

# **Greenprint for a renewable energy policy that works**



**Green Party of England and Wales**

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# Foreword

## Siân Berry, Principal Speaker, Green Party



“The UK could be a world leader in the young, clean and cutting-edge renewable energy industry.

We are better placed than anywhere else in Europe to access this source of power, but are failing badly to realise our potential.

To say the government has achieved little so far on renewable’ is a huge understatement, given the massively underfunded and confusing mix of incentives currently in place.

The Green Party has a comprehensive set of policies that will guarantee we achieve reductions in carbon dioxide, year-on-year, that will enable us to reduce UK emissions by 90% by 2030.

As part of this programme, the best way to support and develop the renewables industry is to adopt a simple framework of guaranteed prices for exported renewable energy.

Feed-in tariffs have been a runaway success in Germany and other countries, stimulating both large- and small-scale projects and kick-starting a profitable industry that supports many thousands of jobs.

Our current mess of policies and initiatives urgently needs to be phased out so that a new system, which is more effective and better value for the taxpayer, can be brought in.”





# Government policies are failing

Government policies in support of renewable energy are confusing, piecemeal and inadequate, and are currently in complete disarray.

They are failing to support consumers, large-scale and small-scale electricity producers, and are set to fail dismally to reach national and European targets for renewable generation.

Urgent and radical adjustments are needed to the way renewable energy technology development is supported in the UK. Government grants are derisory and the private sector currently invests just £250m a year in renewable energy technology when to significantly boost this industry we need to see more like £2.5 billion going into new projects.

This can be rectified if action is taken now. We have a unique diversity of potential large-scale sources of clean energy in the UK. These industries can grow effectively if we support them properly, and we can learn a lot from other countries in terms of providing clear incentives and mechanisms.

Homeowners, small-scale community generators and electricity consumers seeking to be greener would also benefit from a less confusing policy framework.

The current system, of planning uncertainty, peripatetic grants and the Renewables Obligation, fails to support smaller projects and key technologies, and means purchasers of green electricity tariffs cannot be sure if they are doing any good by paying premium prices for home energy.

The system of grants for supporting household and community renewables, the Low Carbon Buildings Programme, is underfunded and in chaos.

Planning policies are also failing the renewables industry. Lack of clarity, information and training undermines local authority decision making, and there is a deficit of planning inspector time, leading to delays in hearing appeals.

In March this year, a total capacity of wind projects that could meet 6% of our electricity needs was held up within the planning system.



# Greenprint for a policy that works

The Green Party does not believe that simply tweaking the Renewables Obligation and grant schemes will be enough to sort out the UK's renewable energy policy.

Instead we are proposing a new, comprehensive, long-term policy package.

This combines incentives for investment, via premium prices paid for exported electricity, with an expanded capital grant scheme and low-cost loans for investment in renewable energy, similar to the measures employed successfully in Germany.

All the evidence shows that these measures would provide the market signal needed to stimulate significant growth in the use of renewable energy technology and its contribution to energy provision in the UK.

- A simple system of renewable energy feed-in tariffs (REFITs) paying premium rates for large and small producers of renewable electricity, with different rates for technologies at different levels of maturity.
- An immediate package of top-up funding for the Low Carbon Buildings Programme, of at least £500 million.
- In the medium term, grants would be

replaced with low-cost loans, provided through the government. These would enable lower income households to raise funds to invest in renewable energy. The loans would be issued on a long-term 'interest free' basis, similar to the current index-linked student loan scheme, and would also be available to community and co-operative projects.

- Planning guidance would be strengthened with a presumption in favour of renewable energy projects. And made more specific, to ensure better consistency in local decision making.
- More support and training would be provided for local councillors and planning officers who are assessing renewable energy projects.
- The number of planning inspectors would be increased, to ensure appeals are held promptly, and to help clear the backlog of renewables projects in planning limbo.

# Policies are failing large-scale green energy

## An inefficient Renewables Obligation

In August 2007, it was revealed that government officials had briefed ministers that the UK has no hope under current policies of reaching the European Union target of sourcing 20% of all our energy (including electricity and heat) from renewables by 2020.

Since the introduction of the Renewables Obligation in 2002, generation of renewable electricity in the UK has increased from 1.8% to around 5%. However, offshore wind generation capacity is lower than expected and new investment appears to have stalled.

The internal Department of Business, Enterprise and Regulatory Reform (DBERR) briefing, released to the Guardian, showed that the best the officials at the Department of Business, Enterprise and Regulatory Reform thought the UK could achieve was 9%.<sup>[1]</sup>

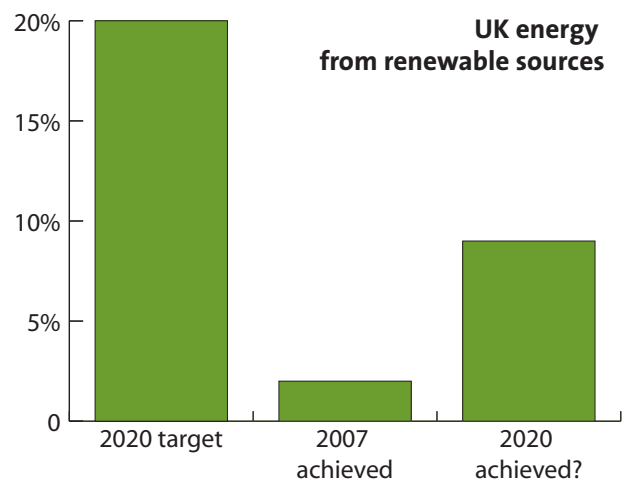
In its July 2006 review, 'Policy frameworks for renewables', which concentrates on large-scale installations, the Carbon Trust says:

*"Overall, the existing renewable energy policy suffers from inefficiencies, resulting in a unit cost of renewable*

*energy to consumers that is higher than necessary given the current technology cost. Moreover, given the renewable and carbon reduction targets and the 2015 gap, diversity of investment in renewable energy is needed. Diversity requires that different technologies be installed in meaningful amounts in parallel and the RO is not a mechanism that can achieve this given the current costs of the different technologies."*<sup>[2]</sup>

The RO is inefficient in a number of ways, allowing the subsidies provided to leak away from developers.

- It is designed to 'pull through' lowest cost technologies rather than provide timely support for e.g. offshore wind or wave power, which are now at the crucial stage of early commercial development and most in need of help.
- Surplus funds from RO 'buy-outs' are



distributed to those who surrender ROCs to the government not those who generated the electricity in the first place.

- When buying electricity under Power Purchase Agreements (long-term contracts) electricity companies take the variable value of ROCs into account, as do financiers when lending, meaning funds are available on less favorable terms.
- Uncertainty over future returns from ROCs aids middle-men who take on the risks and charge accordingly. It is particularly difficult for small generators to realise the full value of their ROCs, with agents charging sometimes 20% commission - on top of administration and set-up fees.
- In addition, since 2002, the legacy Non Fossil Purchasing Agency has been accumulating funds in the NFFO fund from the redemption of its ROCs. These funds are being given to the Treasury rather than being used to support further renewable energy projects.

The Carbon Trust report outlined how the RO will cost consumers a total of £14bn by 2020 and only result in renewables penetration of 7.6% by 2010, 9.6% by 2015 and 10.1% by 2020. It is clear that continuing with the RO will ensure the UK does not meet its renewables target of 20% by 2020. These projections achieve only 75% of the target by 2010 and only 50% of the 2020 target.<sup>[2]</sup>

The RO will be 15.1% of electricity supplied in 2015. The fact that installed capacity is only expected to be 9.6% by then underscores the inefficiencies and leakage within the current system., see Table 1 below<sup>[2]</sup>

Because it is currently technology-neutral, the RO system provides attractive subsidies only to the more established technologies, such as onshore wind, while leaving less developed technologies (such as offshore

wind, which is potentially our greatest renewable resource) under-supported.

Under the current policy, offshore wind investment at scale is not expected until nearly 2020, while onshore wind in the same period would see returns on investment of up to 15% - far more than is needed to make projects viable.<sup>[2]</sup>

The RO is in the process of being reformed. The present consultation proposes paying multiple ROCs for generators of electricity using offshore wind, solar photovoltaics, biomass, wave energy and tidal stream energy from 2009. However, tweaks to the RO system will only paper over the cracks in this failing policy and will not deal with its underlying inefficiencies.

The Green Party believes the RO should be phased out and replaced with a more effective system of renewable energy feed-in tariffs (REFITs), which would help both large- and small-scale renewable energy development.

A 2007 study by Dr David Toke for the World Future Council has estimated that, under the current inefficient RO system, the UK's renewable energy capacity has cost the consumer over 40 per cent more in subsidies than under a REFIT system.<sup>[3]</sup>

# REFITs - a proven alternative

Renewable energy feed-in tariffs (REFITs), following the German model, have been repeatedly suggested in expert reports dating from 2000, including those preparing the way for the RO.

Two reports in 2003, commissioned by the DTI from the Imperial College London Centre for Energy Policy and Technology, proposed REFITs as the most suitable mechanism to encourage renewables development.

The first, 'Review of renewable energy development in Europe and the US',<sup>[4]</sup> produced in October 2003 for the DTI's Renewables Innovation Review, set out how most European countries are ahead of the UK in developing their renewables industries, and looked at the different policy measures being used to encourage green energy. It found that the UK lags far behind the leaders in Europe in all renewable technologies, and has been overtaken by several countries that started much later than the UK.

Case studies of renewables development in Germany, Austria, Spain, Sweden, the Netherlands and the USA showed that Germany and Spain were the two countries with the highest level of wind power in the EU and were also an order of magnitude ahead in solar PV installation. Industry growth in both countries was found to have coincided with the introduction of feed-in tariffs.

Data from Austria and the Netherlands also showed that bringing in feed-in tariffs was the major driver for growth in wind power in those countries. The review says:

*"Arguably, feed-in tariffs were one of the*

*most important policy tools underpinning the boom in the wind market over the past decade."*<sup>[4]</sup>

The review concludes the following:

*"Factors that were found to benefit the market diffusion of renewables included:*

- Policies that create a stable investment environment;*
- Policies that create high certainty on investment returns;*
- Policies that set long-term goals;*
- Policies that address local concerns with renewables development;*
- A wider policy environment that is supportive of renewables.*

*"Overall, the evidence suggests that feed-in laws in the countries studied were successful in meeting these criteria. RPS [Renewables Portfolio Standard, similar to the RO] schemes were less successful in creating an investment environment, compared with the stability and certainty created by the contracts offered under feed-in tariffs. Furthermore, feed-in laws were found to be not necessarily more expensive than RPS schemes, with the additional costs per kWh in Spain and Germany around or below the price of a ROC in the UK."*<sup>[4]</sup>

This study also highlighted the improved image and public acceptance of renewable energy – particularly on- and offshore windfarms – in several countries using feed-in tariffs. A number of factors were thought to be important, including the involvement of regional and local government in planning for projects, but a policy environment that helps make community-scale renewables projects viable was thought to be a necessary part of the picture.



In Germany, there are now many 'citizens' wind parks' that are financed locally and share benefits with the local community, and this has significantly increased acceptance of the expansion of wind power and reduced planning and other objections.

The second Imperial College report, 'Innovation in long term renewables options in the UK: Overcoming barriers and 'system failures',<sup>[5]</sup> published in November 2003, looked at the barriers to developing technologies from the research and development phase to commercial viability.

It concluded that current UK policies were failing at this intermediate stage and proposed a system of capital grants and feed-in tariffs (applied on top of the RO), to support these technologies.

*"It is argued that neither a new pre-commercial band in the RO, nor a premium paid on top of the RO is likely to be the most appropriate mechanism to provide support at this stage. A fixed tariff reduces market/regulatory risk, complements the RO without causing disruption to it. However, no form of price support can address technology risk directly. A capital grants scheme would address technology risks directly.*

*Therefore overall, the simplest and most effective means to create a small niche market to allow early stage technologies move into pre-commercial trials would be to combine a capital grants programme with a fixed premium price scheme."*<sup>[5]</sup>

In its 'Analysis of Responses to the Microgeneration Strategy and Low Carbon Buildings Programme Consultation' in October 2005, the DTI said:

*"Many respondents proposed a feed in tariff scheme for microgeneration. This would encourage the maintenance of*

*system quality over the product lifetime, since payment relies on the continued production of electricity."*<sup>[6]</sup>

Respondents suggesting feed-in tariffs in response to the Microgeneration Strategy consultation included industry representatives (wind turbine manufacturers and solar PV manufacturers and installers), academics, environmental consultancies, local government representatives, NGOs and professional institutes.<sup>[6]</sup>

In addition, several responses to the wide-ranging 2006 Energy Review by the DTI suggested feed-in tariffs to support renewable energy development. These included solar power companies, NGOs, the Mayor of London and the national Green Party, as well as local Green Parties across the country.<sup>[7]</sup>

## **A REFIT for the UK**

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In July 2006, the Carbon Trust produced the report 'Policy frameworks for renewables'<sup>[2]</sup> in response to the Energy Review. This analysed a range of alternatives to the present RO scheme, including various adjustments to the scheme, as well as a new Renewable Development Premium system.

The Renewable Development Premium is essentially a stepped 'feed-in tariff' similar to the scheme used in Germany.

The tariffs paid to generators of renewable electricity would be fixed for the lifetime of new projects, maintained at a similar level to the RO for existing projects and stepped down for new projects over time, as each industry matures.

Proposed amounts for offshore wind were:

- £55 /MWh now

- £40 /MWh in 2010
- £35 /MWh in 2012
- £30 /MWh from 2017

Throughout this period, onshore wind would receive £25/MWh on top of the electricity price.

The Carbon Trust calculated that this option has a number of advantages:

- It is the most efficient way of increasing capacity, with a lower subsidy cost per unit of electricity than the other options studied.
- If the scheme was designed to give extra funding of just £1bn by 2020 above current plans, it would enable the UK to reach its targets for renewable capacity.

The report says:

*“The efficiency of the Renewable Development Premium as compared to the current RO is perhaps best highlighted by the potential to deliver broadly the same amount of renewables capacity as projected under the current RO over the timeframe and still save c.£1bn by 202 and c.£3bn by 2027 in present value terms.”<sup>[2]</sup>*

Projected effects on wind capacity and costs of the different options studied by the Carbon Trust are summarised in Table 1, reproduced from the report.

The Carbon Trust report concludes:

*“The most efficient option in terms of cost per unit of energy and achieving maximum offshore wind capacity by 2015 involved moving away from the current RO towards a fixed mechanism, such as a Renewable Development Premium. Feed-in tariffs have been proven to be successful elsewhere (for example, Spain*

*and Germany) in generating significant deployment of lower cost renewable energy. A fixed mechanism addresses both the time delay of the RO and the leakage associated with transferring the regulatory risk to the private sector. It is the most efficient policy mechanism in terms of funding requirement per unit of renewable energy.”<sup>[2, emphasis added]</sup>*

REFITs are also recommended by the Carbon Trust as a means to support the long-term development of marine technologies that are still in an early stage of development. They say that marine renewables are an area where the UK needs to take a lead in order to develop a significant export market, but the industry is at a critical stage, so something like a REFIT needs to be in place ‘within the next year or two’.

## **Increasing community support for renewable energy**

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REFITs are a better method than the current RO for encouraging community-scale investment in renewables projects. They have been shown by DTI-sponsored research to aid local acceptance of renewable energy in European countries such as Germany.

Other policies that have helped move public opinion in favour of renewable energy have been employed in Spain, where close involvement of local regions in the planning of onshore wind farms means that communities accrue benefits either through planning gain or royalties from land leases.

**Table 1**

	Additional wind capacity to base (GW)*		Renewable energy as % of electricity		Cumulative subsidy per MWh by 2020 (£)	Implications for stakeholders		
	2015	2020	2015	2020		Onshore wind	Offshore wind	Consumer / taxpayer
<b>Existing RO</b>	0.0	0.0	9.6	10.1	49	High returns continue	Investment delayed	Status quo
<b>Renewable Development Premium</b>	3.5	5.3	13.2	14.9	40	Existing onshore protected Future onshore support reduced	Extra support immediately	c. £1bn extra funding by 2020
<b>Top-up subsidy</b>	3.2	2.4	12.7	12.3	43	Existing onshore protected	Extra support immediately	
<b>Multiple / fractional ROCs</b>	0.7	2.1	10.9	12.4	46	Future onshore support reduced	Extra support immediately	No extra funding required

\*Additional to current forecast wind capacity by end of March 2007 of c 2.4GW (of which more than three-quarters is onshore)

[From reference 2]

# Planning problems

## National planning policy isn't working

The wording of Planning Policy Statement 22 (PPS 22 - 2004) is not clear enough to ensure renewable energy proposals receive fair consideration from local authorities.

The Key Principles of PPS22 require that the 'wider environmental and economic benefits' should be material considerations in any planning proposals, and given significant weight, but fails to spell these out in sufficient detail.

This ambiguity can be exploited by those wishing to build a negative case against a wind farm.

Even under PPS 22, local authority planning committees can turn down legitimate proposals on the grounds that the landscape impact outweighs local, national and global environmental benefits as well as local social and economic benefits, by not fully considering these latter points.

Some local and parish councillors are under- or mis-informed about renewable energy, which can lead to rumour and folklore dominating debate in planning committees, and informing decisions.

At the Inquiry for the Fullabrook windfarm in North Devon, a representative of a local parish council confirmed that an official reason for their objection to the wind farm was a belief that the project would use more energy than it produced.

The same Inquiry brought to light numerous

examples within the report to the original planning committee of 'economic and social benefits' being considered in relation to some aspect of the plans, and only environmental benefits in relation to others.

A clearer PPS 22, which included a specific list of potential environmental, economic and social benefits and disbenefits to be considered, as well as the weight that should be given to each) would make for much more consistent decisions.

Better support and training should also be provided for LA and parish councillors involved in development control, so that improved decision making occurs in both the large- and small-scale renewables sectors.

Many Local Authorities are now bringing in 'Merton Rule' policies to ensure a percentage of on-site renewable energy generation is installed in all new developments.

However, many are doing this with the best intentions, but without the funding, training and resources which they need. Even these policies are now under threat from central government, see below.

## 'Preferred development areas' have unintended consequences

Areas such as Wales, where policy has been to identify certain areas of the country for

strategic development of renewable energy are failing to reach their potential because of the unintended consequences of these policies.

Technical Advice Note 8, issued by the Welsh Assembly in 2005, set out seven 'Strategic Search Areas' into which large-scale onshore wind energy developments were to be concentrated.

Two problems have emerged since the publication of TAN 8.

The first is that the designated area approach has effectively ruled out development in other areas, making it extremely unlikely that projects outside the SSAs will be approved.

Proposals for other areas are being turned down simply for not being in the 'right' place, even when they are not the large scale windfarms (>25MW) to which the SSAs were intended to apply. These include Awel Aman Tawe near Swansea, a community-backed 4MW project that was turned down on appeal in October 2006 specifically because it was outside the TAN 8 area.

The second problem has been that grid support in some of the SSAs, particularly in mid-Wales, is currently inadequate for the development of the large-scale projects envisaged by TAN 8.

Providing this infrastructure may take several years before any new wind farms are viable in these areas.

## **Delays in the planning and inquiry system**

Many renewable energy schemes are initially rejected by Local Authority Development

Control committees, even in areas where local plans have been amended in line with PPS 22.

Frequently these decisions are made by councillors who lack the knowledge and training needed to properly assess renewable energy projects. This makes them susceptible to misinformation from opposition groups.

Often LA decisions are appealed and then overturned by planning inspectors, who are generally better informed about the real impacts of renewable energy projects. However, the speed of this process is constrained by the limited availability of inspectors.

Viable renewable energy developments are therefore often delayed twice by problems within the current system: first by under-informed local councillors, and second by the delay in finding an inspector to hear the appeal.

In early 2007, the British Wind Energy Association reported on the long delays experienced by wind farm applications. From 29 October 2006 (the date of publication of the Stern Review) to 28 February 2007, the average time to decision for wind farms was 21 months. For appealed decisions the figure was 28 months.<sup>[8]</sup>

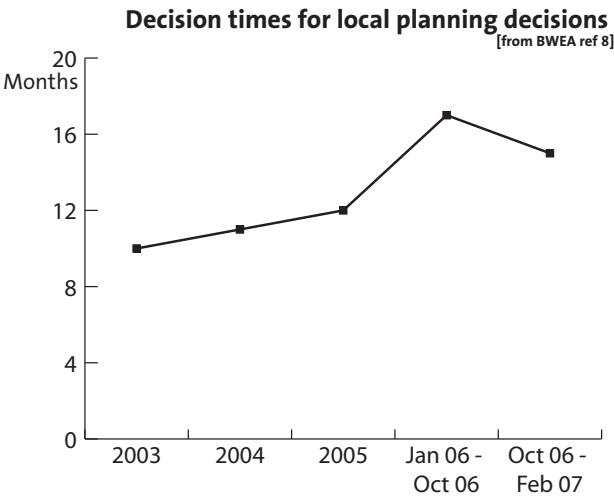
In 2006, the Barker Report recommended faster processing of planning applications for large projects and centralised infrastructure. The report proposed creating an Independent Planning Commission to assess applications based on proposed 'Statements of Strategic Objectives for major infrastructure'.

However, these measures would take power away from Local Authorities and focus on helping only large projects.

What is really needed is not the centralisation of planning decisions, but stronger planning

guidance and better support and training for LA councillors involved in development control, so that improved decision making occurs in both the large- and small-scale renewables sectors.

Increased availability of trained planning inspectors is also needed, to speed up the process of appeals where renewables projects are initially rejected by local authorities.



# Policies are failing small-scale green energy

Both large- and small-scale renewable energy generation will be essential in providing our needs in the future.

Household and community green energy projects could make a significant contribution to our electricity supply and, with the right policies in place, could be very good investments for both private and community investors.

However, government attempts to support small-scale renewables in the past decade have been chaotic, half-hearted and frequently changed. Recent events surrounding the Low Carbon Buildings Programme have been particularly damaging to the reputation and development of the small-scale renewables sector.

## The LCBP farce

### Underfunded grants

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The Low Carbon Buildings Programme (LCBP), introduced in April 2006, promised £80m over 3 years to support the installation of renewable energy technology, but only £6.5m of this was for householder grants.

This represented a cut in funding compared with the Clear Skies/Major PV Demonstration programmes, which the LCBP replaced. Clear Skies alone provided £6.6m per year to households.

The LCBP grants were also set to decrease over time, with £3.5m originally allocated

to 2006/7, £2m to 2007/8 and just £1m to 2008/9.

The extent to which the scheme was underfunded was shown in October 2006, when all the £3.5m for 2006/7 had been allocated, forcing the diversion of another £6.2m from other parts of the LCBP without new money being put into the scheme as a whole.

At the same time, the DTI (now the Department of Business, Enterprise and Regulatory Reform - DBERR) imposed a cap of £500,000 on grant allocations each month, which led to the allocation for January 2007 running out after 12 days, February's allocation being exhausted after 12 hours, and March's allocation running out just 75 minutes after being made available.

Renewable Energy Association spokesperson, Graham Meeks, said in February:

*"1st February 2007 will be long be remembered by our members as the day that the Low Carbon Buildings Programme finally descended into farce. But I hope that it isn't the day that thousands of householders also gave up on their ambition to invest in secure, renewable energy for their homes".*

Before the new funds were put into householder grants in 2006, the renewables industry urged the government not to impose a system of monthly caps due to the uncertainty this would create for the industry and customers.

In the Budget of March 2007, an extra

£6 million was put into the LCBP for the householder stream. However, the scheme was also suspended during April for restructuring, causing more delays and uncertainty.

When the householder stream was relaunched, the monthly cap on total grant allocations was removed, but a new capping system on individual households was introduced. Grants were capped at £2,500 or 50% of the cost for solar PV, at £2,500 or 30% for wind turbines and small hydro, and at £400 or 30% for solar thermal hot water. A total household limit of £2,500 was also introduced, even if more than one technology was installed.

The restructuring was designed to ensure the grants could be spread across more households but, by reducing the value to each applicant, this put renewable energy further out of the reach of low income households.

Any improvement to the scheme before it ends in 2009 has been effectively ruled out. The LCBP website now says:

*“There will be no further funds and no further measures to extend the scheme life.”*

## Poor planning

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It is not only the amount of money committed to the LCBP that is derisory; planning for the scheme has also been atrocious.

The exhaustion of the grants after just 6 months was potentially a disaster for the industry, as householders justifiably put on hold installation plans while they waited for new money to come on line.

However, there is no evidence that the likely demand for householder grants was

investigated by the DTI before the launch of the LCBP.

Green Party peer, Lord Beaumont of Whitley, asked in Parliament on 4 Dec 2006, “What work is being or has been done to predict the likely demand for Low Carbon Building Programme grants?”<sup>[9]</sup>

The answer, from Lord Truscott, Parliamentary Under-Secretary of State in the Department of Trade and Industry, gave no information about planning and simply stated that 3,732 household applications had been approved up to 27 November 2006, as well as 59 community applications, and that the government would, “continue to monitor the uptake of grants going forward.”<sup>[9]</sup>

Before the LCBP was launched, the renewable energy industry repeatedly warned the DTI about the consequences of underfunding household renewable energy grants.

For more than a year before the launch, the Renewable Energy Association was telling the DTI that continuity was needed between the Clear Skies/Major PV programmes and the new scheme. Instead, there was a hiatus of several months, with delays to Clear Skies payments causing cash-flow problems and customers delaying new orders until the LCBP started.

The REA said at the time, “This situation makes business planning impossible for our member firms and is threatening jobs in the sector.”<sup>[10]</sup>

In response to the Government’s Microgeneration Strategy Consultation in 2005, the Renewable Energy Association (then the Renewable Power Association) pressed the DTI to ensure the LCBP achieved clear objectives of, “economies of scale and cost reduction,” in order to, “provide a bridge to enable suitable microgeneration technologies to make the transition from



their present status to a significant medium term contribution to the UK's energy needs."<sup>[11]</sup>

The REA also said:

*"Micro-renewables are proven technologies. Their practical potential in the UK should not be in doubt. What is needed now is the political will to make the necessary fiscal and regulatory changes required to ensure they make the largest possible contribution to 2020 targets."*<sup>[11]</sup>

It is clear the present Government lacks the political will or courage to make the necessary changes.

## Poor administration

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In September 2004, the Government announced £8.5m of 'continuity' funding for the Clear Skies and Major PV programmes to bridge the transition to the LCBP. This was far less than the industry wanted, and they expressed to the DTI their concerns about the speed with which the LCBP would be introduced, in particular the likelihood of delay before funding allocations and payments were made.

Their concerns were well founded. The answer to the Parliamentary question from Lord Beaumont showed that by 27 November 2006, of £5.3m committed to grants, only £0.6m had actually been paid.<sup>[9]</sup>

By September 2007, £5.2 million had been paid to a total of 2,977 households.<sup>[12]</sup>

The LCBP also suffered delays in accrediting technology, certifying installers and setting standards.

Several proven technologies are still not supported. The website for the LCBP programme states its intention to support a

range of technologies including:<sup>[12]</sup>

- Solar photovoltaics
- Wind turbines
- Small hydro
- Solar thermal hot water
- Ground/water/air source heat pumps
- Bio-energy
- Renewable CHP
- Micro CHP
- Fuel cells

However, of these, air source heat pumps, fuel cells, renewable CHP (combined heat and power) and micro CHP have not yet been included in the scheme because standards have not been developed.

## Damage to an emerging industry

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Throughout the development and administration of the LCBP, the renewables industry has suffered greatly from the stop-start grants and the low level of subsidies overall.

Before the start of the LCBP, representatives wrote a joint letter to energy minister Malcolm Wicks stating that the uncertainty surrounding grants was, "deeply damaging to business and investor confidence," and asking for, "future funding arrangements to be clarified as early as possible."<sup>[13]</sup>

Looking at the bigger picture, the low level of funding dedicated to the LCBP shows how little the government is taking the transformation of the energy market seriously. The Stern Review on climate change said that 1% of GDP should be invested now

in efforts to stop global warming.<sup>[14]</sup> This proportion of GDP is equivalent to £11bn per year, so putting £80m over three years into a sector that could make a huge contribution to averting climate change is simply not good enough.

Other industries, such as aviation and road transport that damage the climate, already receive billions of pounds of subsidies with little public fuss. Given the amount of recent Government noise about climate change, the renewables industry has every right to feel harshly treated.

The Comprehensive Spending Review in the autumn of 2007 offers an opportunity to rectify these failings and commit proper levels of funding to the LCBP. The Green Party would increase this to at least £500 million to meet likely demand.

# Confusion and doubt over 'green energy' tariffs

The opaque and complex system of Renewable Obligation Certificates (ROCs), and the way they are traded by electricity suppliers is threatening to undermine consumer confidence in renewable electricity altogether.

The problem lies in the question of what electricity generators do with their ROCs, making it difficult for any electricity supplier to devise a truly 'green' tariff that gives electricity consumers the choice to significantly support the renewables industry if they wish.

In developing the Green Party's 2006 'Green Energy Works' campaign, we investigated the different ways the electricity companies constructed their 'green' tariffs in an effort to devise a campaign tool that would allow 'people power' to drive more investment in renewable energy. We discovered that, even the three companies rated highly by Friends of the Earth in their 2004 'Guide to Green Electricity Tariffs'<sup>[15]</sup> and by Ethical Consumer magazine<sup>[16]</sup> (Ecotricity, Green Energy UK and Good Energy), had very different approaches to using the RO to allow consumers to support renewable energy.

Some were selling all their ROCs and using the money raised and the premiums charged to customers for direct investment in new capacity; others were instead retiring a proportion of their ROCs or Levy Exemption Certificates. There were also a range of tariffs available with different proportions of renewable energy included.

A recent study by the National Consumer Council, 'Reality or rhetoric? Green tariffs for domestic consumers,' summarised the different approaches in Table 2 below.<sup>[17]</sup>

A recent investigation by the BBC's Newsnight also tried to clarify the issue for the public, yet their account of the RO on the BBC website drew more than 100 comments and questions from contributors. Some extracts are given below, illustrating the potential for the continuation of the current situation to harm the image of the renewables industry.<sup>[18]</sup>

*"It looks like buying green electricity just reduces the amount of green electricity people on normal tariffs are buying by default. This is what ROC trading means.*

*You may well be using 100% green electricity, but not in a way that impacts total green generation. In which case, it is quite notional.*

*On the other hand if you were to buy and retire ROCs, this would increase green generation, because you would be creating additional demand for ROCs above the government imposed demand - and therefore more green energy has to be generated, one way or another.*

*So: switch to a brown tariff and spend the money you save on ROCs."*

*"I had my doubts about "green" electricity in the same way I am very suspicious about so called "organic" products.*

*I am concerned that these green tags are*

*just a marketing ploy to sell a product at a premium price, to those naive enough to pay for it.*

*With organic products, originally there was traceability through the Soil Association, but for green electricity - is there any traceability of the source?*

*I believe that if you look at the quantity of renewable power generated in the UK, and look at the consumption figures of those buying that renewable “green” power, then the latter will exceed the former by several fold.”*

**Table 2**

	<b>Backed by Renewable Electricity Guarantee of Origin (REGOs)</b> (100 per cent unless specified otherwise)	<b>Backed by retired Levy Exemption Certificates (LECs)</b> (100 per cent unless specified otherwise)	<b>Backed by retired Renewables Obligation Certificates (ROCs)</b> (at least 5 per cent over and above the statutory requirement)
<b>British Gas – Green Electricity</b>	✓		
<b>Ecotricity – New Energy</b>	✓(1)		
<b>Ecotricity – Old Energy</b>	✓	✓	
<b>EDF Energy – Green Tariff</b>	✓	✓	
<b>Good Energy</b>	✓	✓	✓
<b>Green Energy – UK 100</b>	✓	✓	
<b>Green Energy – UK 10</b>	✓(2)	✓(2)	
<b>Npower – Juice</b>	✓	✓(3)	
<b>Powergen – Green Plan</b>	✓	✓	
<b>Scottish and Southern Energy – Power 2</b>	✓		
<b>Scottish and Southern Energy – RSPB Energy</b>	✓	✓(4)	✓
<b>Scottish Power – Green Energy H<sub>2</sub>O</b>	✓		

1. 22% - estimated figure for 2005/6; 2. 16.7% - estimated figure for 2005/6; 3. 84% - estimated figure for 2005/6; 4. 10% - estimated figure for 2005/6; 5. The Renewables Obligation target for 2005/6 was 5.5%, for 2006/7 it is 6.7%

[from reference 17]

# Lack of long-term policy commitments

Renewable energy has enormous potential in the UK. Due to our abundance of wind, wave and tidal resources, as well as the potential to use solar power at least at the levels currently seen in Europe, the UK could - theoretically - be a net exporter of renewable energy within a few decades. We are one of the few countries in Europe that could achieve this.

However, instead of adopting a clear, long-term strategy that will ensure a vibrant, home-grown renewable energy industry, the Government has recently diluted its commitment to long-term support for renewables within its overall energy policy framework.

The 2003 Energy White Paper<sup>[19]</sup> was superseded in February 2004 by the DTI/Carbon Trust Renewables Innovation Review<sup>[20]</sup>, which overturned its commitment to a dedicated 10-year solar PV programme.

Grants under the LCBP are set to reduce every year for 3 years and then be phased out altogether.

Despite the increased allocation of funds within the LCBP to household grants in late 2006, the monthly allocation of funds is too low, and the scheme is set to end in mid 2008.

In February 2007, a DTI spokesperson defended the phasing out of the grants and said, referring to PPS 22 and its recommendation for Local Authorities to adopt the 'Merton Rule':

*"By this time [2008] some of our wider*

*measures to promote micro-generation should be taking hold and we believe the household sector may have matured to a point where government subsidy is no longer needed."*

However, it is not at all likely that the shortfall in grant availability will be compensated for by planning requirements taking effect by next year.

There will inevitably be delays while local and regional authorities adopt new targets within their planning regulations and, even then, the regulations will only apply to new developments, whereas the capital grants are mainly being applied to retrofitted renewable energy technology on existing buildings.

## The Merton rule under threat

Since the London Borough of Merton adopted a local planning policy that required 10% of energy in new buildings to come from renewable sources, more than 150 local authorities have made plans to adopt similar policies.

The success of the Merton Rule prompted the Guardian to call it:

*"One of the few genuine drivers of renewable energy technologies in Britain"*

After enjoying recent support from housing ministers, the ability of local authorities to set their own targets for renewable energy, above those required by national planning policies, looked secure.

However, the leak of a draft new PPS on climate change from the Department of Communities and Local Government in August 2007, showed that the government was in fact preparing to limit the powers of local authorities to set their own energy targets and building standards.<sup>[21]</sup>

This was despite the consultation on the new draft showing overwhelming support for the Merton Rule.

This change of policy seems to be the result of lobbying from housebuilders keen to avoid higher costs of construction of around 3-4%. This argument, and the contention that complying with the Merton Rule distracts from improving the energy-efficiency of a building do not add up.

The life-cycle costs of a building that incorporates green energy generation are in fact lower, due to savings on bills. And, as the amount of renewable energy required is taken as a percentage of the building's energy demand, the Merton Rule promotes higher energy efficiency standards as well.



# A Greenprint for effective renewable energy development

The Green Party believes that urgent and radical adjustments are needed to the way renewable energy technology development is supported in the UK if we are to make our targets and reduce our dependence on fossil fuel-based methods of generating electricity.

Capital grant schemes, such as the LCBP, need to be properly funded and, ultimately, replaced with low-cost loan schemes supported by regional and national Government.

Combined with adequate premium prices paid for exported electricity via REFITs, all the evidence shows that these measures would provide the market signal needed to stimulate real growth in renewable energy.

## 1. Phased introduction of feed-in tariffs

Adequate premium prices should be paid for exported electricity via a system of feed-in tariffs, introduced at different rates for each renewable technology.

Numerous studies and reports have suggested feed-in tariffs as the most suitable way of providing the clear, reliable, long-term support needed to attract investment in renewable energy at the scale needed.

We propose that the Government should look again at this option, and develop a system similar to that proposed by the Carbon Trust in July 2006, which includes sufficiently high feed-in tariff rates to make a wide range

of renewable technologies attractive for investors and householders.

This is the only way to ensure the UK meets its 2020 targets for renewable energy drawn from wind and solar sources, and that we lead the way in developing wave and tidal energy technologies in the longer term.

REFITs would need to be set at rates that support each technology appropriately. So, commercially mature technologies (such as landfill gas and biomass co-firing) would need only a small premium, while onshore wind should be supported with a tariff that matches the current subsidy it received from the RO.

Higher rates would be set for early-commercial technologies, such as offshore wind, and much higher rates would be needed to help establish emerging technologies, such as solar PV, wave or tidal energy.

## Phasing

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Bringing in this scheme requires moving away from the RO scheme over time.

However, the present consultation on the Renewables Obligation has not even considered the option of feed-in tariffs, despite recommendations from government advisors and industry; instead asking questions relating entirely to modifying the current RO system.

The Green Party's system of feed-in tariffs would gradually replace the Renewables Obligation and would be phased in technology by technology, starting immediately with new tariffs for offshore windpower and solar PV. These are the two technologies gaining least from the

current RO scheme, and most in need of new incentives.

A proportionate reduction in the total Renewables Obligation, taking into account the current contribution from each technology, would be made during each year of the phasing-in period.

Feed-in tariff rates for offshore wind will be those recommended by the Carbon Trust in July 2006:

- 5.5 p/kWh above the current market price immediately
- 4.0 p/kWh above market price in 2010
- 3.5 p/kWh above market price in 2012
- 3.0 p/kWh above market price from 2017

Rates for Solar PV will be in the range 20–35 p/kWh above the market price, reflecting the immaturity of this market in the UK, and the need to make new investments pay back within a reasonable time.

The exact rates for Solar PV installations will depend on the size of the installation (smaller schemes receiving a higher rate) and the location of the solar panels (roof-based systems receiving a higher rate than ground-based). These tariffs will be guaranteed for 5 years and will reduce by 5% per year thereafter.

Further technologies, including wave, tidal, hydroelectric power, and ground- and air-source heat pumps, will be moved rapidly from the RO into the feed-in tariff scheme. Onshore windpower is now close to being a mature technology and will remain within the RO scheme for the foreseeable future.



## Key benefits to the renewables industry from REFITs

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### **Certainty for both large and small investors**

Providing long-term, fixed rates for renewably generated electricity in other countries has seen a huge increase in private investor involvement in the renewable electricity market, and massive demand among householders for renewable technology.<sup>[4,22]</sup>

### **Faster rates of investment**

REFIT policies in Germany and Spain have increased the rate of investment and resulted in impressive rates of growth – in Spain the average annual growth rate in installed wind capacity between 1996 and 2002 was 69.4%.<sup>[4]</sup>

The 2006 Carbon Trust study showed that reaching government targets for renewable generation capacity was only possible with a policy of REFITs.<sup>[2]</sup>

### **Better community acceptance of new projects**

With a policy structure that encourages community-scale investment in renewables, the image of renewable energy can be improved and local acceptance of individual projects increased.

## Key benefits to consumers from REFITs

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### **Better value for consumers**

Compared with the RO system, REFITs ensure that more of the extra money being paid for 'brown' electricity by consumers actually reaches development projects.

The Carbon Trust report showed that feed-in tariffs were the most efficient way of subsidising renewables development of all the policies studied<sup>[4]</sup> and the World Future Council has shown that REFITs are 40% better value for consumers in generating new renewable capacity from price subsidies.<sup>[3]</sup>

### **Less confusion over 'green' electricity tariffs**

The precursor report to the RO system, *The implications of tradeable green certificates for the UK*,<sup>[23]</sup> published for the DTI by SPRU in March 2000, expressed concern that the RO might undermine public support for voluntary green electricity schemes. It is clear that this is now happening due to the complexity of the system and the practice of 'double-counting' ROCs employed by many electricity companies offering green tariffs.

Under a REFIT system, consumers wanting to pay for renewable energy can simply pay the full, higher feed-in rate for all their supply (rather than the distributed increased amount paid by all customers) and electricity suppliers will simply have to demonstrate they have paid generators for the equivalent amount of energy.

## 2. Improved grants and loans to support investment

Capital grant schemes, such as the LCBP, need to be properly funded and, in the medium term, replaced with low-cost loan schemes supported by regional and national Government.

These loans would be available to homeowners, community organisations, co-operative investment groups, schools, hospitals, nursing homes and other public sector organisations, and would cover the full range of renewable and low-carbon technologies.

These loans will particularly be promoted to individuals and businesses, and comprehensive advice on setting up co-operatives to take advantage of the scheme will also be provided.

Combined with REFITs, which would ensure premium rate payments for exported electricity, these loans would help enable lower income households to raise funds to invest in renewable energy in the certainty that the money could be repaid over time.

The loans would be issued on a long-term 'interest free' basis, similar to the current index-linked student loan scheme.

Regional and local governments that are keen to stimulate the renewables industry in their areas will be provided with incentives and advice to set up similar loan schemes.

Areas with high levels of unemployment and deprivation will be focused upon and helped by central government to set up these additional, local schemes. In many cases, these areas also have the most potential for renewable energy generation.

# 3. Policies to aid renewable energy planning

## Strengthen PPS 22

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PPS 22 should be strengthened to include the presumption that renewable energy schemes should go ahead unless there are over-riding dangers to public health or safety or wildlife, or if they are in a nationally or internationally designated area.

Clear guidance should be given in the guidance itself of the specific ‘wider environmental, economic and social benefits’ that should be considered by planning committees.

In return, planning guidance should require renewable energy developers to provide a designated fund for the local community and be collected via business rates.

PPS 22 should also be amended to prevent local or regional planning authorities from designating areas for ‘preferred development’ of renewables, because of the knock-on effects of this in prejudicing development plans outside these areas.

## More support and resources for planning

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Better support and training should be provided for LA councillors involved in development control, so that improved decision making occurs in planning for both the large- and small-scale renewables sectors.

Increased availability of planning inspectors is also needed, to speed up the process of appeals where renewables projects are rejected by local authorities.

## Support for the Merton rule

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It is imperative that local authorities and regional governments should remain able to set their own targets for renewable energy generation in new developments, above the rates set by central government.

Councils that already have Merton rule policies in place should be supported, and the adoption of higher targets should be encouraged in other areas, particularly where there is a high potential for energy generation through wave, tidal or solar power.

# Appendix: REFITs working in other European countries

## Germany

Since 2000, the policy of the German government has been to set premium rates for renewably generated electricity, coupled with low or near zero interest loans for renewable installations.

The current Renewable Energy Act (EEG) was introduced in 2000 to replace the previous 1991 feed-in law that didn't differentiate between technologies by the, then, red-green government run by the Social Democrat Party and the Green Party.

Under the EEG, the renewable electricity premium is paid for by a small increased tariff placed on the remaining 'brown' electricity purchased by consumers. Since 2004, with feed-in tariff costs rising due to increased uptake, a modification to the scheme has exempted certain electricity-intensive industries from the increased 'brown' electricity tariff.

The scheme provides different feed-in rates for different renewable technologies, with a much higher rate paid for solar PV. Rates are guaranteed for 20 years from the date of the each project being installed.

Technology	German feed-in tariff * € cents/kWh <sup>[14, 19]</sup>
Wind – onshore	6.01 – 8.87
Wind – offshore	6.01 – 8.87
Solar PV	40.60 – 57.40
Hydro – small-scale	6.65 – 7.67
Biomass - pure	8.60 – 10.10

\* from 2005, rates reduce by 5% each year for most technologies

As a result of these tariffs and other support measures, German wind power capacity has increased more than ten-fold, and a dynamic market in solar PV has been created, with investors receiving better returns than for most other options with similar risks. Germany's solar programme is now 100 times bigger than the UK's and Germany accounted for an enormous 57% of the world market for solar PV in 2005.<sup>[4,21]</sup>

The largest customer segment in solar PV is private individuals fitting small (<6kW) systems to their homes, with a 40% market share. Investor groups, stimulated to put together larger schemes due to the favourable market created by the German system, comprised 22% of the market in 2005.<sup>[21]</sup>

Germany's dominance of the solar PV market in Europe also results from a series of low-interest loan schemes provided by Government. This began with the soft loan-based '1,000 Roofs' programme launched in 1990, and was followed by the more extensive '100,000 Roofs' programme, launched in 1999 and offering low interest loans. This programme was phased out in 2003, and replaced with further increased feed-in tariffs for solar PV.

Currently, a wide range of soft loan programmes operate in Germany at the federal and state level to support the installation of solar PV. Total loan finance available under German programs exceeded €1.78 billion in 2005.<sup>[21]</sup>

The BMU (Ministry for the Environment) calculates the cost of the EEG to be €2.4 billion in 2005, collected via a surcharge for electricity customers of 0.56 Euro cents per kWh, resulting in additional costs for a typical household (3500 kWh/year) of €1.63 per month.<sup>[21]</sup>

When also taking into account so-called “external costs” relating mainly to the environmental impact of displaced technologies, the Ministry estimates the net EEG costs to be between €1.5 and €1.7 billion per year.<sup>[21]</sup>

The EEG is extremely popular in Germany. Opinion polls from 2005 show that 83% of East Germans and 88% of West Germans find the current methods of funding renewables to be appropriate, or would like to see funding increased.<sup>[21]</sup>

## Spain

Spain has seen impressive growth in the deployment of both wind and solar renewable energy since the 1990s. Besides the country’s favourable location for wind power (an advantage shared with the UK), the early introduction of feed-in tariffs has been a major factor in stimulating this growth.

The first relevant Spanish law was the National Energy Saving and Efficiency plan (PAEE) of 1991, and this was followed by the Renewable Energy Development Plan (PFER) in 1999. Both laws included the provision of capital grants, with the PFER delegating responsibility to the autonomous regions of Spain. In addition, the government also provides low cost loans to support solar PV schemes.

Feed-in tariffs have been available since 1994, and these were increased and extended by the PFER in 1999. The scheme is slightly different to the German model, with renewable electricity producers able to choose between two different options: a fixed feed-in tariff or a bonus price paid on top of the prevailing ‘pool’ electricity price

at the time of sale. Bonuses and tariff rates are both set annually by the Government and are reducing over time as technologies develop into commercial viability.

Spanish feed-in tariffs rates are comparable to Germany’s for most technologies but considerably less for solar PV.<sup>[4]</sup>

<b>Technology</b>	Spanish feed-in tariff 2003 € cents/kWh	Spanish bonus price 2003 € cents/kWh
<b>Onshore Wind</b>	6.21	2.66
<b>Offshore Wind</b>	6.21	2.66
<b>Solar PV</b>	21.6 – 39.6	18.00 – 36.00
<b>Hydro small-scale</b>	6.49	2.94
<b>Biomass - pure</b>	6.05 – 6.85	2.51 – 3.32

Feed-in rates for new projects in Spain are guaranteed only for 5 years (compared with 20 years in Germany) but there is an implicit renewal guarantee and this has not harmed investor confidence in the sector.

One major result of the Spanish system of feed-in tariffs has been an impressive rate of growth in wind power. The average annual growth rate in installed wind capacity between 1996 and 2002 was 69.4%.<sup>[4]</sup>

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