

MOBILISING

Investment for a Clean Energy Future

Climate Security
Energy Security
Economic Security

- ✓ **1. Green Investment Bank:**
a bridge for low-carbon investors
- ✓ **2. Green Bonds** for clean energy
- ✓ **3. Green Deal Plus** to cut our
energy costs

A transformational challenge

Over the next few decades we must see a dramatic low-carbon transformation of the UK's energy system along with huge improvements in the energy efficiency of building stock, both residential and commercial. We now have to organise the finance.

The investment is huge, but the funds are there.

Most UK capital is stuck in the carbon economy; for a prosperous future we need to make the bridge to low-carbon investments

£4,100 billion

£550 billion

Low-carbon infrastructure investment required by 2020.

Total funds under management in the UK

The low-carbon transition will require unprecedented investment. Funding this transition vastly exceeds the capability of the public sector. Leveraging private sector investment will be essential to deliver the required capital.

There is consensus among all the major UK political parties about the scale and urgency of action required to address the threat of dangerous climate change.

That action involves a dramatic transformation of the nation's energy system along with huge improvements in the energy efficiency of building stock, both residential and commercial.

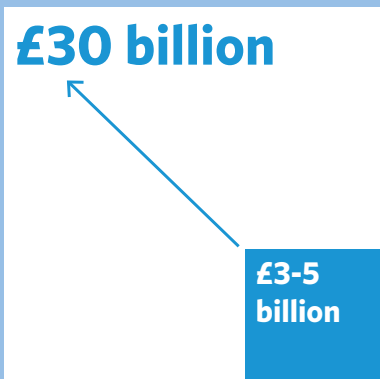
The transformation has significant ancillary benefits: large cost-savings with energy efficiency, greater energy security by avoiding growing reliance on foreign

oil and gas, and a major stimulatory boost to local industry as we upgrade our national infrastructure.

According to the Green Investment Bank Commission, decarbonising the UK economy will require up to £550 billion of investment by 2020. In contrast, only £11 billion was invested in the dash for gas during the 1990s - which was considered transformational at the time. The investment required is on a scale not seen since post-WW2 reconstruction.

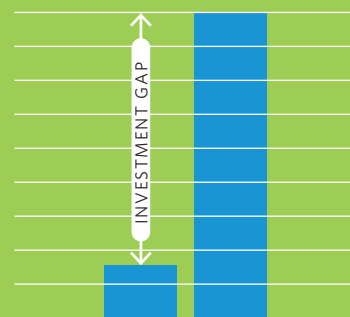
The Energy Investment Gap

The UK needs £30 billion p.a. low-carbon energy investment over the next 15 years. Traditional investors can only deliver £3-5 billion a year. Up to 10 times more energy investment is required than will be delivered under business as usual.

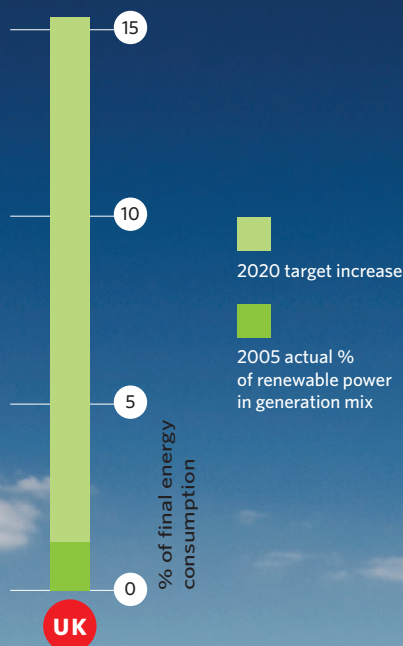


£450 billion of investment is needed by 2025 for new energy supply and energy efficiency measures.

Only £50 to 80 billion will come from traditional investors. This leaves an energy investment gap of £370 to 400 billion over the next 15 years.

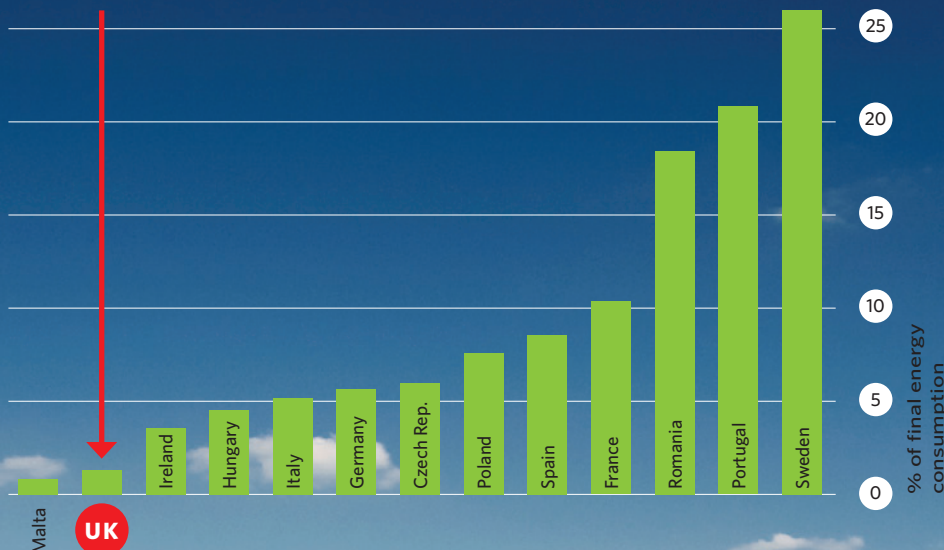


We have to multiply our renewable energy eightfold by 2020.



We've got a lot of catching up to do.

The share of renewable energy in the UK's mix is one of the lowest in Europe.



Ernst & Young estimates that £450 billion of investment will be needed in energy demand and energy supply measures alone by 2025. Only £50 to 80 billion is likely to be raised from traditional investors, leaving an investment gap of up to £400 billion.

Mobilising investment on that scale will require new financial instruments, changes to the way institutional investors allocate capital and substantial Government efforts to ensure infrastructure projects are better structured for investibility.

Britain does have a powerful card in its deck: London's City is the world's most important exporter of financial products and creator of financial solutions. It has the potential to become the world's leader of green finance.

The City will benefit from new revenues (product opportunities, new markets, new customers), from the scale of what will be a period of enormous and sustained infrastructure investment, and from reputation enhancement through meeting the financial challenges of energy system transformation.

But Britain does not have the luxury of waiting for the market to *organically* mobilise the necessary investment.

Transformation on the scale needed requires the Government to adopt a war-style footing, building a close working relationship between industry, investors and government, to engineer the required investment needed to safeguard our future.

An activist and *substantial* Green Investment Bank, working as a bridge between Government, the City and investors, will be a central part of that effort.

Three steps towards an energy secure future

1. Green Investment Bank: a bridge for low-carbon investors



Britain needs to raise £550 billion of investment by 2020 to support its transformation to a low-carbon economy.

This is an enormous increase in investment flows. At the same time Britain has over £4 trillion invested in managed funds – the funds are there, but a huge proportion needs to be mobilised.

We can do that by using small amounts of Government funding and regulatory powers to leverage large slabs of private debt.

A specialist Green Investment Bank must identify and work to reduce the barriers to private sector investment. It must crowd in, not crowd out the private sector by working in close collaboration with the market to source and manage deals that the private sector is unwilling or unable to take on alone.

“If we’re to compete in the technologies of the future, and come out of this recession with a more balanced economy, then Britain needs to play catch up. Our Green Investment Bank will help us do precisely that.”

Chancellor, George Osborne



To fulfil its potential the Bank needs:

1. Legislation. To ensure a fully independent, accountable and enduring institution, with a clear low-carbon investment mandate.

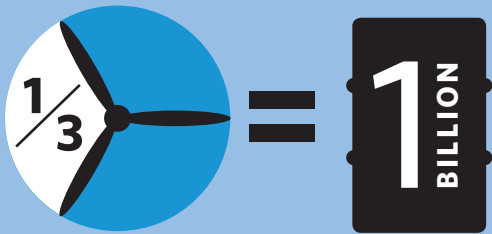
2. Capitalisation. Ernst & Young says between £4 - 6 billion is needed in capitalisation between now and 2015. A smaller amount risks hobbling the bank before it even starts.

3. Focus. Investment needs to be unlocked for an ambitious national energy efficiency programme and the manufacture, deployment and supply of clean, green renewable energy at all scales.

4. Expertise. The Bank should act as a key advisor and central point of expertise to central and local Government on low-carbon finance.

5. Green Bonds & Green ISAs. Such products would fit with the long-term investment horizons of institutional investors and would provide the scale of capital needed to fund the low carbon transformation.

6. Green Deal Plus. This will build on the Government’s residential energy efficiency loans scheme by using the Green Investment Bank to aggregate millions of loans to attract institutional investment and lower the cost of finance. This will ensure energy bills can be cut right across the UK.



Using just **one third of the UK's wind, wave and tidal resource** could unlock the electricity **equivalent of 1 billion barrels of oil a year**, matching North Sea oil and gas production.

The Offshore Valuation Report

In 2009 the amount of new energy capacity coming from renewable sources in Europe and the US topped that coming from fossil fuels and nuclear.



UN Environment Programme (UNEP) and the International Energy Agency-backed Renewable Energy Policy Network for the 21st Century (REN21) project

Delivering energy security with economic stimulus

Britain is fast running out of gas and oil and increasingly turning to Russia and the Middle East for energy supplies. The development of renewable energy resources will improve energy security, reducing our reliance on more volatile regions of the globe. At the same time we'll get an important economic stimulus for the UK.

To achieve this we need investments in three key areas:

1

Large-scale energy efficiency schemes. Britain has to retrofit all of its buildings to meet its climate targets. This will slow energy demand, giving us needed time to transition to clean energy. It will also save us all money as we cut energy bills, generate local jobs and reduce the need for new energy supply.

2

Clean, green energy. We need everything from offshore wind to anaerobic digestion; and luckily we have the renewable resources available for exploitation. A recent industry report on offshore renewable resources shows that using just one third of the UK's wind,

wave and tidal resource could unlock the electricity equivalent of 1 billion barrels of oil a year, matching North Sea oil and gas production.

To make the transition to a clean energy system in time, a huge pulse of upfront capital investment is required to support the development of clean energy at all scales.

3

Clean energy infrastructure, from smart meters to offshore wind connections.

A new and smart grid is required for new forms of energy. These investments have low technical risks, but have high capital costs relative to conventional energy. Their low risk with modest but safe returns make them ideal for Green Bonds financing.

"I don't want to hear warm words about the environment. I want to see real action. I want this to be the greenest government ever"

Prime Minister, David Cameron

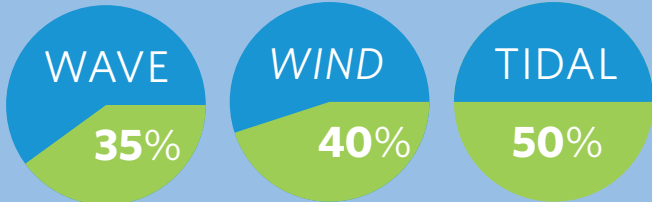


Options for capitalisation

A recent report by Ernst & Young argues that £4-6 billion initial capitalisation is required for an effective Bank. These funds could be raised by:

1. **Direct Government Funds**
2. **Proceeds from the sale of government-owned assets**
3. **ETS emissions allowance auction revenues**
4. **Issuing Green Bonds**
5. **Green ISAs**

The UK possesses 50% of Europe's tidal resource, 40% of its wind resource and 35% of its wave resource.



Britain requires **£550 billion** of low-carbon infrastructure investment by **2020**.

In contrast, only £11bn was invested in Britain's dash for gas during the 1990s.

£11 Billion

2. Green Bonds for clean energy

"I see in this green recovery not just the fight against climate change, but the fight for jobs, the fight for new industry, the fight for lower family energy bills and the fight for less wasteful government."

Chancellor, George Osborne



Green Bonds can be used to finance the Green Investment Bank and other climate solutions projects.

Green Bonds are designed to:

- **Attract institutional investors who want to fund green without sacrificing returns.** We need to access the managed funds market if we are to have any hope of raising the capital required. Green Bonds will do that.
- **Engage retail investors.** While the majority of finance is likely to come from institutional investors, retail green bonds will also provide an opportunity for ordinary investors to participate in the UK's low-carbon transformation, while earning a good return.

Green Bonds largely function as conventional debt instruments. They are risk-weighted and credit rated in the usual way based on the creditworthiness of the issuer, and they are traded. The big difference is that funds raised are certified to only go to green investments like low-carbon energy infrastructure.

The past two years have seen a significant international re-focusing of investments among institutional investors, notably pension funds, to bonds.

Many pension funds are acutely aware of climate change issues, and interested in the prospect of "greening" their portfolios, including their fixed income portfolios. This is partly driven by stakeholder pressure – 19 of the top 20 pension funds are public sector funds deeply aware of public policy requirements to address the threat of dangerous climate change.

However, funds will only look for green investments as long they don't have to risk their returns.

A significant opportunity exists for Green Bonds designed to have risk/reward profiles equivalent to or better than carbon intensive industry products. If the world is to meet what the International Energy Authority says are imperatives for clean energy investment, green debt capital markets can be expected to grow exponentially.

A Government that facilitates the rapid growth of a national green debt capital market will both boost investment flows into low-carbon sectors and stimulate local leadership in green debt financial products.

There is new hope for the City.

More than **100,000** jobs could be created every year in the UK by an ambitious energy efficiency programme.



WWF report: *Retrofitting the UK's homes - Opportunities for the economy*, January 2010.

Through our inefficient use of energy we throw away almost a third of the energy we use.

Every year, we throw away more than eight times the amount of energy supplied by all of the UK's nuclear power stations combined.



Energy supplied by UK's nuclear power stations



UK's annual energy waste

Use retail Green Bonds to involve the people of Great Britain

A Green Investment Bank could raise finance by providing British people with the opportunity to buy "green bonds" and save in "green savings accounts" (Green ISAs). These products would help finance low carbon energy infrastructure as well as enable consumers to share in the profits reaped by the transition to a low-carbon economy.

Retail Green Bonds could also play a crucial role in mobilising public action to tackle climate change by providing a positive and attractive way for citizens to get involved. The same strategy was used with War Bonds in both World Wars. Bonds have also been used to generate public support and funds for tackling natural disasters, delivering infrastructure projects and supporting re-construction efforts (e.g. the Marshall Plan).

3. Green Deal Plus to cut our energy costs



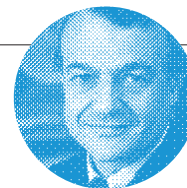
The Government's *Green Deal* loan scheme recognizes that energy efficiency is a win-win idea: it aims to cut energy bills and reduce emissions at the same time.

But there are still big problems to be addressed before we can reduce energy bills across the bulk of the UK's homes:

- Energy efficiency offerings are daunting for householders.
- Small scale implementation means we miss out on reducing unit costs.
- Investment is held back because it's a highly fragmented opportunity with high transaction costs.

"If we are to fund green investment projects effectively, we ... need to find a way of ... scaling up loans ... to make them attractive to the bond market."

Alain Dromer, CEO Aviva Investors



The Green Deal will provide a mechanism to help consumers with finance. We need a more ambitious *Green Deal Plus* that will:

- Reduce complexity and hassle for householders.
- Tie millions of small loans together to become solid investments for pension and insurance funds and so bring down costs.
- Use the Green Investment Bank to deliver large scale capital investment, funded by Green Bonds.

With the support of a Green Investment Bank, a *Green Deal Plus* will allow the bulk of Britain's housing stock to be refurbished. It will also quickly provide a dramatic boost to the construction industry and help to create hundreds of thousands of regional jobs.

The *Green Deal Plus* will allow Britons to benefit from reduced energy bills and reduced greenhouse gas emissions.

Three steps towards an energy secure future



Accelerating investment into the low-carbon economy

Transform UK campaigns to accelerate investment into clean energy and energy efficiency.

Transform UK is an Alliance of Industry, Investors and Not-for profits. It develops policies and proposals to finance the low-carbon transformation of the UK's energy system.

www.transformuk.org

1. Green Investment Bank: a bridge for low-carbon investors

A bridge between investors and low-carbon investments.

A Green Investment Bank will create new opportunities. It will crowd in and not crowd out investment, share the risk of low carbon investment and aggregate financing opportunities to make them suitable for institutional investors. By doing so it will mobilise investment to deliver the UK's emission reduction targets.

The aim of the Green Investment Bank will be to leverage high levels of private investment. To do this the Green Investment Bank will have to be a real bank with a substantial balance sheet.

2. Green Bonds for clean energy

Develop green debt capital markets that the private sector can use to finance transformational projects.

To access the very large pools of capital held by institutional investors the Green Investment Bank should have the powers needed to issue a range of Green Bonds. Such products would fit with the long-term investment horizons of pension funds and life insurance companies and would provide the scale of capital needed to fund the low-carbon transformation of our energy system.

3. Green Deal Plus to cut our energy costs

Cutting costs with an energy efficiency transformation.

Energy efficiency offers the most cost effective means to reduce emissions at the same time as helping householders cut their energy bills. It can also create hundreds of thousands of jobs and provide a big economic stimulus.

Britain needs to unlock investment in energy efficiency at all scales. The Green Deal loan scheme creates a financing platform; a Green Deal Plus will use the Green Investment Bank to ensure energy bills can be cut right across the UK.



References are available at www.transformuk.org

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