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COUNTRY REPORT: UNITED KINGDOM
Energy and Ecosystem Services

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Introduction

The United Kingdom (UK), like many other industrialised countries, faces a multitude of challenges balancing its consumptive needs, the management of its ecosystems and ecological footprint. This Country Report will focus on these challenges in the context of the *Energy Act* (2011), the Government's proposed ch*anges to Feed-in-Tariffs* (*FITS*) for renewable energy and the National Ecosystem Assessment. This Report will also provide a brief update on the Welsh badger cull discussed in issue 2(1) of the *eJournal*.

New Legislation: *Energy Act* (2011) and the Green Deal

The *Energy Act* (2011), which received Royal Assent on 18 October 2011, is designed to implement the key findings of the *Electricity Market Reform Programme* focused on energy efficiency, low carbon supplies and enhanced market competition.[1] Central to the new legislation is the creation of the 'Green Deal', an energy efficiency initiative aimed at decreasing the energy consumption of private homes and workplaces through the instillation of energy saving mechanisms and the undertaking of repairs. Works initiated under the *Energy Act* are to be funded through

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[1] Department of Energy and Climate Change, *Energy Act* (2011). The full text of the Act can be accessed at http://www.decc.gov.uk/en/content/cms/legislation/energy_act2011/energy_act2011.aspx.

a new financing mechanism designed to increase their affordability.[2] The Act contains five main parts which are linked closely to its main objectives, namely: (1) energy efficiency; (2) the security of energy supplies; (3) measures for reducing carbon emissions; (4) the expansion of the existing Coal Authority; and (5) miscellaneous provisions including the repeal of the *Home Energy Conservation Act* (1995) (*HECA*).[3]

Chapter 1 of the Act establishes the Green Deal. It is aimed at increasing the uptake and installation of energy saving measures in households and businesses by private sector suppliers. Measures covered by the Act are classified in four categories: heating ventilation and air conditioning, building fabric, lighting, water heating and micro generation. These range in cost and complexity from lighting controls and draft proofing, to solar thermal and biomass boilers.[4] The initiative aims to increase instillation rates of these measures through removing the requirement of upfront payment and staggering payments through energy bill installments. Importantly, the Act includes technologies capable of generating energy as well as those capable of decreasing consumption, encouraging households to be become net energy producers.[5] Specifically, in order for an energy saving instillation to be funded under the Green Deal, it must meet a number of criteria. Some of these criteria are set out in the Act.[6] The details of these requirements are, however, presently under consultation. Broadly, the measure will be required to meet these still to be determined eligibility requirements and be attached to, and suitable for, the property in question. Once these criteria have been established, the 'Green Deal provider' is then required to make a 'finance offer' based on the potential energy savings of the instillation. A Department of Energy and Climate Change Paper on Green Deal measures provides that annual savings derived from the instillation will be required to be equal or exceed the annual repayment costs.[7]

In 2000, the UK launched its *Climate Change Action Programme*, which set the objective to reduce greenhouse gas emissions by 12.5 percent below 1990 levels by

[2] Department of Energy and Climate Change, *What Measures Does the Green Deal Cover?* (July 2011) 3.
[3] *Energy Act*, 'Explanatory Notes' (http://www.legislation.gov.uk/ukpga/2011/16/notes/division/2).
[4] Department of Energy and Climate Change (supra note 2) 7.
[5] Ibid, 4.
[6] *Energy Act*, sections 4-11.
[7] Department of Energy and Climate Change (supra note 2) 8.

2012.[8] Compared to many countries, homes and workplaces across the UK are comparatively aged and present substantial challenges for energy efficiency. Approximately a quarter of the UK's carbon emissions are derived from energy consumption in private housing and another quarter from business.[9] Reducing energy consumption in these areas is essential for meeting the Government's overall emission target and more specifically those targets set by the *Energy Act* (2008).[10] It is also important to note that in the era of austerity and budget cuts that the Act engages and relies upon the private sector for achieving its desired outcomes. The Government has indicated that it will be adopting a co-regulatory approach, working with the United Kingdom Accreditation Service (UKAS) to define the standards. The details of these standards have not been finalised. The DECC has, however, already stated that the companies participating the in the Green Deal will require licensing and accreditation and that an industry code will be in place to protect consumers during the lifespan of Green Deal's plans.[11] However, it is not possible to make an assessment of their effectiveness at this stage.

Parts 2 and 3 of the *Energy Act* (2011) are also linked to energy supply. They focus on the security of supplies and further measures to decrease emissions. Specifically, Part 2 aims to enhance energy security in the UK with provisions aimed at gas supplies empowering Ofgem to modify the Uniform Network Code to ensure the availability of sufficient gas levels during a 'gas supply emergency'.[12] Section 103 allows for changes to be made with respect to the continental shelf boundaries.[13] These changes have been made to enable the signing of a maritime boundary agreement with Ireland which will allow for the alignment of Exclusive Economic Zones.[14] Linking back to the energy consumption focus of Part 1, Part 3 of the Act extends the powers granted to the Secretary of State under the *Energy Act* (2004) to amend and extend offshore energy transmission licences past the existing 2010 deadline,[15] allowing for the continuation of these projects. It also makes changes to

[8] S. Bell and D. McGilvray, *Environmental Law* (2008) 2nd edition, Oxford University Press, 527.
[9] Department of Energy and Climate Change, *Green Deal* (available at http://www.decc.gov.uk/ en/content/cms/tackling/green_deal/green_deal.asp).
[10] Ibid.
[11] Department of Energy and Climate Change, 'Consumer Protection and the Green Deal' (May 2011).
[12] *Energy Act*, section 81; and Department of Energy and Climate Change (supra note 9).
[13] *Energy Act*, section 103; Energy Act, 'Explanatory Notes' (supra note 3).
[14] Department of Energy and Climate Change (supra note 1).
[15] *Energy Act*, section 104.

the nuclear decommission programme under the *Energy Act* (2008) and permits these sites to be used as carbon capture and storage sites (CCS).[16]

If there is one theme currently running through environmental matters in the UK, it is the conflict between cost and conservation. In the current era of debt and austerity, there exists substantial concern regarding the Government's commitment to its environmental mission. Placing the private sector at the centre of the *Energy Act* (2011) aims to achieve emission reductions in the household and business sector at limited public cost. However, this raises concerns as to whether the private sector is the most appropriate vehicle through which to promote these objectives. Great attention should be paid in the coming months to the details of the consumer protection and co-regulatory regimes as they emerge. Moreover, consideration must be given to whether delayed payment is a sufficient incentive to engage households and businesses with energy saving technologies.

Solar Subsidy Litigation: Solar Firms and Friends of the Earth

In two separate and ongoing judicial review applications, a coalition of solar installation companies and the Friends of the Earth have challenged the decision of the Department of Environment and Climate Change (DECC) to reduce solar Feed-In-Tariffs (FITs).[17] These planned reductions have been widely criticised for reducing the viability and attractiveness of renewable energy at a time when the UK is under increasing pressure to control emissions and air pollution. The new rates were planned to come into force on 12 December 2011, prior to the conclusion of the current Feed-In-Tariffs review on 23 December 2011 initiated by the DECC in October this year.[18]

Under the current scheme, which was introduced in April 2010 under the *Energy Act* (2008), households, community groups and businesses are able to invest in small-scale (under 5MW) low carbon generating technology for which they would receive a guaranteed payment for the surplus electricity they sold back to the grid. The renewable technologies covered by the scheme include solar, wind, hydro and

[16] *Energy Act*, section 107.
[17] D. Clarke, 'UK Solar Companies Take Legal Action' *Guardian* (London, 10 November 2011).
[18] Department of Energy and Climate Change, *FITS Review* (available at http://www.decc.gov.uk/en/ content/cms/meeting_energy/renewable_ener/feedin_ tariff/fits_review/fits_review.aspx).

anaerobic digestion.[19] Under the review launched on 31 October 2011, the DECC will examine the efficiency of the FITs programme with the view of the scheme delivering £40 million saving by 2014/15. The review will be conducted in two phases, the first of which will consider small-scale solar photovoltaics (PV), its linkage to 'specified energy efficiency requirements from 1 April 2012' and the introduction of new multi-instillation tariff rates for solar schemes. The second phase of the review will consider these issues in the context of non-solar technologies.[20] Despite the ongoing nature of the review, the DECC announced that it would change the rates paid to consumers for proposals lodged on or after 12 December 2011. This change will involve the rates decreasing from 37.8 pence per kWh to 21 pence for new builds and 43.3 pence per kWh to 21 pence for retrofits.[21] These proposals were intended to take effect before the end of the review period.[22]

A coalition of solar companies, led by Solarcentury, applied to the High Court for an interim injunction to stop the Government implementing these proposed changes prior to the completion of the formal consultation period.[23] The Friends of the Earth also challenged the decision on the basis that the change in the feed-in-tariff payments prior to the conclusion of the consultation period was unlawful. The charity has also expressed its concerned that the change of tariff levels may lead to the abandonment of current solar projects.[24]

On 21 December, the Administrative Court handed down its ruling on the enjoined matter. The Court granted declaratory relief holding that the decision of the DECC was both unlawful and one that likely to have 'significant impact' in practice.[25] The DECC appealed the decision. On 25 January 2012, the Court of Appeal, in a unanimous judgment, held that there was no power in the *Energy Act* (2008) 'to introduce a modification which reduced a rate fixed by reference to an instillation becoming eligible prior to modification' and more broadly that the Secretary of State for Energy and Climate Change did not have the power to make the proposed

[19] Ibid.
[20] Ibid.
[21] Ibid.
[22] Ibid.
[23] Clarke (supra note 17).
[24] Friends of the Earth, 'We Are Taking the Government to Court Over Solar Cuts' (14 November 2011) (available at http://www.foe.co.uk/news/final_demand_33279.html).
[25] *R (on the Application of Friends of the Earth) v Secretary of State for Energy and Climate Change; R (on the Application of Homesun Holdings Ltd v same; R (on the application of Solar Century Holdings Ltd) v same* [2011 EWHC 3575 (Admin) (21 December 2011).

changes.[26] Following the judgment, the DECC has again indicated its intention to appeal the matter, this time in the Supreme Court.[27]

These changes to the solar-based FITs and the continuing litigation highlight the tension again between expenditure and environmental initiatives. The timing of these changes also raises questions regarding the Government's commitment to the expansion of renewable energy initiatives under the *Energy Act* (2011).

Government Report: National Ecosystem Assessment

The management of ecosystems and consumption of ecosystem services is a vital issue. The recently released UK *National Ecosystem Assessment* (*NEA*)[28] considers the status of the UK's service producing ecosystems and proposes methods for their future management and conservation. The assessment was undertaken by the Department of Food, Environment and Rural Affairs in conjunction with the Governments of Scotland, Wales and Northern Ireland and the National Environmental Research Council. The *NEA* surveyed the country's natural environment and ecosystems dividing them into eight key habitats[29] and considered the ecological health, economic value, use and future pressures of these ecosystems.[30] The purpose of the *NEA* is to ensure the 'long-term sustainable delivery of ecosystem services for the benefit of current and future populations in the UK' and to support Britain's obligations under the *Convention on Biological Diversity*[31] and the *Water Framework Directive*.[32] Central to the NEA, was an

[26] *R (on the Application of Friends of the Earth) v Secretary of State for Energy and Climate Change; R (on the Application of Homesun Holdings Ltd v same; R (on the application of Solar Century Holdings Ltd) v same* [2012] EWCA 28 (25 January 2011); Per Lord Justice Moses.
[27] Department of Energy and Climate Change, 'Chris Huhne on Court of Appeal Decision on Feed-In-Tariffs' (10 February 2012) (available at http://www.decc.gov.uk/en/content/cms/news/huhne_fits/ huhne_fits.aspx).
[28] Countryside Council for Wales, Department of Environment, Food and Rural Affairs, Economic and Social Research Council, Natural Environment Research Council, Northern Ireland Environmental Agency, The Scottish Government and Welsh Assembly Government, *United Kingdom Ecosystem Assessment Report*: *Technical Report* (June 2011) available at http://uknea.unep-wcmc.org/ Resources/tabid/82/Default.aspx).
[29] Ibid. These habitats are: mountains; moorland and heath; semi-natural grasslands; woodlands; freshwater open-waters; wetplains and floodplains; urban; coastal margins; and marine.
[30] Ibid.
[31] *Convention on Biological Diversity* (1992) 31 *ILM* 822.
[32] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for community action in the field of water policy, OJ L327, 22 December 2000.

examination of the impact of urbanisation and current globalisation patterns on the environment and its capacity to deliver ecosystem services.

The UK, like many other industrialised nations, possesses very high levels of urban density, with approximately 80 percent of its 62 million inhabitants living in towns and cities. The *NEA* found that this high degree of urban living has effectively removed the environment from the daily lives of many residents and consequently that the natural source of ecosystem services are not appropriately valued and acknowledged.[33] It also noted that the production output from ecosystem services has dramatically increased over the past 60 years to meet growing consumption needs. The greatest output increases have occurred in the areas of livestock, crops and forestry resources through the intensification of farming and harvesting practices. However, the *NEA* provides that this intensification of 'primary' services has led to the contraction of 'supporting' ecosystem services such as nutrient cycling, insect pollination and 'cultural' services such as hedgerows.[34] The *NEA* also considers the relationship between ecosystem services and 'human well being' in the context of this increased productivity. It concludes that these increased yields have had both a positive and negative impact on society as enhanced production satisfies consumptive needs while placing greater pressure on supporting, regulating and cultural services.[35] The continuing pressures and disconnection between ecosystems and consumers are identified as a clear challenge. The Assessment however notes that that despite the past and present stress on ecosystems that improvements have been made over the past 20 years especially in the areas of fisheries management, farming, forests, air and water quality. In particular it credits the *Rural Development Programme* (as part of the UK implementation of the *Common Agricultural Programme*), *Water Framework Directive* and related legislative reforms as leading to significant improvements in ecological status.[36]

The *NEA* also highlights the importance of integrating the economic value of ecosystem services into decision-making processes. It argues that the 'economic, human health and social benefits' that we derive from ecosystem services are vital to both 'human well being and the UK economy' and that consequently 'each should be considered when evaluating the implications of changes in ecosystems and their

[33] *Ecosystem Assessment Report* (supra note 28).
[34] Ibid, 23-5.
[35] Ibid, 33.
[36] Ibid, 9 and 26.

services'.[37] At present, the values of most ecosystems services are not included within economic frameworks and decision-making. The *NEA* asserts that this exclusion is allowing for inefficient decision-making and the less effective allocation of resources. The economic valuation of these services, it argues, would allow for the tangible value of services to be assessed and given appropriate weight.[38]

Going forward, the *NEA* advocates the adoption of both a sustainability approach and effective regulatory measures. Importantly, the *NEA* views sustainability and sustainable management as the most appropriate mechanism to achieve a balance between the demands on ecosystem services and the needs of the ecosystem itself. The key findings assert:

> 'that a move towards sustainable development will require an appropriate mixture of regulations, technology, financial investment and education as a well as changes in individual and societal behaviour and adoption of more integrated…approach to ecosystem management.'[39]

In terms of achieving this goal, the *NEA* views broad based community and government participation as key. Integration in this sense is to involve a response on the 'local to global level' the development of linkages between the public, private, civil and voluntary societies to facilitate open dialogue and collaboration.[40] Despite the importance of this approach, the clear emphasis on anthropogenic factors must be acknowledged as it raises concerns as to whether this form of sustainability will place sufficient emphasis on the ecosystem rather than merely what it is able to produce for human consumption. The *NEA* pays particular attention to the success of previously mentioned European and domestic regulatory approaches which have put in place environmental protection measures, such as emissions limits and the removal of subsidies.[41] In terms of this integration, it proposes the linkage of this enabling level with foundation knowledge, instrumental market incentives and technology.[42] Potentially, it will be through this legislative element that environmental factors and ecosystem concerns will receive their equal footing.

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[37] Ibid, 42.
[38] Ibid, 42-3.
[39] Ibid, 5.
[40] Ibid, 53-6.
[41] Such as those adopted under the *Common Agricultural Policy*.
[42] *Ecosystem Assessment Report* (supra note 28) 54.

Country Report Update: Badger Cull Review and Badger Vaccination Trial

The previous UK Country Report[43] discussed the case *Badger Trust vs. The Welsh Minister*.[44] In this case, the Court of Appeal held a proposed badger cull under the *Tuberculosis Eradication (Wales) Order* (2009) to be invalid. Following the case and the halt of the proposed cull, the Welsh Government has undertaken a review to consider the most appropriate mechanisms to eradicate bovine tuberculosis (bovine TB) in Wales. The review, which is expected to report by the end of the year, will focus on the 'scientific evidence base' surrounding the eradication of bovine TB and in particular the validity and effectiveness of badger culling to tackle the problem. The Welsh Environment Minister, John Griffiths has refrained from introducing any further cull orders for the Intensive Action Area while the review is ongoing.[45]

In a related development, the Gloustershire Wildlife Trust has undertaken the first independent badger vaccination programme. The early results of the trial, which saw 35 badgers vaccinated against the bacteria that cause Bovine TB in cattle, found that vaccination could be carried out effectively at a cost of £51 per hectare. This is substantially higher that the culling cost of £20 per hectare. While the study did not specifically examine disease levels in badgers and cattle post vaccination (instead relying on previous research), it does highlight the potential for vaccination as a viable alternative to culling.[46] In light of the protected status of badgers and biodiversity value, the inclusion of non-cull such as vaccination, should be considered as part of any long-term and sustainable Bovine TB eradication programme.

[43] R. Bates, 'United Kingdom Country Report' (2011) 2(1) *IUCN Academy eJournal*.
[44] [2010] EWCA Civ 807.
[45] Welsh Government, *Review of the Scientific Evidence Base for the Eradication of Bovine TB in Wales* (21 June 2011). See further: http://wales.gov.uk/newsroom/environmentand countryside/ 2011/110621bovinetb/?lang=en.
[46] R. Black, 'Badger Cull Head for Further Consultation' BBC (12 October 2011) (available at http://www.bbc.co.uk/news/uk-14204236).