertilisers, meat and dairy farming, are destroying wildlife and habitats, and hence biodiversity.

What is environmental justice?

Environmental justice means everyone has:

- A right to healthy places to live, work and enjoy themselves.
- A right to a fair share of nature's benefits like food and water.
- A responsibility to look after the planet for others and for future generations.

These are important for individuals, within business, and at an international level. In doing these things we not only ensure a better life for all of us, but help protect the environment too.

To get environmental justice for everyone, we need fairer economic systems. This includes ordinary people having legal framework and the political support to influence decisions affecting the environment where they live. To achieve this, we have to get to grips with some big problems that have been discussed in this paper.

What we need to do next!

Urgent action is needed to protect the world we rely on. We need to change our ethos to live in closer harmony with our environment. A green economy will help with the most urgent problems:

- Stop climate change by reducing pollution.
- Modify transport habits to reduce congestion and pollution.
- Reduce consumption by reducing waste.
- Re-use rather than replace.
- Preserve resources.

We must live a sustainable and renewable lifestyle by reducing waste and reusing where ever possible.