



**"EIC's GREEN JOBS GROWTH STRATEGY:
INVESTING FOR THE FUTURE"**

**POLICY RECOMMENDATIONS FOR PROMOTING
BRITAIN'S
ENVIRONMENTAL INDUSTRY**

January 2009

EXECUTIVE SUMMARY

“Britain must be part of the high-tech manufacturing of the future, and one very important area of that is around green industries...some of our competitors have been better at this than us...America does a huge amount to support some of these new industries” (Ed Miliband MP, Secretary of State, December 2008).

“Unlike the US, the UK has no comprehensive, integrated strategy for the creation of green technology...no coherent, determined national initiative” (Lord Chris Smith, Chair, The Environment Agency)

Britain currently faces two huge challenges: the credit crunch recession which is causing growing unemployment, complemented by the dawning ecological crisis.

But these challenges are interlinked and, thereby, also bring opportunities.

Both challenges are massive “market failures” requiring government intervention.

The international community is currently developing a coordinated economic recovery package of public investment and tax cuts. At the heart of the UK’s response must be a major new action plan to promote **Britain’s environmental industry as an engine for growth** to help take Britain out of recession.

When EIC launched in 1995, the worldwide environmental marketplace was valued at \$250 billion. EIC argued that it would grow rapidly (as the public and politicians’ environmental concerns grew) - and that Britain should act to “win the lion’s share of the jobs, profits and exports”.

But the UK is not winning in global markets. Our environmental industry currently exports some £10 billion a year – yet, Germany has environmental exports of some £50 billion (in 2006).

Today it is estimated that **the environmental market worldwide is already worth \$3 TRILLION! – and growing rapidly at over 5% a year.**

Lord Mandelson's recent research shows that the UK employs over 800,000 people in our environmental industry. It is "a job revolution that cuts right across all sectors of the economy".

But he recognises that "this [£3 trillion worldwide industry] is going to be a fiercely competitive sector...we will need a smart strategic approach from government".

That is the urgent challenge. The UK has only a small window of opportunity if Britain's environmental industry is not to be left behind in the international race to dominate international environmental markets.

President **Obama**, for example, has a raft of detailed policy proposals to make the USA the world leader in environmental industries. In January he stated that his 2009 Economic Stimulus Plan will spend over \$50 billion to create half a million new green jobs.

Other far-sighted governments are now following Obama's lead: **Germany, Japan and Korea** have just announced major growth plans for their domestic environmental industries. **China's** economic stimulus plan includes a \$142 billion programme of environmental measures.

Within the UK, work has begun to develop green growth strategies.

The **Scottish Environmental Protection Agency and the Scottish Executive** recently announced plans to develop the environmental industry in Scotland.

The **Welsh Assembly Government** are developing a "Green Jobs Strategy", with support for R&D; skills; and market access.

The **Regional Development Agencies** also increasingly recognise the green economic opportunity. As long ago as 2002 SEEDA, for example, analysed its regional £7.8 billion "environmental economy" (employing 230,000 people) and enacted a range of strategic recommendations.

The **Local Government Association** has launched its own "green jobs strategy" to create 150,000 new low-carbon economy jobs, arguing that "taking action now to combat climate change makes economic and environmental sense".

The new **Climate Change Committee** has just announced that it is examining how government can tackle the recession at the same time as tackling climate change. As its Chair,

Lord Turner, explained: “what is it that we can really do that makes sense on the economy but also helps make progress on climate change targets?”

Prime Minister Gordon Brown and Lord Mandelson are working on a “Low Carbon Industrial Strategy” to help British industry generally deal with the economic challenges and opportunities of climate change.

Lord Mandelson recently said that he wants “the UK and Europe to be the best place in the world to develop and implement low-carbon solutions and a magnet for new green-collar jobs”.

The Conservatives have just announced “plans to create a low carbon economy” which will “help create hundreds of thousands of jobs and improve Britain’s competitiveness” It is “a vision, [David Cameron asserts] of a Britain which leads the world in new green technologies” in contrast to “the absence of any coordinated, strategic plan for action...from Labour”

This follows another recent announcement of plans for “green tech incubators” and a “green environmental (stock) market” as part of their plans for a “green economy” (“a roadmap of how Britain can be the world leader in green goods, services and companies”).

The Liberal Democrats have proposed various (energy efficiency and public transport) initiatives as part of their “Green Road Out of the Recession”. They propose new government investments of over £10 billion

The Green Party has also called for a “Green New Deal”.

BUT none of the parties has the strategic vision for urgent government action to ensure that the UK’s environmental industry wins the lion’s share of the growing world markets. EIC’s argument for a strategic approach by government has influential supporters.

Lord Smith, Chair of **The Environment Agency** argues that the UK must seize “early-mover advantage” through a Green New Deal comprehensive, long-term strategy.

The **CBI** warns that developing low carbon technology is “a national priority...[as]the UK is in danger of being overtaken by other countries in key low-carbon technology markets.” It calls for, inter alia, more R&D funding; greater focus on skills; and the use of public procurement to aid demonstration.

“The issue is whether the Government can provide a clear steer on how to make the transition to a low-carbon economy. Without that policy framework, business will not have the confidence to invest.”

The **New Economics Foundation** (part of the UK’s Green New Deal Group) is heavily critical of current Government policy despite the “opportunity for massive growth” UK policies are condemned for “timidity, confusion, intermittent and hopelessly inadequate investment...instead of a green new deal it looks more like a broken contract with the future”.

This “EIC Green Jobs Growth Strategy” sets out a series of recommendations to put the UK at the forefront of this huge global business opportunity:

(1) A £10 billion “Green Jobs Investment Fund” with:

- £6 billion in 2009/10 for an infrastructure fund to build 50,000 new (zero carbon) social houses (on brownfield sites) in 2009/10 [creating/protecting in the region of 160,000 jobs]
- £1.5 billion in 2009/10 for extra investment in energy efficiency retrofitting of low-income family homes [creating in the region of 145,000 jobs]
- £1 billion in 2009/10 of extra investment on energy efficiency retrofitting of schools and hospitals [creating in the region of 21,500 jobs]

(2) Long-Term Regulatory Targets to Support Investment and Innovation, for example:

- On carbon management, tighten the new Carbon Reduction Commitment by reducing the threshold from 6,000 Mwh of electricity use pa to 1,000 Mwh.
- On sustainable buildings, establish mandatory refurbishment standards for both homes and non-domestic buildings (and ensure enforcement).
- On transport pollution, introduce a national framework for Low Emission Zones.

(3) Extend Government Environmental Industry Support Policies, for example:

- Use **public procurement** to trigger the development of domestic environmental markets

in advance of future new regulation.

- Increase support for **“green jobs” training**.
- Increase funding for **environmental R&D** to a level that is in line with major international competitors (particularly Germany and Japan).
- Provide **export support** at a level matching our international competitors (eg by supporting demonstration projects of environmental technologies in overseas countries).

(4) A Formal BERR “Environmental Industry Growth Strategy” and Environmental Technology Industry Forum to coordinate the range of policies.

These EIC policy recommendations can make the UK’s environmental industries a new engine of growth that can create hundreds of thousands of jobs.

However, these policies require a sea change in political attitudes - to steer future investment (both public and private) away from financial speculation and into green technologies and green collar jobs.

Many countries around the world now understand this. The German Environment Ministry has calculated that its Meseberg (Climate Change) Programme and its 2 billion Euros of subsidies will:

- **Boost GDP by 20 billion Euros a year (between 2010 and 2030).**
- **Create some 200,000 jobs.**
- **Generate 17 billion Euros of exports of German climate protection technologies.**
- **Lower the national debt by 180 billion Euros (by 2030).**

A real “win, win” situation.

INTRODUCTION

1. EIC

The Environmental Industries Commission (EIC) represents over 300 environmental technology and services (ETS) companies in the UK (making it Europe's largest ETS lobbying group).

EIC wishes, on behalf of our member companies to make the following recommendations to the British Government as it works on:

- A jobs package to tackle our credit crunch recession
- A "Low Carbon Industrial Policy"
- The 2009 Budget.

2. The Environmental Industry

Definitions of the "environmental industry" (and "green jobs") vary, but it is clear there are three key sectors – distinct but interlinked.

(i) The Environmental Technology and Services Industry

The main sectors are

- Water Pollution Control
- Air Pollution Control
- Waste Treatment Technologies and Recycling
- Environmental Consultancy
- Environmental Monitoring and Testing
- Contaminated Land Remediation.

Smaller sub-sectors cover Marine Pollution Control; Noise and Vibration Control; etc.

The UK's Environmental Technology and Services Industry has an **annual turnover of £23 billion.**

(ii) The Carbon Management Industry

The main sectors are:

- Energy Management (inc Energy Efficiency).
- Sustainable Building Technologies.
- Carbon Finance (inc Carbon Trading).
- Energy Storage Technologies.

Smaller sub-sectors include CCS; Energy Storage; etc.

The UK's Carbon Management Industry has an **annual turnover of £33 billion.**

(iii) The Renewable Energy Industry

The main sectors are:

- Wind
- CHP
- Biomass (inc Biogas)
- Wave and Tidal
- Solar
- Alternative Fuels (inc Biofuels).

Smaller sub-sectors cover Geothermal; Hydro; etc

The UK's Renewable Energy Industry has an **annual turnover of £50 billion.**

Overall, the UK's environmental industry **exports some £10 billion.**

And total employment in the UK's environmental industry now exceeds **800,000 jobs.**

BACKGROUND: The Challenges – The Double Whammy

1. Economic Troubles (Toxic Financial Time Bombs)

The world's financial institutions are nursing losses of \$2,800,000,000,000 (\$2.8 trillion) according to the Bank of England's Financial Stability Report October 2008.

The situation has been described as "*possibly the largest financial crisis of its kind in human history*" by the Deputy Governor of The Bank of England , and as "*a financial storm that comes along once every 100 years*" by Japan's Prime Minister, Taro Aso.

Recession is upon us, with unemployment and corporate failures mounting rapidly.

2. Environmental Troubles (Toxic Ecological Time Bombs)

Yet the UK and the world face an equally serious challenge from growing pollution and excessive use of natural resources.

Humans are using 30% more resources than the Earth can replenish – an ecological debt of \$4,000,000,000,000 (\$4 trillion) a year, according to the recent Living Planet Report from WWF (Oct 2008).

The latest science on global warming suggests the problem is much worse than generally accepted. Emissions of CO₂ are rising by 3% a year, but the IPCC's worst case scenario assumes 2.5% (the Garnaut Report, Australia, Oct 2008).

These growing environmental problems have substantial financial impacts too.

Failure to act on climate change will be equivalent to losing at least 5% of global GDP each year, now and forever (and this could rise to 20% of GDP or more) predicts the Stern Review of the Economics of Climate Change (Oct 2006).

The Economic Opportunity

1. A “Green New Deal”

Politicians around the world have become increasingly aware that environmental protection yields significant *economic* benefits as well as ecological gains.

A substantial new industry has arisen: the UK’s environmental industry, which has a turnover of £106 billion (2007/8) and employs 800,000 workers.

Europe’s environmental industry boasts 3.4 million jobs – with 1.8 million people employed in Germany’s environmental protection industry alone.

The global market for environmental solutions is already worth £3,046 billion pa (2007/8).

This is “*an opportunity that should create thousands of new businesses and millions of jobs in Europe*” in the words of European Commission President, Jose Manuel Barroso.

One prediction, from Gordon Brown, is that the low-carbon energy sector will employ 25 million people globally by 2050 – “a chance to create thousands of new British businesses and hundreds of thousands of new British jobs”.

2. The Good News for the Jobless

Economists are now beginning to explore the job creation potential of specific environmental policy initiatives. The example of making our housing stock energy efficient (to cut bills and co2 emissions) is illuminating.

In the US, The Apollo Institute estimates that every \$1million invested in energy efficiency projects creates 21.5 jobs (compared to 11.5 in new natural gas generation).

In Germany, \$5.2 billion of public subsidy leveraging private investment led to the energy efficiency retrofitting of 340,000 apartments, creating or saving 140,000 jobs.

Here in the UK, The Environmental Change Institute estimates that a £3.5-6.5 billion a year

spent on energy efficiency retrofitting of the UK housing stock would create as many as 75,000 jobs.

3. The Good News for Mainstream Industry

The traditional (but now “out-dated”) view in economic ministries has been that environmental protection policies are solely a cost burden on the rest of industry and act as a drag on growth – and so constitute an unaffordable luxury at a time of recession. The European car industry is a major corporate voice to recently raise (again) these tired old arguments (in its fight against new legislation on fuel efficiency).

In fact, much pollution is the result of inefficiency in manufacturing processes and across commerce generally.

It has been calculated that in the UK, for example, the total value of potential resource efficiency savings to British businesses ranges between £5.6 billion to £7.4 billion pa.

Globally, additional annual investments in energy efficiency, for example, of \$170 billion for the next thirteen years could generate *annual* energy savings of \$900 billion by 2020.

No wonder the World Business Council for Sustainable Development states that “*becoming more efficient makes good business sense*”.

Only weeks ago, the Chief Executive of one of the world’s largest retailers, said that “*the choice is not "green or grow". That is a false choice. You can do both - and you must do both. Reducing emissions does not merely fight climate change, it also cuts costs.*” (Sir Terry Leahy, Tesco, September 2008).

And of course, many companies in mainstream industry are developing environmental solutions and then selling them on – thereby creating new revenue streams.

Unfortunately, many “polluting” industries have regularly failed to seize such efficiencies and complain to politicians about the short-term costs of pollution control. These are often exaggerated, leading the House of Commons Environmental Audit Committee to label them as “scaremongering” (Pre-Budget 2004 and Budget 2005: Tax, Appraisal, and the Environment, May 2005).

Policy debate needs to focus on the facts, not scaremongering by self-interested parties.

The EU's climate change policies will cost less than 0.5% GDP or €3 a week for everyone according to Commission President Jose Manuel Barroso.

Similarly, the CBI's Climate Change TaskForce expects the cost of meeting the UK Government's climate change targets will require an investment of just £100 a year per household (under 1 per cent of GDP) by 2030. And the Carbon Trust believes that the EU ETS and other carbon control measures to 2020 will have negligible impact on international competitiveness for more than 90% of UK manufacturing.

Will Britain Seize the Opportunity?

It is encouraging that some leading political figures realise that environmental protection policies should not be put on the backburner as they can be a major part of the solution to our financial and economic crisis.

Gordon Brown, UK Prime Minister, is to be commended when saying that: *“some people say that these difficult economic times should or will reduce the Government’s commitment to building a low carbon economy. They should not and will not.”*

This was echoed by Jose Manuel Barroso, EU Commission President, recently asserted that “Climate change is not a luxury we now have to forego. Saving the planet is not an after-dinner drink, a digestif that you can take or leave...tackling climate change is central to Europe’s future prosperity”.

But we urgently need actions to follow through on these words of political intent. Or Britain will miss out and allow our international competitors to seize these huge environmental markets. First mover advantage rules.

As the environment is a “market failure” (as Lord Stern so forcefully highlighted), this new green economic opportunity is totally dependent on Governments intervening - and acting ahead of our international competitors.

As the highlevel CEMEP (see Annex II) notes: “innovations commercialise first in lead markets”.

The USA is once again a major competitive threat for Europe’s environmental industries.

In the 1990s, the US Government under Clinton and Gore prioritised the environmental industry for Government support through:

- A Technology Innovation Strategy.
- The Environmental Technology Initiative.
- A National Environmental Technology Strategy.
- Environmental Technologies Exports: Strategic framework for US Leadership.

The result was world leadership in the global environmental marketplace – and a \$ 9billion trade surplus.

Despite George Bush’s luddite attitude to climate change, some progress has been made on the ground. The USA is, for example, the world leader in wind energy generation – thanks to a federal production tax credit and investment tax credit, combined with local fiscal incentives (ranging from cash grants to sales tax exemptions).

And now the USA has a President who talks of a “planet in peril”, and who has a raft of detailed policy proposals to help return the USA to world leadership.

Barack Obama’s environmental policies include, inter alia:

- A pledge to invest £150 billion to create 5 million new green collar jobs by 2020.
- A plan to convert manufacturing centres into Clean Technology Leaders through a federal investment programme to help them modernise - including support for car companies to retool to create new fuel-efficient cars.
- A Green Jobs Corps for ‘disconnect youth’ to improve energy conservation and efficiency of homes and buildings in local communities.
- Investment in Basic Research by doubling federal science and research funding for clean energy projects.
- Creation of a Clean Technologies Deployment Venture Capital Fund to boost technology development.
- A Grant Program for Early Adopters in implementing new building codes that prioritise energy efficiency.

In January 2009 Obama made it clear that his 2009 “Recovery and Reinvestment Bill” will spend over \$50 billion on, inter alia:

- Grants for energy efficiency investments.
- Funds for energy efficiency housing retrofits.

- Loans for advanced battery manufacturers.
- Funds for the purchase of alternative fuel vehicles.
- Funds for industrial energy efficiency.
- Loan guarantees for renewable energy generators.

In addition, various **US States** are now developing green jobs programmes, including New York, Virginia, Maryland and New Hampshire. The New York Times reports that every Washington Senator and Congressman are talking about green jobs.

Ensuring Britain Seizes the Opportunity

Over the years a range of policymakers, industry experts and academics have met and debated how to seize the economic opportunity that the environmental marketplace presents [see Annex II for information on the recommendations of two leading British commissions.]

The **United Nations Environment Programme** recently (October 2008) joined the debate with its call for a “Green New Deal” [see Annex III]. Proposals include a redirection of agricultural and energy subsidies into environmental investments.

Germany has just (November 2008) adopted an environmental technology “master plan” aimed at making it a world leader in eco-innovation and boost exports (particularly of water, climate protection and resource efficiency technologies). The plan includes significant increases in government expenditure on R&D.

And the German’s January 2009 50 billion euro economic stimulus package includes 14 billion euros for “sustainable” public works, including improving the energy efficiency of public buildings.

The **Korean Government** has just (January 2009) announced a \$38 billion (over 4 years) “Green New Deal” to create 960,000 jobs.

The **Japanese Government** has also announced its intention to expand the “green business market” and create 1 million new jobs, thereby “taking care of both the environment and the economy.”

Europe too has not been disinterested. Its new (December 2008) “European Economic Recovery Plan” includes 7 billion Euros for innovation in energy efficient buildings, “green cars” and “factories of the future”.

And there are a host of EU support mechanisms, notably the “EU Environmental Technology Action Plan” [see Annex 3].

And what of action in **Britain**?

“Britain must be part of the high-tech manufacturing of the future, and one very important area of that is around green industries...some of our competitors have been better at this than us...America does a huge amount to support some of these new industries” (Ed Miliband MP, Secretary of State, December 2008).

The Conservatives have just announced “plans to create a low carbon economy” which will “help create hundreds of thousands of jobs and improve Britain’s competitiveness” It is “a vision, [David Cameron asserts] of a Britain which leads the world in new green technologies” in contrast to “the absence of any coordinated, strategic plan for action...from Labour”

Their plan focuses a range of proposals on a smart grid; and new low carbon energy sources; and low carbon buildings, transport and commerce. It includes, for example, a scheme entitling every home to £6,500 of energy efficiency improvements.

This “green growth” plan follows another recent Cameron announcement of plans for “green tech incubators” and a “green environmental (stock) market” as part of their plans for a “green economy” (“a roadmap of how Britain can be the world leader in green goods, services and companies”).

The **Labour Government** has not been inactive.

In September 2008 the Government launched a “refreshed” Manufacturing Strategy that highlighted “seizing the opportunities of the low carbon economy” and “supporting hundreds of thousands of green collar jobs”. It promised a “Low Carbon Industrial Strategy” – this is eagerly awaited by EIC and the industry.

The December 2008 Pre-Budget Report’s £20+ billion fiscal stimulus, talked of a “green stimulus” with, primarily, some £535 million of accelerated capital spending environmentally-targeted (improving energy efficiency in council homes and schools, for example).

But it is NOT enough. It is time for Britain to get serious about ensuring its environmental industry wins the lions share of the global markets.

The holes in UK policy are manifold.

“Unlike the US, the UK has no comprehensive, integrated strategy for the creation of green technology...no coherent, determined national initiative” (Lord Chris Smith, Chair, The Environment Agency).

Why does BERR have no “Environmental Industry Strategy”? – yet has a “Defence Industrial Strategy” and one for “creative industries” (whose Minister, Stephen Carter, recently said

“the credit crunch makes a digital strategy more critical”).

[BERR “Sector Strategies cover key industry needs such as R&D; skills; knowledge transfer; investment; and, of course, regulatory policy].

The result: the environmental industry is largely ignored in the corridors of power and lacks a strategic framework for Government support.

Why is there no “coordinating unit” to maximise the activities of the different (relevant) government departments?

The result: the various UK policies and support mechanisms are uncoordinated and fragmented.

Why have the resources (and staffing) of the environmental industry’s sponsoring unit in Whitehall been constantly cut back?

The result: traditional/old European industries have a loud voice in the corridors of power in Brussels and the environmental industry has been largely ignored (and the recent positive rhetoric has yet to yield any hard government action).

Why has funding of UK Trade and Investment’s support for environmental exporters cut by 21% in 2007/8 to under £1 million?

The result: as the majority of UK environmental companies are SMEs they lack the ability to expand into (rapidly growing) overseas markets.

Why does the Treasury levy over £600 million in green taxes but only give back 2% in green tax breaks?

The result: businesses and consumers still largely avoid green purchases (unless directly required to by regulation).

The following EIC recommendations tackle these and other problems and set out how the Government can make Britain’s environmental industry a global success story.

EIC “GREEN ECONOMY STRATEGY”

RECOMMENDATIONS

Recommendation One: A Fiscal Stimulus for Green Jobs (in the Budget 2009)

- **A £10 billion “Green Jobs Investment Fund”** with:
 - £6 billion for an infrastructure fund to build 50,000 new (low-carbon) social houses (on brownfield sites) in 2009/10 [creating/protecting in the region of 160,000 jobs]
 - £1.5 billion for extra investment in energy efficiency retrofitting of low-income family homes [creating in the region of 145,000 jobs]
 - £1 billion of extra investment on energy efficiency retrofitting of schools and hospitals [creating in the region of 21,500 jobs]

- Extend the existing limited investment tax breaks/incentives for commercial purchasers to all environmental technologies (and increase from 100% to 150% for the most innovative) to increase the use of state-of-the-art cleaner technologies across British industry.

- Provide funding for:
 - Cleaning up brownfield sites (for new homes).
 - Retrofitting public sector vehicles (notably buses) with air pollution controls.
 - R&D/Innovation (see 3 below).
 - Exporting (see 3 below).

- Reverse the recent budget cuts in government support programmes for:
 - Resource efficiency in British companies.
 - Environmental exporters.
 - (Environmental and Resource Efficiency) Knowledge Transfer Networks.

Recommendation Two: Long-Term Regulatory Targets to Support Investment and Innovation

The British Government should:

(1) Generally:

- Regulate in step with our major international competitors.
- Ensure full compliance with environmental laws.
- Properly assess the full range of economic benefits of high environmental standards in (Regulatory) Impact Assessments
- Enact continuous legislation that sets advance standards based on the projections of technological development.
- Place greater priority on prevention of pollution, waste minimisation and clean technologies.
- Ensure that regulatory bodies promote innovation and industry competitiveness.

(2) Specifically solve particular regulatory problems:

- **Carbon Management:** Tighten the new Carbon Reduction Commitment by reducing the threshold from 6,000 Mwh of electricity use pa to 1,000 Mwh.
- **Energy Efficiency:** Use IPPC Directive implementation to require large industrial sites to implement medium - and long-term energy efficiency plans.
- **Sustainable Buildings:** Establish mandatory refurbishment standards for both homes and non-domestic buildings (and ensure enforcement).
- **Air Pollution:** Use the current revision of the IPPC Directive to set minimum emission limits.
- **Water Pollution:** Ensure the UK meets the requirements of the Water Framework Directive (through adequate investment approved in the next Periodic Review).
- **Transport Pollution:** Introduce a national framework for Low Emission Zones.

- **Contaminated Land:** Raise the target for new houses to be built on brownfield sites from 60 to 80%.
- **Waste:** Establish a price for embedded carbon (across the lifecycle of all materials).
- **Renewable Energy:** Tackle the delays in the planning process.

See Annex V on “**Tackling The Policy Barriers Facing the UK’s Environmental Industry**” for a more detailed assessment of the policy reforms required by Britain’s environmental companies.

Recommendation Three: Government Support Policies

The British Government should:

- Use **public procurement** to trigger the development of domestic environmental markets in advance of future new regulation (eg by rapidly implementing and expanding the Forward Commitment Procurement model across all government departments).
- Increase support for “**green jobs**” **training** (e.g. by urgently launching the National Skills Council for Environmental Industries and ensuring all Skills Councils immediately develop green jobs’ skills).
- Establish an **Environmental Technology Verification Programme** (with sites for testing) for all key technologies (e.g. Low Emission Zone anti-pollution vehicle technologies).
- Increase funding for **environmental R&D** to a level that is in line with major international competitors (particularly Germany and Japan).
- Provide **export support** at a level matching our international competitors (e.g. by supporting demonstration projects of environmental technologies in overseas countries).

Recommendation Four: A Formal BERR “Environmental Industry Growth Strategy”

The British Government should establish:

- A fully-resourced **Sponsoring Unit** for the UK's environmental industry.

- An "**Environmental Technology Industry Forum**" to coordinate the range of policies on:
 - Environmental Industry Support.
 - Environmental Regulation.
 - Technology Diffusion.
 - Innovation.
 - Investment.
 - Skills training.
 - Export support.

A J. Wilkes

The Environmental Industries Commission, London

January 2009

ANNEX I: CASE STUDIES OF SUCCESS FOR UK COMPANIES

(1) JOHNSON MATTHEY – Controlling Vehicle Emissions

Legislation to control harmful pollutants from vehicles is now in place at varying levels all over the world and for most types of vehicles. The tightening of legislation is a key business driver for Johnson Matthey (JM), a speciality chemicals company, and the development of new emission control catalyst technology is a major focus for its R&D investment. Since their introduction in 1974, JM's autocatalyst products have removed around four billion tonnes of pollutants from the atmosphere and JM has supplied 1 in 3 of all the autocatalysts ever made.

To take one recent example, new legislation in Europe and elsewhere around the world has required more stringent control of emissions of soot and NO_x from diesel vehicles. This has presented new chemistry and engineering challenges for the industry. JM overcame these challenges to develop innovative new products for these markets including the Continuously Regenerating Trap® or SCRT® technology (a patented combination of selective catalytic reduction and Continuously Regenerating Trap® technologies) for heavy duty diesel vehicles and Catalysed Soot Filters or CSFs for light duty diesel applications. These state of the art products allow customers to meet the new legislation limits and provide a cleaner, safer environment.

In the last financial year, JM's global revenue was £7.5 billion and it is set to strengthen its competitive position by taking advantage of growth opportunities in emerging markets in the sustainability sector. Examples include new catalyst technology which can reduce N₂O emissions from nitric acid plants by over 90% (N₂O is 310 times more harmful in global warming terms than CO₂), fuel cells for zero carbon cars and niche applications and clean energy technologies that use hydrogen obtained from hydrocarbons to generate electricity while also capturing and sequestering the CO₂.

(2) PCME – TACKLING INDUSTRIAL AIR POLLUTION

UK regulation can provide a competitive edge to domestic suppliers. Since the implementation of the UK Environmental Protection Act in 1990, regulation has been a major driver for the growth of PCME, a worldwide organisation dedicated to the innovation, design, development and manufacture and supply of continuous particulate emission monitors for industrial processes.

In particular the UK adoption of the EU legislation in a timely and thorough manner (such as the EN 14181 standard) has helped to stimulate the development of new instruments and technology which can then be exported around the world. First mover advantage enables UK manufacturers to pass through the learning curve before other member states, which in turn proves an extensive market. UK suppliers also benefit from the reputation of world leading regulatory frameworks, such as the Environment Agency's Monitoring Certification Scheme (Mcerts).

PCME provide instruments monitoring over 20,000 emission sources in over 40 countries, employing 40 people and winning the Queen's Award for Innovation this year.

ANNEX II:

(1) Commission on Environmental Markets and Economic Performance Report (November, 2007)

The Commission was established by Gordon Brown as Chancellor of the Exchequer in November 2006 in the light of the Stern Review on the Economics of Climate Change. Its remit was to advise Government on how the UK could make the most of the potential economic benefits of the transition to a low carbon, sustainable economy.

The Commission published its final report in November 2007.

Its key recommendations were:

- A long term policy framework with "stretch targets".
- Well defined timetables for implementing environmental legislation.
- Reduce uncertainty in carbon prices in the EU Emissions Trading Scheme.
- Set progressively updated or dynamic performance standards.
- Address skills gaps.
- "Greening" public procurement.
- Establish 'environmental innovation zones'.
- Create local "lead markets".
- Use targeted sectoral deployment support measures to create niche markets.
- Target technologies with the greatest environmental and economic benefits.

(2) UK Government Report on the Environmental Goods and Services Sector “Enabling Business in Resources Management”.

In 2002 the DTI's (Environmental) Innovation and Growth Team (consisting of leading businessmen from the environmental sector) made the following recommendations:

- Ensure that regulatory bodies promote innovation and environmental sector competitiveness.
- Structured dialogue to agree policy and market conditions that attracts private sector capital.
- A sector sponsor body.
- Strengthen UK support for exporting.
- Use fiscal incentives to stimulate innovation.
- Public sector to take a lead on sustainable procurement.
- Place an environmental risks and benefits duty on pension fund trustees.
- Co-fund demonstration projects.
- Tax credits to incentivise private investors.
- Improve skills and training.

ANNEX III: UNEP's "Global Green New Deal" Report (October 2008)

In October this year UNEP launched a report on a “Global Green New Deal-Environmentally-Focused Investment Historic Opportunity for 21st Century Prosperity and Job Generation.”

UNEP’s key recommendations included:

- A RoadMap for policy and Investment.
- Stable Policy Frameworks, Prices and Incentives.
- Adaptation of Vocational Training and Education Systems.
- Scaling Up Investment.
- Funding for R&D.
- Financing Green Jobs.

ANNEX IV: The EU's "Environmental Technology Action Plan"

EU Heads of State endorsed in 2004 the first ever EU-wide plan to support Europe's environmental industries.

The Action Plan incorporates:

- Long-term "performance targets" for products.
- Reforming public procurement practices to promote the purchase of environmentally sound products and technologies.
- Testing and verification schemes to smooth the path to market for new environmental technologies.
- Mobilise financial instruments.
- Review of EU State Aid Guidelines (which have hampered the work of Wrap and Carbon Trust in the UK).
- An increased focus on environmental technology in the EU funded research programmes, including three new "Technology Platforms" for fuel cells, water and photovoltaics.
- Promote investments and environmental technologies in developing countries.
- Market based instruments to internalise environmental costs.
- An EU wide Advisory Panel on Environmental Technologies.

ANNEX V: Tackling The Policy Barriers Facing the UK's Environmental Industry: An EIC Members' "Agenda for Action".

(1) Carbon Management and Trading

Making the transition to a low carbon, resource efficient economy is not only environmentally essential but brings huge economic opportunities. One area in particular where there are huge economic opportunities is the developing carbon trading sector. Carbon trading is, and should continue to be, a key component of future efforts to tackle climate change.

By capping carbon emissions carbon trading has the potential to be a key instrument in driving the transition to a low carbon economy and stimulating innovation in new technologies that will increase the competitiveness of the UK in global markets.

The Government should:

- Commit to a strict limit on the use of overseas credits for meeting the UK's carbon budgets to encourage investment in domestic emission reductions.
- Recycle/hypothecate the revenues from the auctioning in Phase III of the EU ETS III into low-carbon investments.
- Increase the ambition of the Carbon Reduction Commitment by increasing the target savings and the threshold reduced from 6,000 Mwh of electricity use per annum to 1,000 Mwh.

(2) Waste

We need complementary policies across the material life cycle with the overall aim of waste prevention. Moving away from a linear process of resource extraction, manufacture, consumption and disposal towards a system where resources remain in use.

Improving resource efficiency and minimising waste going to landfill will be crucial to meeting the UK's climate change targets.

The Government should:

- Establish longer-term, better-resourced business support programmes for resource efficiency, including commitments to long-term government funding and the (re)hypothecation of landfill tax revenues.
- Tackle the planning and regulatory barriers to new waste treatment technologies.
- Lead by example by extending Sustainable Operations on the Government Estate Targets to introduce a target to reduce the amount of virgin materials used in products procured by government and a target to reduce waste arisings from all public sector construction projects – guidance should be published to help all local authorities do the same.
- Establish a price for embedded carbon (across the lifecycle of all materials).

(3) Transport Pollution

The Government's National Air Quality Strategy concludes that poor air quality is estimated to reduce the life expectancy of every person in the UK by an average of 7-8 months - impacting particularly on children, the elderly and those in poor health.

The UK is failing to meet a range of EU air quality targets. Retrofit pollution control technologies to clean up existing vehicle would make a huge contribution to meeting these targets.

The Government should develop ambitious support policies in the UK for retrofitting existing vehicles. This will create markets in transport pollution control technologies, which could then be exported to other Member States struggling to meet their air quality targets.

The Government should:

- Introduce a national framework of Low Emission Zones.
- This should be facilitated by a National Certification Scheme for retrofit technologies, including NOx.
- Introduce a requirement to fit suitable after-treatment devices to all non-road mobile machinery operating over a specified power output threshold.

- Lead by example – the government should invest in retrofitting local authority vehicles such as buses.

(4) Industrial Air Pollution

The Government's National Air Quality Strategy concludes that poor air quality is estimated to reduce the life expectancy of every person in the UK by an average of 7-8 months - impacting particularly on children, the elderly and those in poor health.

The UK is failing to meet a range of EU air quality targets. Reducing pollution from industrial processes must be an urgent priority.

The Government should:

- Give the public access to information on what is being put into their environment by local authority regulated factories by including them in the Pollution Inventory. This can be done cost effectively and with minimal additional regulatory burden simply by expanding the scope of the existing Environment Agency Pollution Inventory to cover *all* Part B processes.
- The existing LAPPC risk based fee and charges scheme is designed so that industry pays reasonable costs to the local authorities who regulate them. The scheme could be extended and linked to the Inventory so that the worst performing processes pay greater fees. This would provide a valuable incentive to Part B processes to reduce their emissions.
- Funding to help UK environmental technology SMEs to engage in the BREF process – this would help establish Best Available Techniques in line with UK capabilities, therefore creating huge new markets across the EU.
- Work at the EU level to ensure the revision of the IPPC Directive tightens emission limits.

(5) Sustainable Buildings and Energy Efficiency

Buildings are responsible for almost half of the UK's carbon dioxide emissions. Urgent Government action is, therefore, required to reduce energy efficiency across all new and existing buildings.

The Government should:

New build

- Ensure the definition of zero carbon for the purposes of the Government's target for zero carbon homes and non-domestic buildings includes the highest standards of energy efficiency.

Existing Buildings

- Set long-term carbon reduction targets for buildings – 2020 & 2050 – with interim targets.
- Establish mandatory refurbishment standards for both homes and non-domestic buildings + mechanisms to ensure enforcement.
- 'Low Carbon Zones' – creating a 'lead market' for low carbon buildings.
- Establish a Code for Sustainable Buildings – a compulsory code setting out minimum environmental standards that buildings must meet when they are refurbished.

Public Sector

- Leading by example – vastly improve the sustainability of the government estate - overall, only 46 per cent of all 2007-08 projects achieved the Government's required standards.
- Improve the Building Schools for the Future programme requiring BREEAM Excellent not BREEAM very good.

(6) Remediating Contaminated Land

The Government has ambitious plans for increasing the number of new houses and a target for the majority of these to be on brownfield land. Developing brownfield rather than greenfield sites will be a key part of reducing our carbon footprint as it reduces car dependency and commuting distances.

However, to keep the costs and time required to bring these brownfield sites back into productive use, tackling the contamination and other problems they face, requires a highly skilled brownfield development sector. The UK has developed excellent skills and expertise in cleaning up brownfield sites - but risks losing these as the property market slumps.

The Government should:

- Raise the target for new houses to be built on brownfield sites from 60 to 80%.
- Tackle the problems in the regulatory regime that prevent local authorities making decisions on approving reuse of contaminated sites.

(7) Water Quality

The UK faces a huge challenge to meet the requirements of the Water Framework Directive to ensure all water bodies achieve 'good ecological status'.

The water sector is also at the front line of tackling climate change. It needs to contribute to the UK's carbon reduction targets whilst also improving water quality. It also needs to lead the changes needed to adapt to climate change and tackle the challenges of flooding and droughts.

Currently, however, the water sector is locked into a five year cycle of short term thinking that fails to promote innovation and leads to a boom and bust cycle for the supply chain which is inefficient and makes it hard to retain the skills the sector needs.

The Government should:

- Ensure the projects that are needed to meet the Water Framework Directive are funded in this Periodic Review.

- Reform the arrangements for drainage across the country to promote sustainable solutions which reduce energy use and help tackle flooding. This will include clear ownership, responsibility and funding for drainage assets.
- Reform the Periodic Review of water prices to remove the boom and bust investment cycle and promote sustainable solutions rather than short term fixes. This means longer investment cycles.