



House of Commons  
Trade and Industry Committee

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**Local Energy—Turning  
Consumers into  
Producers: Government  
Response to the  
Committee’s First  
Report of Session  
2006–07**

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**Second Special Report of  
Session 2006–07**

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## The Trade and Industry Committee

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### Committee staff

The current staff of the Committee are Elizabeth Flood (Clerk), David Slater (Second Clerk), Robert Cope (Committee Specialist), Ian Townsend (Inquiry Manager), Anita Fuki (Committee Assistant), Jim Hudson (Senior Office Clerk) and Joanne Larcombe (Secretary).

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## Second Special Report

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The Committee published its First Report of Session 2006–07 on 30 January 2007.<sup>1</sup> The Government’s response was received on 28 March 2007 and is published as an Appendix to this Report.<sup>2</sup>

## Government Response

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### Introduction

The Government welcomes the Committee’s report on “local energy”. The report covers important issues relating to distributed energy and it has been useful to have the Committee’s views to help with the development of Government policy in this area.

### What is ‘Local energy’?

**1. The focus of this Report is on the various ways in which individuals and communities can produce their own low-carbon energy. Hence, we have used the term ‘local energy’ to incorporate both microgeneration and community level energy, whether electricity or heat, that has been produced for own-use. We hope that this more accurate and easier-to-understand term might command general acceptance and recommend that it be adopted in all official government documents. (Paragraph 8)**

**2. Local energy can be produced in a variety of ways, using either renewable or fossil-fuel sources. Each has the potential to generate energy, whether in the form of electricity or heat, at or very near to the point of consumption. In many cases these are not new energy sources. Indeed, humanity’s use of biomass, wind, and hydro energy pre-dates the use of fossil fuels. What is new today is the technology available to harness these sources of energy and the way in which their use in a modern context presents newly perceived benefits by reducing carbon dioxide emissions and contributing to energy security. (Paragraph 15)**

We recognise that the number of terms surrounding the small-scale production of energy can be confusing, particularly where they are very similar, such as “distributed generation”, “distributed energy” and “decentralised energy”. But the term “local energy” could also be open to misinterpretation, for example those living in the vicinity of a large power station may consider themselves recipients of “local energy”.

Microgeneration is becoming a fairly well understood and widely used term, in Government policy, academia and the media. To stop using this term now may cause further confusion. We will, however, aim to be consistent in our use of other terms. In the forthcoming Energy White Paper, as in the Energy Review Report, we will use the phrase “distributed energy” to refer to the generation of heat and/or electricity close to point of use

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1 First Report from the Trade and Industry Committee, Session 2006-07, *Local Energy—turning consumers into producers*, printed as HC 257 on 30 January 2007

2 The Paragraphs in bold type are quotations from the list of Conclusions and Recommendations in the Committee’s Report.

including distributed electricity generation, combined heat and power plants (CHP) and non-gas heat sources.

We agree that there are many options for producing energy near to the point at which we use it and that greater use of distributed energy will help to reduce carbon dioxide emissions. As part of a wider electricity generation portfolio, renewables can also make a contribution to security of supply, by diversifying the electricity mix and by reducing the need for energy imports. Renewables offer additional price security as the ‘fuels’ are largely unconnected from the international fossil fuel markets or, as is the case for wind, wave and tides, are free. However, above a certain level of penetration, some of these security of supply benefits have to be weighed against potential disadvantages arising from having a larger proportion of variable electricity generation on the UK system.

We already have mechanisms in place to promote distributed energy in most of its forms. The financial benefits associated with the Renewables Obligation incentivise the use of renewable sources to generate electricity on a large and small scale. Amendments to the Obligation coming into force in April 2007 will make it easier for smaller generators (under 50kW) to gain access to these benefits. A wide variety of capital grant programmes help to offset the upfront costs of both low carbon electricity and low carbon heat generating technologies. Work is currently being undertaken that will explore possible incentives for renewable heat technologies, as part of a wider study on heat. As announced in the Energy Review Report we are also, with OFGEM, undertaking a comprehensive review of the incentives and barriers that impact on distributed electricity generation (including CHP). We will report on this with the forthcoming Energy White Paper.

**3. Overall, local energy currently contributes a very small proportion of the UK’s supply of electricity and heat—less than 1%—reflecting the highly centralised structure of our energy system. (Paragraph 33)**

The UK energy system is highly centralised. Both our electricity distribution and gas networks are optimised for a one-way flow, from a small number of entry points out to consumers. The main advantage of this traditional system has been its ability to reduce costs through economies of scale. Gas in large quantities or electricity generated in large power stations has been cheaper than other alternatives, despite the cost of transmission over long distances. But a combination of new and existing technologies is opening up the possibility of more generation at a local level.

New information and communication technologies can help us monitor and control the electricity system in more sophisticated ways. Emerging energy storage equipment will help us to manage electricity flows on a local scale. And mass adoption of small-scale generation technologies (for both heat and electricity) should bring down prices. All of which could lead to more distributed energy systems rather than the current highly-centralised system.

## Potential of local energy

**4. Local energy has the potential to reduce carbon dioxide emissions by displacing the use of fossil fuels, decreasing network losses, and increasing energy awareness amongst users. The scale of these benefits, however, is dependent on the types of technology used**

**and their location. For domestic installations, local heat production such as solar thermal systems or ground source heat pumps will often be just as beneficial as electricity generation. There are some situations involving micro-combined heat and power (CHP) where local energy systems will not necessarily lead to a reduction in carbon dioxide emissions. Moreover, local energy must be considered as part of a multifaceted effort to tackle the causes of climate change, in which there are other means of reducing emissions. In particular, energy efficiency measures offer better value-for-money in the short run. As such, the Government should remain mindful of the underlying cost per tonne of carbon dioxide saved in developing policies to ensure that its approach is cost-effective. (Paragraph 24)**

We agree that there are many advantages to generating energy locally, including reducing carbon emissions, reducing the amount of energy we use in transmission and distribution across large distances and increasing awareness of energy issues through a more community based energy system. But in order to maximise these benefits it is important to ensure that appropriate technologies are used in appropriate circumstances—there is not a ‘one size fits all’ technology.

Reducing energy demand should always be the first step in tackling emissions. Energy efficiency measures, in the vast majority of cases, are more effective on a cost per tonne of carbon saved basis. This is why we introduced an energy efficiency element into Phase 1 of the Low Carbon Buildings Programme, ensuring that applicants have taken steps to reduce the energy demand from their building before installing microgeneration.

More widely, we have put in place a comprehensive package of measures to promote energy efficiency improvements and energy savings. This includes progressive strengthening of energy efficiency standards in Building Regulations with the aim that all new homes will be zero-carbon by 2016 and working in the UK and within the EU to raise the energy performance standards of the appliances we use in our homes and businesses. In addition, the highly successful Energy Efficiency Commitment, now in its second phase has delivered energy saving measures into more than ten million households complemented by the advice, information and awareness-raising activities of the Energy Saving Trust. In the business sector, the EU Emissions Trading Scheme, Climate Change Levy and the associated Climate Change Agreements are all driving investment in energy efficiency and low carbon technologies supported by advice, information and financial assistance from the Carbon Trust.

**5. Greater use of local energy could, prospectively, increase the security of the UK’s energy supplies by drawing on a more diversified range of fuel sources, many of which are renewable. It will still, however, require the presence of backup capacity when local supply fails to meet local demand, and for the time being, this is likely to use fossil fuels. In the future more active network management of the UK’s energy systems will be necessary to balance supply and demand and ensure that both small and large-scale generating assets are able to operate cost-effectively. (Paragraph 27)**

We agree that greater use of local energy would reduce reliance on fossil fuels (leading to reduced demand for imports) by taking advantage of a diverse range of fuel sources, many of which are renewable.

Locally connected generation contributes to meeting local demand and replacing transmission/distribution capacity during times of network stress. However, for this to happen, Distribution Network Operators (DNOs) will be required to actively manage their distribution systems, coordinating network and generation sources. This would require DNOs to take up a “system operator” role for their networks, managing local generation from a security point of view and also providing services to the transmission system.

The management of the national electricity transmission network to ensure a continual balance between supply and demand is a complex and resource-intensive challenge. But a recent study carried out by Econnect for the Government of the network reinforcement costs for increasing DG penetration found that almost 20% penetration of microgeneration could be accommodated without network reinforcement.<sup>3</sup>

**6. Local energy presents additional economic benefits in terms of tackling fuel poverty and reducing network costs. The extent to which those in fuel poverty can capture these benefits is uncertain, though, because of the current high capital costs of local energy systems. Also, estimates of the total savings on network investment and operating costs are small, and do not of themselves provide a rationale for encouraging local energy. (Paragraph 31)**

We agree that it is important any benefits of distributed energy systems are passed on to all consumers. Although the capital costs of distributed energy systems are, in the majority of cases, higher than making use of existing networks, the lower running costs of some technologies meant that there are potential advantages for the fuel poor. The Committee is correct in stating that the overall impact of low energy systems on fuel poverty is uncertain. However, through the work of DTT’s Design and Demonstration Unit we are piloting solutions to deprived communities off the gas network. In addition, trials of microgeneration technologies are now being taken forward in each of the fuel poverty schemes across the UK. This work will help to determine the role of these technologies in tackling fuel poverty.

We also agree that, whilst increased levels of distributed energy will lead to some savings due to the need for less reinforcement of the existing transmission system and therefore less future investment, these savings do not of themselves provide a rationale for encouraging distributed energy. Distributed energy is desirable for other reasons such as reducing carbon emissions and improving the security of our energy supplies through a reduced reliance on imported fossil fuels.

**7. Local energy systems, such as CHP, wind and solar photovoltaics, are only suited to certain locations or consumption patterns. In addition, most local energy technologies are not yet cost-effective, reducing the potential for dramatic take-up in the near future. For community-CHP projects, assessments of the potential vary. Though a large number of urban dwellings would suit this technology, cost-effective implementation is likely to be limited to developments of new build. However, the UK’s potential resource of local energy is large. If costs fall, and/or prices of energy from other sources rise, and certain government interventions are put in place, local energy could contribute a sizeable proportion of the UK’s energy mix in the long run. One estimate, looking**

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3 [www.dti.gov.uk/files/file31648.pdf](http://www.dti.gov.uk/files/file31648.pdf)

specifically at household installations, puts this in the range of 30 to 40% of our electricity needs by 2050. Local energy is a developing concept with real potential, but it cannot make a significant contribution in the next decade in closing the capacity gap created by the closure of coal-fired and nuclear power stations—local energy is not a panacea that will “keep the lights on”. (Paragraph 40)

We agree that distributed energy could make a significant contribution to the UK energy mix, particularly in light of the policy initiatives taken to promote distributed energy in the Microgeneration Strategy, the package of measures published by Communities and Local Government Department in December 2006 (the Code for Sustainable Homes, the consultation on the aim of requiring all new build homes to be zero carbon from 2016 and the draft Planning Policy Statement on Planning and Climate Change) and the forthcoming Energy White Paper. However, with only 1-2% of energy needs currently met through distributed energy, we have a long way to go before these technologies are capable of replacing major power stations. This is why the Energy Review Report examined the many different policies required to meet our major long term energy challenges of tackling climate change and delivering secure, clean energy at affordable prices.

### **Barriers to take-up: Planning and Regulatory**

**8. The requirement of planning permission is a significant deterrent to households wishing to install local energy systems to the exterior of their properties. We welcome the Government’s commitment to grant household local energy installations ‘permitted development’ status and hope there will be no significant delay in agreeing a sensible implementation of the proposal once the consultation is complete. (Paragraph 44)**

We are committed to encouraging the take-up of householder microgeneration. Communities and Local Government Department will be consulting in the near future on proposals to extend what can be installed without the need to apply for permission from the local planning authority. The aim will be to deliver a generally permissive system, subject to certain restraints (for example, on size and siting) to limit any adverse impact on others. Following the standard three month public consultation, and taking into account the responses received, it remains our aim to commence these new powers as soon as possible.

**9. Conflicting incentives to encourage local energy indicate that there is further work for the regulator in ensuring that households receive equitable treatment within the regulatory framework. Ofgem has committed itself to considering these issues as part of the next distribution price control review to apply from 2010. The importance of this issue will increase, however, as more households seek to export electricity to the grid. (Paragraph 47)**

Working together with Ofgem, we have done much over the last five years to improve arrangements for generators that are connected to the distribution network, including microgenerators as well as other small and medium-sized generators. Both ourselves and Ofgem want to ensure that transparent, coordinated arrangements are in place to ensure that all generators, including microgenerators, can connect as easily as possible and that any benefits to network operators are maximised and shared with the generator concerned.

Currently, the smallest microgenerators do not need permission from a Distributed Network Operator (DNO) to connect to the distribution network—they can simply connect and then inform the DNO that they have done so. This approach applies up to a total generation capacity of around 4kW (micro-wind turbines and micro-combined heat and power (CHP) units are typically 1kW devices). Generators that exceed this capacity limit, however, need to go through a more onerous process and several responses to the recent DTI/Ofgem “Call for Evidence on Distributed Generation” suggest that DNOs do not always focus on ensuring the connection process is as quick or easy as customers would like. Further details on measures in this area will be in the forthcoming Energy White Paper.

### **Barriers to take-up: Receiving full value for energy produced**

**10. If the Government is serious about expanding the level of local energy capacity in the UK it must provide consumers with confidence that distribution companies will purchase exported electricity at a reasonable price. We recommend that the Government itself by 1 August 2007 put forward options for consultation. Thereafter, if commercial suppliers fail to put forward an acceptable, household-friendly proposal for rewarding exports in 2007 the Government and Ofgem should use their powers under the Climate Change and Sustainable Energy Act 2006 to enforce an appropriate scheme post haste. We acknowledge the regulator’s preference for a market-based approach to pricing, and the need to keep low transaction costs for commercial suppliers and consumers. However, depending on its level, a feed-in tariff could be used to encourage the development of local energy. (Paragraph 51)**

We recognise the importance to microgenerators of receiving reward for their exported electricity. The Climate Change and Sustainable Energy Act (2006) will give the Government power to act for two years from 21st August 2007. The Government is pleased that, since the granting of this power, more suppliers are making offers to purchase exported electricity, and we support the work of the industry in trying to make these offers more accessible. However, we also recognise that many suppliers make an offer that is uneconomic for them due to the high administration costs associated with processing this electricity. This will not be sustainable in the long term, as the market grows. We therefore strongly encourage industry to make the necessary changes to their own systems to reduce these overheads to create more sustainable offers. As announced in Budget 07, the Government has written to OFGEM asking them to examine how homes that generate more electricity than they consume can benefit more from exporting that electricity to the network.

International comparisons suggest feed-in tariffs have proved to be an effective mechanism for bringing on emerging technologies and can also prove to be cost-effective as support levels are closely tailored to the needs of specific technologies. The fixed price nature of the support also makes financing of projects easier.

However, introducing feed-in tariffs in the UK could be difficult as there is no existing legislative or administrative structure on which to build, new costs on consumers or taxpayers would be involved, and both HMT and Ofgem are opposed in principle to fixed price support schemes. The more technologies a feed-in tariff scheme would apply to, the

costlier and more difficult it could be to implement. There is thus a case for restricting any new feed-in tariff approach to those technologies furthest from market, such as marine.

We will be considering a wide range of options as part of our ongoing work to assess the best measures for promoting microgeneration.

**11. To date, it has been difficult for households to be rewarded for the carbon dioxide value of installing local energy systems. Although individuals who fit renewable micro-electricity systems, such as wind turbines, are eligible under the Renewables Obligation to receive a reward for the carbon dioxide savings their generation brings about, the transaction costs of doing so exceed the potential benefit. We welcome changes to the Obligation that will make it easier for households to receive the full value of this reward. We note, however, that the carbon dioxide savings brought about via other forms of local energy, for example non-renewable CHP or micro-heat, are not valued in the same way. We recommend the Government brings forward proposals to amend this anomaly. (Paragraph 58)**

We recognise that there is currently a discrepancy between the rewards available for electricity producing microgenerators and those producing heat or making use of non-renewable Combined Heat and Power (CHP) systems.

There are already some benefits for natural gas CHP. Small CHP plants benefit from exemptions from the EU Emissions Trading Scheme (this is a limited benefit as only plants over 20MW are involved in the scheme) and the Climate Change Levy, and are also eligible for Enhanced Capital Allowances for plant and machinery. Like other microgeneration technologies, installations of gas-fuelled microCHP benefit from a reduced VAT rate of 5%.

The forthcoming Biomass Strategy will set out our plans for promoting the use of biomass-fuelled technologies. We are also considering the case for longer-term support for renewable heat, with ongoing work to analyse the economic and social costs of the carbon saved for the different renewable heat technologies deployed across the user sectors.

### **Barriers to take-up: Metering**

**12. If households wish to receive payment for their electricity exports and earn Renewables Obligation Certificates, they must have a meter installed that provides both import and export information. The replacement of meters for households installing local energy systems provides the opportunity for them to install more innovative meters, which also have the potential to promote domestic energy efficiency measures. This could present a possible win-win situation for households fitting local energy systems. Commercial energy suppliers would also benefit from the installation of smart meters in customers' homes, and Ofgem is committed to a market-based approach to their take-up, led by these companies. The UK has no national roll-out of smart metering, unlike other countries, such as Italy. Therefore, whilst encouraging commercial suppliers to offer a choice of innovative metering packages to their customers may be the most cost-effective way to promote usage, this approach will not necessarily lead to a rapid adoption, which is desirable in order to cut carbon dioxide emissions. Hence, we recommend that the Government set a deadline of 1 July 2008 for**

**agreement with the industry on standards and interoperability, in default of which the Government should legislate. (Paragraph 63)**

In November 2006, the Government issued a consultation paper on billing and metering, including smart metering. The Government will set out its policy on metering and billing in the forthcoming Energy White Paper. In the meantime, gas and electricity suppliers, under the aegis of Ofgem, are making good progress in addressing the question of interoperability of smart meters.

We announced in Budget 2006, a fund of £9.75 million to co-finance with energy suppliers a pilot study which will test a range of interventions (including smart metering), to identify which approach offers the best method to encourage domestic energy consumers to become more energy efficient and reduce, on an enduring basis, their energy consumption.

**Barriers to take-up: Lack of incentives for commercial energy suppliers**

**13. Many of the practical barriers faced by households could be overcome if commercial energy suppliers were to offer local energy systems as part of a package of energy services to their customers that also included energy efficiency measures. We support the moves made to encourage suppliers to offer such services. However, because energy efficiency measures are currently a more cost-effective means of reducing demand and, therefore, carbon dioxide emissions, local energy is unlikely to form a significant part of these services in the near future if they evolve within the framework of the Energy Efficiency Commitment. In the short term, however, changes in such areas as the “28 day rule” and administrative arrangements for the Renewables Obligation could encourage commercial suppliers to offer services specifically for those households wishing to install local energy systems. (Paragraph 66)**

We agree that it would be beneficial for commercial energy suppliers to have a more active involvement in the supply of distributed energy systems.

We have recently consulted on changes to the Renewables Obligation (RO) which would allow agents to act on behalf of small generators in all aspects of the RO process, including claiming and receiving Renewable Obligation Certificates (ROCs). Where agents are acting on behalf of two or more small generators they will be required to amalgamate the data from these generators. These changes have the potential to reduce the administrative burden experienced by some small generators under the current rules. It would also mean that ROCs would be issued direct to agents and so arrangements for trading ROCs would pass to the agent rather than lying with the generator. Allowing agents to amalgamate output will allow small generators, who may not otherwise be generating enough to claim ROCs, to combine their output with that of others and so access the financial benefits of the RO. We expect these changes, subject to Parliamentary approval, to come into force from 1 April 2007. These changes, along with other administrative changes for small generators, such as a simplified accreditation form, will provide suppliers with more flexibility to provide agents services to small generators, including households, wishing to access the benefits of the RO.

An additional change to the RO, which whilst affecting generators of all sizes will be of particular benefit to householders, is the removal of the requirement for sale and buyback agreements. Under current rules in order for ROCs to be issued to generators for any electricity that they generate and then consume they have to enter what is known as a sale and buyback agreement. From the 1 April 2007, subject to Parliamentary Approval, this requirement will be removed. As householders tend to generate primarily for the purposes of consuming this electricity the removal of the need for sale and buyback agreements will be of significant benefit to this group of generators and will remove a further administrative barrier which small generators currently experience when trying to benefit from the RO.

Ofgem, in its review of the standard licence conditions in July 2006, announced that it was minded to remove the '28-day' rule from supplier licences. A decision on the changes to licences is expected in late May 2007.

Recently commenced provisions of the Climate Change and Sustainable Energy Act 2006 allow the inclusion in the Energy Efficiency Commitment 2008-11 (EEC3) of microgeneration measures. The Government's statutory consultation on EEC3 is planned for May 2007.

## Barriers to take-up: Lack of information

**14. Awareness of the potential of local energy as a viable form of low-carbon energy is currently confined to a niche market. As the market grows, commercial motives will drive higher levels of information provision, but if rapid uptake is considered desirable, the Government will have to play its part in promoting the sector amongst the wider population, targeting initially those groups that are most likely to be able to afford and adopt the technology. (Paragraph 71)**

The Microgeneration Strategy recognises the importance of communications and information provision. Inadequate promotion and poor information about microgeneration, reduces the incentive for consumers to purchase these products. Even where there is willingness to invest in an installation, prospective buyers find it difficult to find independent sources of information about the suitability and quality of products. Whilst there are some excellent examples of advice provision and guidance on offer, the vast majority of respondents to the consultation exercise preceding the Microgeneration Strategy indicated a lack of clarity and co-ordination that needed to be addressed. We are committed to undertaking a thorough review of activity in this area to assess the effectiveness of existing arrangements and identify gaps. We will then assess the feasibility of a communications/information campaign that addresses any needs not currently being met.

At a wider level, the same constraints exist in relation to larger distributed energy schemes with interested communities, local authorities and commercial entities struggling to find the information that would facilitate investment in some form of distributed energy. Any actions undertaken in this area in relation to microgeneration products will, therefore, incorporate distributed energy.

**15. For households to make the right choice of local energy system for their home, and gain the full benefit of investing in new technology, they need to have reliable and impartial advice. We support the Energy Saving Trust's move to establish a Sustainable Energy Network to advise households on all aspects of their energy use. If the pilot advice centres prove a success, we recommend that the Government ensures a national roll-out of this service by 31 December 2009. (Paragraph 76)**

We firmly wish to encourage a holistic approach to carbon saving in the household sector and have already provided funding of around £10 million for the development of the three pilot Sustainable Energy Centres run by the Energy Saving Trust. Evaluation results from the first year of the pilots are encouraging. We will continue to work with the Energy Saving Trust and other key stakeholders to develop tailored and interactive approaches to advising consumers.

**16. We support the use of a self-regulatory approach by the Renewable Energy Association in developing a Consumer Code, as well as the work of the Buildings Research Establishment on installer accreditation and product certification, and recognise their importance in engendering confidence amongst consumers entering the sector for the first time. We recommend that the Government's new accreditation scheme, with its Consumer Code, be in place by 1 July 2008. (Paragraph 79)**

A UKAS (United Kingdom Accreditation Services) accredited certification scheme covering products, installers and manufacturers will provide consumers with an independent indication of reliability of products, assurance that the installation will be carried out to an appropriate standard and a route for complaints should something go wrong. The scheme being developed by the Buildings Research Establishment on behalf of the Government aims to achieve all of this. Although it is being supported initially by Government funds, the objective is that the scheme will move to a position where it is self-financing and regulated by industry. The scheme will be launched at the end of April 07. It will take 6 to 12 months to assess those companies wishing to join the scheme against the new requirements and standards. During the transition period we will continue to maintain the existing list of certified products and installers.

## **Costs for consumers**

**17. Most local energy technologies are currently too expensive to have mass market appeal compared to other means of supplying domestic energy needs. Calculation of the payback periods on these technologies is fraught with difficulty and likely to give misleading figures. We are concerned, however, that the published Government figures, particularly for solar water heating panels, are far more pessimistic than any other estimates quoted to us. (Paragraph 83)**

We agree that most microgeneration technologies currently have an upfront cost that can be off-putting for the domestic user in comparison to more usual means of securing heat or electricity supplies. We also agree that calculating payback is very difficult given the number of variables involved. These variables do change over time.

The figures referred to in the Committee's report are taken from the consultation document preceding the Microgeneration Strategy (which is referred to in paragraph 82).

Subsequent to publishing this consultation document we commissioned the Energy Saving Trust to undertake a study into the costs and benefits of microgeneration technologies and how they might change over time.<sup>4</sup> And we are in the process of commissioning further work, in partnership with the industry, to further examine the impacts of various policies on the uptake of microgeneration products. We are fully aware of the need to ensure that the numbers being used to inform policy are as accurate as possible and one of the aims of this latest piece of research is to update the previous figures.

**18. The expansion of the local energy industry is the key to reducing costs. The Government has in place a popular capital grants scheme, which is in danger of running out of funds before it is due to close in summer 2008. The Government should continue to monitor take-up of the scheme with a view to either rationing funds, or increasing the available monies for the household stream. A stop-start approach to funding could be damaging to the sector's growth. (Paragraph 89)**

Phase 1 of the Low Carbon Buildings Programme was launched in May 2006 with £30m of funding. This demonstration scheme was intended to support installations by householders, communities, public and private sector. We originally allocated £6.5m to fund household installations of microgeneration technologies; in light of the significant demand for grants from individuals we re-allocated funding within the scheme to raise the level of funding to £12.7m. In Budget 07, the Chancellor announced that a further £6m would be made available for household installations to ensure that the scheme can continue until mid-2008. In light of the additional funding we will be re-structuring the householder grant stream.

**19. The Government should also conduct a comprehensive review of the way in which local energy is treated within the fiscal system, both at a national and local authority level, with a view to rewarding investment by households, businesses and large-scale generators in low-carbon energy. (Paragraph 89)**

The Government has introduced a range of measures in support of local energy and these have been targeted where they can provide the best support. The Committee noted support for businesses in the form of enhanced capital allowances, but the Government has also introduced incentives for households through the availability of a reduced rate of VAT (5%) for the installation of microgeneration technologies in residential properties. Both measures address the cost barrier for the purchase, thus stimulating demand in the market. The 2006 Pre Budget Report announced the Government's ambition for all new homes to be zero carbon by 2016 with a stamp duty exemption for the vast majority of zero carbon homes. Budget 2007 announced that all new homes meeting the zero carbon standard costing up to £500,000 will pay no stamp duty, and zero carbon homes costing in excess of £500,000 will receive a reduction in their stamp duty bill of £15,000. The exemption will be time limited for 5 years, but the Government will review the effectiveness of the measure and consider the case for an extension.

The Pre Budget Report also announced that Finance Bill 2007 would include legislation to ensure that individual householders installing microgeneration products are not subject to income tax on any payment for surplus electricity exported back to the electricity network.

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4 [www.dti.gov.uk/energy/sources/microgeneration](http://www.dti.gov.uk/energy/sources/microgeneration)

Budget 2007 announced that, for those same individuals, any Renewables Obligation Certificates acquired in respect of electricity generated from microgeneration technologies installed on their property will not give rise to an income tax or capital gains charge.

These measures will also increase demand for microgeneration and promote interest in these technologies.

The Government welcomes the innovative ways in which suppliers have been delivering the Energy Efficiency Commitment to improve household energy efficiency, for example working in partnership with local authorities to provide incentives through the council tax. The council tax system is currently being reviewed by Michael Lyons and the Government will await consideration of his recommendations before commenting further on council tax incentives.

The Government notes the Committee's recommendation for a comprehensive review of the way in which local energy is treated within the fiscal system. All taxes are kept under review and the Government continues to look for ways of supporting low-carbon technologies.

**20. However, the Government's efforts to encourage households to invest in reducing their carbon dioxide emissions could be undermined by the law of unintended consequences: if improving energy efficiency raises property values, then households may be subject to higher council tax. As a result, we recommend that any increases in property value due to energy efficiency measures, or local energy installations, should not be considered for purposes of re-assessing homes for council tax. (Paragraph 89)**

Already, under the existing council tax system, changes or improvements to a property which increase its value cannot result in a higher council tax band until the property is sold or any future general revaluation of properties takes place. Even then, because of the banding system, only an improvement that significantly increases the value of the property is likely to push it into a higher band.

The Government will carefully consider any possible changes to council tax once Sir Michael Lyons' independent inquiry into the current and emerging strategic role of local government and in the light of that, how it should be funded, has published its final report around the time of the Budget.

## **The role of local authorities**

**21. The London Borough of Merton has set a clear example of how local government can show leadership in promoting the use of local energy in new developments. However, many authorities have failed to follow its lead. The Government should increase pressure on those councils to implement targets for on-site renewables in new developments, with a view to all local authorities having such targets in place by 31 December 2009. This would create consistency for developers and councils across the country. Progress in this area is crucial if local government is to demonstrate its capability to respond to any future policy instruments for tackling the causes of climate change, such as new planning guidance. (Paragraph 96)**

Planning policy on renewables is set out in Planning Policy Statement 22 (PPS 22) Renewable Energy, published in 2004. Paragraph 8 allows planning authorities to include policies in their plans which require a percentage of the energy to be used in new residential, commercial or industrial developments to come from on-site renewable energy sources. Yvette Cooper, Minister for Housing and Planning, in a Written Ministerial Statement in June 2006, building on PPS 22, made it clear that ‘Ministers expect all local authorities to include policies in their development plans to require a percentage of energy in new developments to come from on-site renewable sources where viable’.

The statement confirmed that in the plans scrutinised to-date there had been a strong take-up of the policy in PPS 22 to secure the use of on-site renewables in new developments. Subsequently the Town and Country Planning Association published their own survey highlighting ‘an impressive surge in on-site renewable energy policies’. This suggested that more than 170 local authorities were ‘working up policies to require developers to generate clean, safe energy on-site in new developments’.

The draft Planning Policy Statement on climate change, Planning and Climate Change (published for consultation by Communities and Local Government on 13 December 2006 alongside Building a Greener Future) sets out a clear and challenging role for regional and local spatial strategies on energy—they are expected to help shape the framework for energy supply in their area.

**22. The experience of Woking demonstrates the importance of leadership at a local level, with individuals having an ambitious vision of how they can directly contribute to reducing their communities’ carbon dioxide emissions. Other local authorities should seek to learn from Woking’s example in developing and implementing their own strategies for tackling the causes of climate change. (Paragraph 99)**

**23. The high level of energy consumption in London makes it an important leader in spearheading the greater use of local energy systems in urban areas. The London Climate Change Agency looks set to play a major role in exploiting this potential. We believe the UK’s other large cities should seek to adopt similar strategies for tackling the causes of climate change, learning lessons from current experience in London, while also working to develop their own innovative approaches to reducing carbon dioxide emissions. (Paragraph 103)**

The Government has recognised that local government has a role to tackle climate change, not just in the way they run their own estates and services, but as leaders of their communities. We also recognise that many local authorities are already at the forefront of taking action to mitigate and adapt to climate change. This is why the Government has made a commitment to ensuring that the new performance framework will have an appropriate focus on climate change, with the Comprehensive Spending Review making decisions on national outcomes, indicators and any national targets. The new performance framework for local government will provide a stronger mechanism for ensuring that those priorities are translated into effective action, ensuring that all local authorities move towards the levels of the best.

The Government is also working closely with the English Core Cities (Birmingham, Liverpool, Leeds, Manchester, Sheffield, Bristol, Nottingham and Newcastle) and the

Regional Development Agencies to explore the potential for establishing Energy Service Companies (ESCOs), similar to those pioneered in Woking and London. We agree that substantial progress has been made by London in tackling climate change and believe that the new statutory Duty for the Mayor of London and Assembly to tackle Climate Change, combined with the requirement for the Mayor to produce strategies on climate change mitigation and energy and adaptation to climate change, will enhance the ability of the GLA to tackle climate change. We also believe that other major UK cities will learn and draw inspiration from strategies that the Mayor develops, but recognise that the differing circumstances of English cities may in some instances require different policies to those of London.

Sharing of good practice in addressing climate change has been promoted through a number of means including the Beacon Council Scheme, the Nottingham Declaration on Climate Change and action undertaken by the Carbon Trust.

Seven local authorities (Cornwall County Council, High Peak Borough Council, Leicester City Council, London Borough of Lewisham, Nottinghamshire County Council; Shropshire County Council and Woking Borough Council) were funded under Round 6 of the Beacon Council Scheme theme of sustainable energy. The Beacon Scheme identifies and promotes excellence and innovation amongst local authorities which can then assist others to achieve high standards across the full range of services. The Sustainable Energy Beacons: Leading the way to a low carbon future will deliver a benchmark and Toolkit for action on climate change and sustainable energy. All local authorities will be able to measure their practices against it. It will include a range of self-assessment activities, ideas for improving performance and mentoring opportunities.

A Tackling Climate Change theme has been chosen for Round 9 of the Beacon Scheme which will facilitate the sharing of good practice between local authorities in addressing climate change. This will include demonstrating leadership by example by reducing carbon emissions and developing an adaptation strategy for their own operations. Beacons will also lead the way in their membership of key local partnerships, such as Local Strategic Partnerships, in ensuring that statutory and non-statutory partners also take responsibility for climate change by managing their own carbon footprint and emissions.

The Nottingham Declaration, formed by Nottingham City Council in 2000 and supported by the Government, commits signatories to develop plans with partner organisations and local communities to address the causes and impacts of climate change. Over 200 local authorities have signed so far. The Nottingham Declaration requires local authorities to develop climate change plans which enables them to compare their approaches to tackling climate change and therefore to exchange good practice. Signatories are also committed to participate in regional as well as local networks which promotes the spreading of good practice. An Action Pack has recently been published which is designed to support local authorities throughout the stages from starting to address the challenges of climate change through to reviewing implemented plans.

The Carbon Trust also helps local authorities to learn from each other, in particular through its Local Authority Carbon Management Programme. This programme provides local authorities with technical and change management support and guidance to help them realise carbon emissions savings. Participating local authorities, like Aberdeen City

Council and Bristol City Council, have developed action plans and strategies from which they can inform and inspire other local authorities.

## Community Heating

**24. There is some scope for reducing carbon dioxide emissions by encouraging greater use of community-based combined heat and power (CHP). However, while the current schemes to support such systems require a pro-active approach by communities to take advantage of them, a lack of awareness and co-ordination prevents many from doing so. Also, the reward for producing low-carbon heat is much less than that for low-carbon electricity. We accept the potential difficulties of implementing a Renewable Heat Obligation. Nevertheless, we recommend that the Government should look at other ways in which it can provide incentives for local areas to move towards community-based low-carbon heating, where it is appropriate for them to do so. Current policy places too much emphasis on the role of local electricity generation and not enough on the production of heat. Renewable, low-carbon heat production is the Cinderella of energy policy and this attitude must change. (Paragraph 109)**

Renewable heat technologies have received significant support through a range of capital grants programmes (such as the Bioenergy Capital Grants Scheme, the Clear Skies Initiative and the Low Carbon Buildings Programme) and measures such as Enhanced Capital Allowances and reduced VAT for a range of renewable heat installations. We have also committed to further funding through the 5-year Biomass Heat/CHP programme which opened for applications in December 2006.

We recognise that this is a different approach to renewable electricity and transport, with their respective obligation mechanisms and we are currently undertaking work to consider the best way to support the deployment of renewables in this complex and fragmented market and whether there are any measures which could work both practically and cost effectively.

## Developing manufacturing and skills capacity

**25. The UK's local energy industry is small and focused primarily on installation, with manufacturing occurring mainly abroad. As a result of Government grant schemes, there has been significant growth in recent years, albeit from a very low base, and there are now signs that larger energy companies are beginning to take an interest in the sector. (Paragraph 113)**

A study carried out by the Energy Saving Trust on behalf of the DTI in the latter part of 2005 suggested that there were 275 installers with an annual turnover of £17 million. Since then we have seen evidence of larger companies, such as Worcester Bosch and B&Q entering into the industry, as well as most of the energy suppliers. These companies will hopefully be able to push microgeneration technologies towards the mainstream through use of their skills in mass marketing and their experience in developing markets for new products.

We will continue to work with the Sector Skills Councils and key industry representatives to explore what more can be done to ensure that the skills base develops to support the levels of demand that will hopefully be created for microgeneration technologies.

**26. Growth in the local energy industry is likely to be gradual enough for the sector to be able to respond to increased skills needs. The Government's accreditation scheme will help ensure consumers' confidence provided they are aware of it. It is then incumbent on the sector to regulate itself to ensure all its installers are trained and accredited. We recommend that the Government's role should be focused on wider workforce concerns, such as tackling the perceived stigma attached to vocational skills and qualifications. (Paragraph 124)**

We said in the 14-19 Education and Skills White Paper that our vision is for a high quality learning route that provides access to skilled employment and higher education. We need to do this so that we meet the skills needs of the economy well into the future. We won't meet these needs unless we engage all our young people and encourage them to aspire to higher levels of achievement, whatever their starting point. We believe that Diplomas will enable us to do this.

Diplomas will provide an exciting, aspirational and stretching programme of learning for all young people, appealing to the most capable students preparing for the most demanding university courses, students planning to enter the workforce directly at 18 and those who are currently not well engaged with current school based provision.

The Diplomas will provide a real alternative to traditional learning styles through an imaginative, high quality blend of general education and applied learning. This will give young people the kind of education which will enable them to thrive in a constantly changing global economy. Young people will get first hand experience and insight into the world of work and a broad based understanding of one or more areas of employment and be better able to make informed career choices.

### **Further action by central Government**

**27. Key to the uptake of local energy systems in the long-term will be reductions in their cost so as to secure a mass market. Achieving this requires the Government to demonstrate credible support for the sector to give the industry sufficient confidence to invest in scaling up its activities. Recent policy developments, such as the Microgeneration Strategy and the Climate Change and Sustainable Energy Act 2006, have gone some way to achieving this. However, the small number of staff responsible for policy implementation in this area at the DTI, and the lack of clarity as to the future of capital grant support beyond 2008, suggest to us there is more to do if the Department intends to fulfil its commitment to support the sector "aggressively". A national target could help achieve this, but should only be used if there is a clear justification for its role in making the industry cost-effective, and if it is underpinned by incentives for its achievement. (Paragraph 121)**

There has been much discussion over the need for the Government to set a microgeneration target and the positive impact this could have, not least in terms of a clear demonstration of our ambition for microgeneration.

Under the Climate Change and Sustainable Energy Act we have a requirement to take a decision on whether to set a target by November 2008, with the actual target to be set by March 2009. We would need to consider whether the setting of such a target was consistent with our overall energy policy goals, and our overall targets on carbon dioxide reductions and renewables.

Before we can take a decision on a target we need a clearer idea of the real potential of microgeneration products, the impacts our policies have on the development of a market and better knowledge of consumer attitudes towards microgeneration (including what drives them to make an investment in a microgeneration installation). To help us in this assessment we are commissioning a significant piece of research, in conjunction with key industry stakeholders, which should report by the end of this year.

**28. Government procurement is potentially a powerful lever for implementing its energy policy and can demonstrate its commitment to tackling the causes of climate change. We recommend that, as a first step, procurement policy should seek to maximise energy efficiency opportunities. But where appropriate and cost-effective, it should additionally aim to incorporate local energy systems in its infrastructure investment programmes. Public buildings and schools, for example, provide an ideal setting in which to showcase local energy technologies, demonstrate public sector leadership, and help engender greater awareness of the need to reduce carbon dioxide emissions. (Paragraph 128)**

The UK Government Sustainable Procurement Action Plan was published on 5 March 2007. The Action Plan meets the challenge (set by the Sustainable Procurement Task Force) to 'use Government's immense buying power' (some £150 billion) to make rapid progress towards its sustainable development objectives. It sets out how we will achieve a low carbon, more resource efficient public sector by taking action through policies, performance frameworks and procurement practice. In England, local government procurement accounts for around £40 billion (of the £150 billion) per year. Communities and Local Government Department have established a 'Local Government Group' to consider the measures to be taken at a regional and local level.

The Action Plan provides the foundations required for the successful delivery of the Government's Energy Review commitments on government procurement, and focuses Departments on delivery of the mandatory Sustainable Operations targets for the Government Estate. These targets set standards for Departments to (amongst other things) increase their energy efficiency per m<sup>2</sup> by 30% by 2020 relative to 1999/2000 levels, to have a carbon neutral central Government office estate by 2012, to apply the Building Research Establishment's Environmental Assessment Method (BREEAM) excellent standards, or equivalent, to all new builds and major refurbishment. Government procurement will be instrumental in achieving them.

Building on this, the Government will consider how to drive broad-based engagement on the built environment with key stakeholders, and develop a more coherent and ambitious set of sustainability goals and standards for the wider public sector.

The Government will also publish, in June 2007, an Energy Efficiency Action Plan, which will describe how it will meet the national indicative energy savings target of 9% by 2017

required by the Energy End-Use and Energy Services Directive. It will also set out how the Government intends to meet the requirements of ensuring the public sector plays an exemplary role in improving energy efficiency. In fulfilling its role the Government will publish guidelines on energy efficiency and energy savings as possible assessment criteria in public sector procurement.

In developing standards for products and services Government will review with stakeholders the range and level of standards every two years. It will also publicly consult on mandatory standards for a range of products and services during 2007 with a view to driving up standards where necessary to achieve our policy priorities. Government will also identify stretching forward looking standards to provide longer term signals to business and to encourage innovation.

The Government also provides capital grants through the Low Carbon Buildings Programme for public sector bodies wishing to install microgeneration technologies.

**29. The Code for Sustainable Homes provides a welcome demonstration of the Government's intentions for future Building Regulations. Standards under the Code should promote greater energy efficiency for all new homes built with public money. Further tightening of the Code in the future should also provide a lever for greater use of local energy installations in new build. We recommend that if costs for local energy technologies fall significantly, relative to energy efficiency measures, or relative to the cost of energy from other sources, the Government should then establish a framework for the incorporation of local energy into future Building Regulations, and that any such framework must place more emphasis on the role of local heat production than has been the case so far. (Paragraph 133)**

We welcome the Committee's recognition that the Code provides a welcome demonstration of our intentions for future Building Regulations. The requirement for all new homes built with Housing Corporation funding to reach level 3 of the Code, together with those developed by English Partnerships and with the direct funding support of the Department for Communities and Local Government, will promote significantly greater energy efficiency, as will other initiatives such as the Carbon Challenge.

The Building Regulations as amended in April 2006 already include some encouragement to adopt low and zero carbon energy supply systems in buildings without being prescriptive, for example through highlighting in the Approved Documents the role that community level low and zero carbon energy supply systems can play. And the Government has signalled the intention of substantially increasing standards, consulting on a timeline to zero carbon new homes by 2016, levels indicated by the Code for Sustainable Homes.

As they become more cost-effective local energy technologies will naturally become more attractive to builders seeking to achieve tighter overall building carbon dioxide targets. We believe it will be better not to prescribe particular technologies or ways of constructing buildings as this could distort innovation. Nevertheless we will keep our approach to encouraging these technologies under review.

## Adapting the electricity networks

**30. The distribution networks have been designed as passive systems, taking electricity from the transmission network and supplying it to customers. Local energy technologies go against this traditional approach because they have the potential to export electricity back into the system. Yet, even for significant levels of market penetration, the evidence suggests there are no technical barriers, with regard to the distribution networks, to the expansion of local energy capacity. However, to accommodate such a change in the energy mix, network operators must invest in new technology to develop more active network management. This will require a significant change in approach in how the distribution networks operate, but the expected incremental growth in any local energy capacity should give time to respond effectively. (Paragraph 143)**

The capital and operational expenditure of distribution network operators (DNOs), which are natural monopolies, is agreed on a five yearly basis with Ofgem. These are known as price controls and the current one runs until 31 March 2010. It is these price controls which will need to take account of the evolving nature of the GB energy sector. As local energy provision develops, including more two way flows, we would expect the businesses that own and operate the networks to take into account these changes when planning for the future. They would then need to include any required investment in future price controls. Network businesses have a licence condition to run safe and efficient networks, and Ofgem has to allow them the revenues to finance their licence conditions.

Ofgem has been working with the DNOs to ensure that their charging methodologies provide for cost reflective charging for parties connecting to the distribution system. DNOs are reviewing their charging models and the expectation is that new models will provide for negative use of system charges for generators in many parts of the system. The Innovation Funding Incentive (IFI) and Registered Power Zone (RPZ) schemes were introduced by Ofgem as part of the fourth electricity distribution price control review (DPCR4).

IFI is a mechanism to encourage DNOs to invest in appropriate research and development activities that focus on the technical aspects of network design, operation and maintenance. The principal objective is to deliver benefits to consumers, taking a longer term view, by enhancing efficiency in network operating costs and capital expenditure.

RPZ is a mechanism to encourage DNOs to develop and demonstrate, on their networks, innovative and cost effective ways of connecting and operating generation. The aim is to deliver specific benefits to new distributed generators and broader benefits to consumers generally.

In an open letter on 14 February 2007, Ofgem published its decision to extend the IFI to the end of the next price review period (likely to be 2015) and extending eligibility for RPZs to generation connected in the next 5 years.

**31. The UK will still require a transmission network even if there is very large growth in the level of local energy capacity. This is because local energy supply is rarely likely to match exactly local demand. Hence there will be a continued need for a transmission network that can balance electricity flows across regions and maintain security of**

**supply. The capacity needs of the network will depend on the sources of electricity, although some research suggests local energy can make a small contribution to reducing the cost of maintaining and operating the network. (Paragraph 147)**

Both Government and Ofgem recognise the continued importance of maintaining an economic and efficient GB transmission system, and the need to provide appropriate funding and flexible mechanisms to maintain robust systems and to accommodate alternative demand and generation patterns in the future. The transmission price control for 2007–2012 has provided considerable allowances for capital investment for the electricity and gas transmission licensees.

As part of the transmission price control, Ofgem has introduced mechanisms which automatically adjust the revenue allowances of the companies, either up or down in response to changes in the demand for capacity. This provides closer alignment between revenue allowances and the investment required to meet changing needs for capacity.

In addition, Ofgem has introduced an innovation funding incentive for the transmission licensees in electricity and gas, which already exists in electricity distribution, to provide funding for innovative schemes to address future challenges in the energy market. Ofgem has recently consulted on lessons learned from the distribution scheme, and has received positive feedback from the industry that the scheme provides a useful tool for more strategic, longer-term thinking.

**32. Developing an understanding of the long-term implications for the network infrastructure of different energy technologies, including local energy, is important for ensuring timely and cost-effective investment. This is particularly the case given the potentially long lead times for new grid capacity. We welcome Ofgem’s commitment to publish long-term scenarios of network development, and hope the industry will make use of these in planning its investment programme. (Paragraph 149)**

Ofgem intends to consider a range of future scenarios that could arise as a consequence of government policy and market developments and will assess the most appropriate approach to investment in light of the wide range of possibilities that this work will identify. Scenario analysis of this type will be particularly useful given the considerable challenges and uncertainties ahead. Ofgem will take forward the work on longer term scenario assessments for the electricity networks in 2007 for publication in 2008, which will help set the context for the next price control reviews. An ENSG study, funded by the DTI, will be completed in the summer. This will examine the network capacities required at all voltage levels for a number of different DG scenarios.

**33. The argument made by some lobby groups, however, that local energy production either renders investment in renewing the grid unnecessary, or will be frustrated by such investment, is not one we accept. Local energy has a potentially important role to play in meeting the UK’s carbon dioxide reduction targets and enhancing security of energy supply, but it will take many years to fulfil its potential. (Paragraph 150)**

We agree that distributed energy has an important role to play in meeting our carbon reduction targets and enhancing the security of our energy supplies. We also agree that this potential is some years away from being achieved and a commitment to promoting distributed energy does not render investment in our energy infrastructure unnecessary.

We need to ensure that investment in the energy infrastructure is carefully planned to maintain the integrity of the system whilst still allowing distributed energy to flourish.

The Foresight Sustainable Energy Management and the Built Environment project, announced in the Energy Review Report, is considering the long-term impacts of more decentralised ways of generating low-carbon heat and power, and their interaction with current energy systems. This will include looking at the long-term potential and challenges of distributed generation, and its role and relationship with centralised generation.