

## Briefing Note on “Stern Review: The Economics of Climate Change”

### Brief Summary of Stern Review Conclusions

The central message of the Stern Review is that if action is not taken to reduce greenhouse gas emissions the overall costs and risks of climate change will be equivalent to losing at least 5% of global GDP each year, now and forever. If a wider range of risks and impacts is taken into account, the estimates of damage could rise to 20% of global GDP or more. If we take action to reduce climate change now the cost could be as little as 1% of global GDP each year. Global action based on shared vision of long term goals and agreement on frameworks must build on mutually reinforcing approaches at national, regional and international level. This is imperative if we are to successfully reduce global greenhouse gas emissions.

Emissions must be cut using the following methods:

- Increased energy efficiency
- Changes in demand for energy intensive technologies
- Adoption of clean power, heat and transport technologies
- Carbon capture
- Reduction of deforestation
- Carbon pricing and budgeting through tax, trading or regulation
- Supporting innovation and deployment of low carbon technologies
- Remove barriers to energy efficiency: inform, educate and persuade individuals to change their behaviour.

The following global frameworks are proposed:

- Emissions trading
- Technology cooperation
- Action to reduce deforestation
- Adaptation

The government proposes an integrated and comprehensive response across all departments:

“That fully mobilises the power of science and innovation in new technologies;

That uses the market mechanisms to incentivise change in the global economy

That promotes greater personal and social responsibility in our every day lives

That is supported by sustained public and private investment in environmental change”<sup>1</sup>

In practice this means:

- The Climate Change Levy will continue and be indexed to inflation
- The expansion of the European carbon emissions trading scheme will be proposed
- A new commission will be established to provide detailed proposals on how to retain our competitive advantage in the new global low carbon economy
- The public- private partnership “Energy Technologies Institute” will continue
- The UK will partner with other countries to combat deforestation.
- A new partnership will be established between the World Economic Forum and the World Business council on Sustainable Development to leverage both public and private contributions to the framework to increase energy efficiency and investment in low carbon technologies.
- The Government aims to replace petrol and diesel with low or no carbon fuels such as hydrogen or biofuel. The Renewable Transport Fuel Obligation announced in the Budget this year will mean that by 2010 5% of fuels in all vehicles will be biofuels.

A climate change bill will be introduced:

“Putting into law the government’s long- term goal to reduce carbon dioxide emissions by 60% by 2050.

Establishing an independent body to work with the government on how efforts to reduce emissions should be

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<sup>1</sup> “Remarks by the Chancellor or the Exchequer, the Rt Hon Gordon Brown MP, at the launch of the Stern Review on the economics of climate change”, 30<sup>th</sup> October 2006, [www.hm-treasury.gov.uk](http://www.hm-treasury.gov.uk)

spread over time and across the economy. Strengthening monitoring and reporting arrangements to Parliament; and creating new enabling powers to put in place new emission reductions measures to help meet our goal.”<sup>2</sup>

Tony Blair will introduce the Stern report to G8 discussions next year. He also wants to “extend the EU Emissions Trading Scheme beyond 2012 and bring aviation to the heart of it”<sup>3</sup>. As well as this he suggests that new EU efficiency standards are agreed and a new initiative is launched to make all new coal power stations carbon neutral.

### Implications for the UK Construction Industry

It is clear from the government’s immediate reaction to the Stern Report – the announcement of the introduction of a Climate Change Bill in this Parliamentary session, for example – that its recommendations and conclusions are going to be taken seriously. This means that even more pressure is going to be exerted on the construction industry to develop its **skills, knowledge and understanding** of resource efficiency in general, and to adaptation and mitigation of climate change in particular. This will be a critical area for the industry: there are far too few people with the right skills and knowledge at the moment, and it will take far too long if we rely solely on new entries to the industry receiving appropriate training. This represents a real opportunity for trade and professional bodies to set standards for CPD and membership in this area in order to raise the appropriate skill levels quickly.

There will undoubtedly be **increased markets** for particular types of work. For example, substantial changes are likely to be necessary to our infrastructure to ensure that it is able to cope with the demands imposed by climate change. In terms of our water infrastructure, the Environment Agency has estimated that 10 – 15% of increased reservoir capacity may be required to address potential water deficits. Stronger flood defences will also be needed: the Foresight study estimated that a cumulative increase in investment of £10 – 30 million each and every year for the next 80 years would be required to prevent the costs of flood damages escalating in the UK.

The report recommends that **land-use planning and performance standards** should encourage both private and public investment in buildings, long-lived capital and infrastructure to take account of climate change. This will have a clear impact on what we build, where we build, and how we build it. Building Regulations, for example, are an immediately obvious route for increasing performance standards of our buildings to take account of climate change: the recent Part L amendments demonstrate this, and it is extremely likely that greater energy efficiency standards will be required; indeed, greater energy efficiency is a specific topic within the report.

However, the report states that policies will be more efficient if they encourage private individuals and firms to take explicit account of the economic costs of climate change in their decision-making, rather than simply imposing prescriptive design standards – implying that **increasing Building Regulations requirements alone will not be sufficient**. For example, a developer will make a rational decision about whether to increase the long-term resilience of infrastructure or to design buildings with shorter lifespan if required (by whatever means) to consider the impacts of climate change over the lifetime of the property.

The report examines the opportunity for **taxes and tradable quotas** to be used to raise public funds, and some of the possible uses for these funds. Whatever approach is taken, the key aim will be to ensure that those responsible for emitting greenhouse gases face a cost for those emissions that reflects the damage they cause. It should be noted that that households are explicitly mentioned here: a strong signal that existing policy regarding business taxation related to climate change is likely to be expanded. It seems extremely likely, given that UK buildings are responsible for 52% of carbon dioxide emissions, that the construction industry will face some form of taxation; certainly construction clients will increasingly do so.

Straightforward **market mechanisms** will drive changes in the way that buildings and structures are designed and built. ‘Removing barriers to energy efficiency: inform, educate and persuade individuals to change their

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<sup>2</sup>“Remarks by the Chancellor or the Exchequer, the Rt Hon Gordon Brown MP, at the launch of the Stern Review on the economics of climate change”, 30<sup>th</sup> October 2006, [www.hm-treasury.gov.uk](http://www.hm-treasury.gov.uk)

<sup>3</sup> “PM’s Comments at the Launch of the Stern Review” 30<sup>th</sup> October 2006, [www.pm.gov.uk](http://www.pm.gov.uk)

behaviour' is specifically quoted in the report, and – as one example of this - the market implications of Home Information Packs supplying householders with information on the energy credentials of their homes have already been the subject of much discussion. Another issue specifically examined in the report is that of changes in demand for energy intensive technologies - a combination of power sources will include and may increase the demand for microgeneration.

**Insurance** is another obvious market mechanism: it has a long history of driving risk management through pricing risk, providing incentives to reduce risk, and imposing risk-related terms on policies. By accurately measuring and pricing climate risks, insurance can help incentivise the first steps towards adaptation – we already see that the extra cost of insurance can act as a disincentive to build on high flood risk areas. Perhaps of more direct relevance to the construction industry is the issue of **professional indemnity**: what will constitute 'reasonable skill and care' and 'professional competence' in terms of designing for climate change?

The adoption of **clean power, heat and transport technologies** is stressed in the report, and this will have implications in a number of areas for the construction industry, driving the adoption of innovative and renewable technologies. A less obvious issue is that the construction industry accounts for 13% of the fuel used in transport in the UK, and the Chancellor's Renewable Transport Fuel Obligation will therefore inevitably have an effect on the way in which construction materials are transported.

Given some of the issues outlined in the report, as indicated above, it seems very likely that an overall impact on the industry will be **increased costs**. It may be possible to reduce some of the potential impact through altering the way we design and build – wider use of passive techniques to reduce energy consumption, for example, thus reducing both energy costs and carbon emissions – but the industry must be prepared for and ready to address significant changes.

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