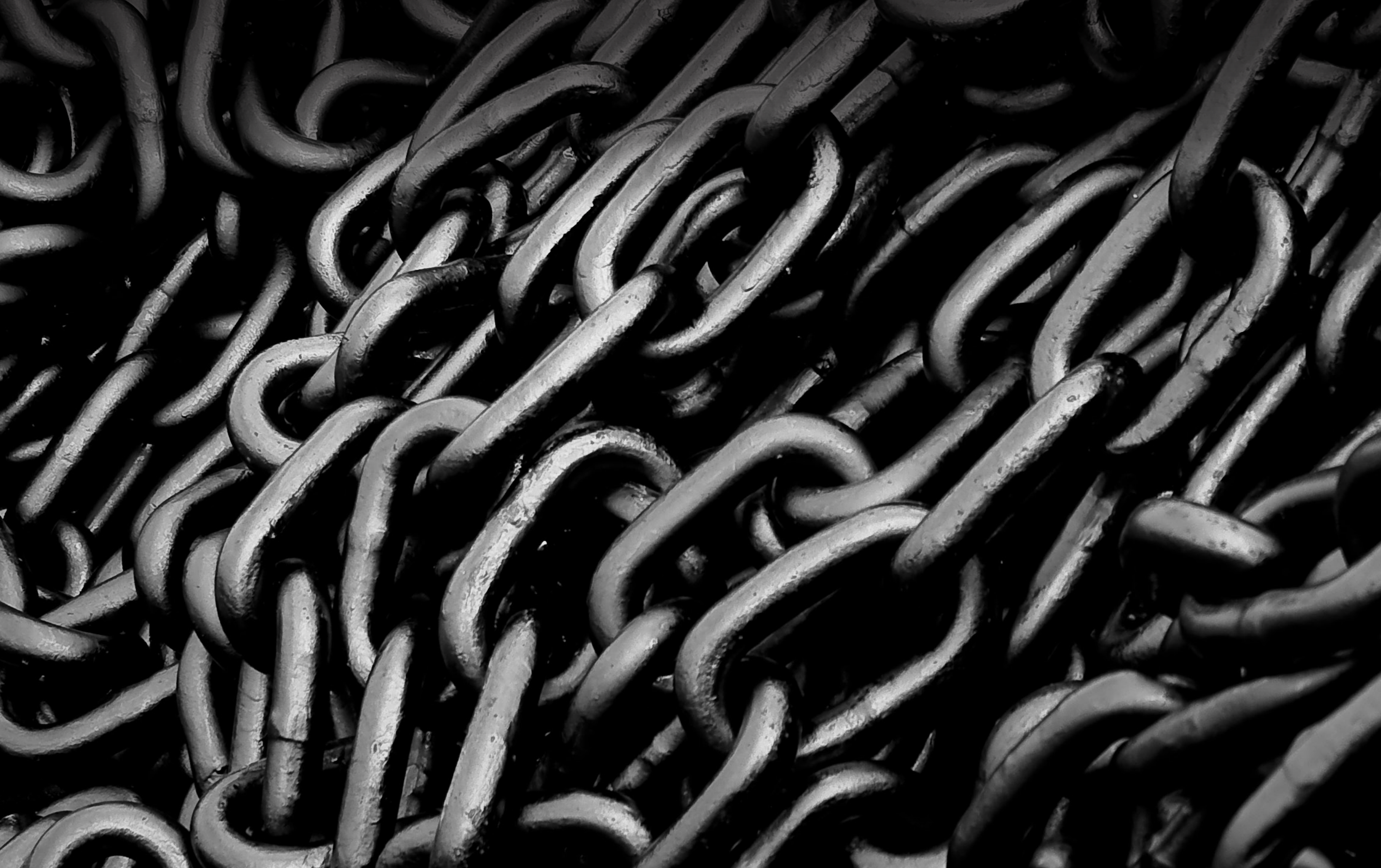
A LITTLE NUDGE WITH A BIG STICK

MISREPORTING ENERGY USE AND EMISSIONS IS NOW A CRIME IN THE UK

John Constable



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About the author

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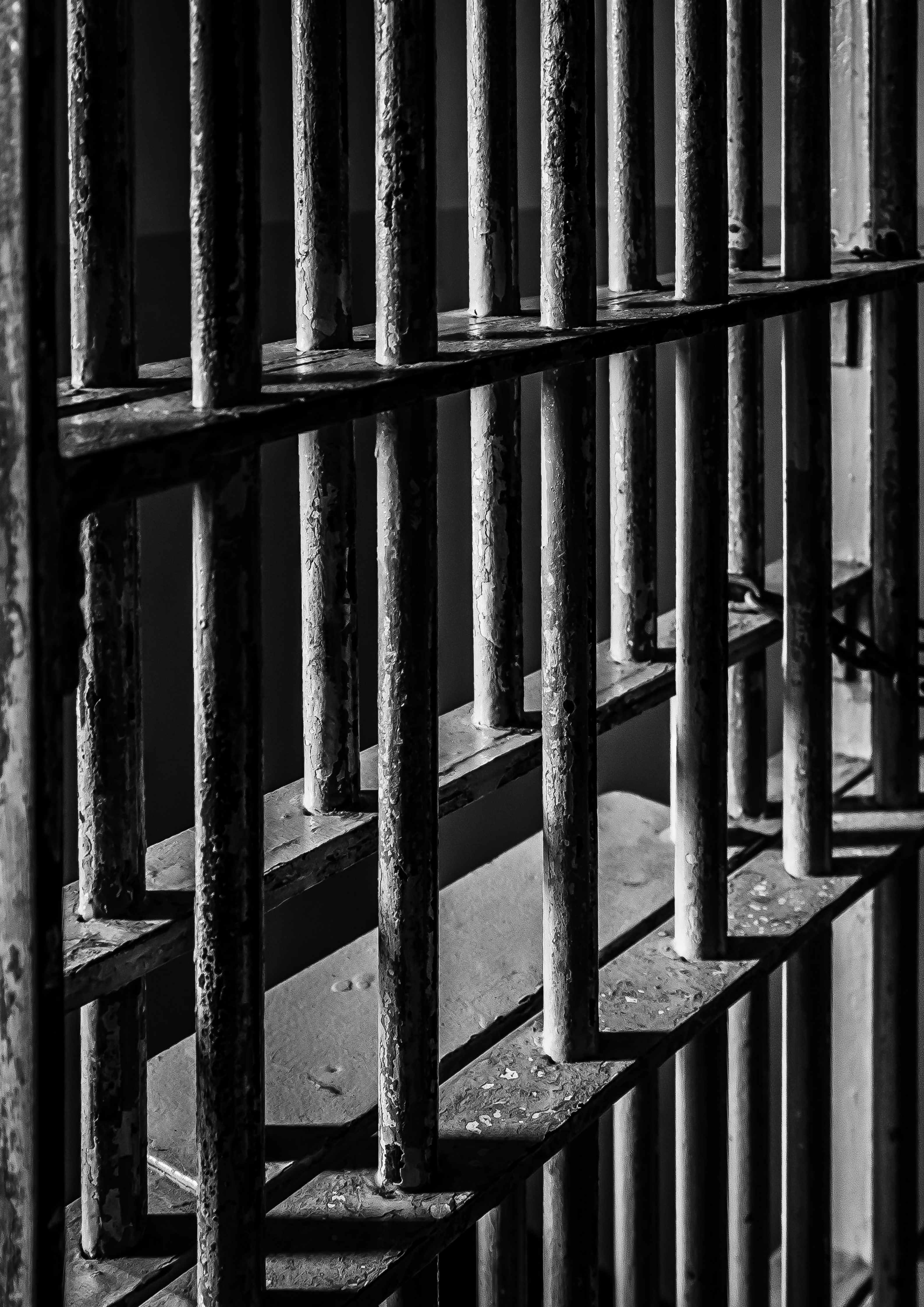

Summary

In 2015 Her Majesty's Treasury announced a review and reform of the business energy efficiency tax landscape, with a view to simplifying the system. After the fall of David Cameron's government, this policy agenda was transferred by Theresa May to the Department of Business, Energy and Industrial Strategy (BEIS).

The Treasury's liberal and reforming proposals were almost completely subverted, and the eventual legislation, which became law in 2019 with the deeply ironic title of *Streamlined Energy and Carbon Reporting (SECR)*, not only increases the number of commercial enterprises affected, but by embedding these statutory requirements within the Companies Act makes it a criminal offence to fail to report or to misreport energy consumption and greenhouse gas emissions, punishable by an unlimited fine.

Criminalisation is disproportionate to the magnitude of the breach of regulations, discourages entrepreneurial activity, increases business overheads, and creates a legal pressure point for vexatious 'lawfare'.

The present paper examines the detailed history of this miscarriage of policy and its implications. The study leads to the conclusion that Government should repeal the SECR requirements immediately, and return to the Treasury's original plans to reduce both the scope of pressure on businesses and the costs of compliance. This would require placing energy and greenhouse gas reporting – if any is really necessary – in its own, ideally voluntary, regulatory framework.

Energy and Carbon Reporting in the UK: Timeline 2006 to 2019

2006

8 November	*Companies Act 2006* receives Royal Assent. Introduces the requirement in Section 417(5)(b)(i–iii), that quoted companies must report information about their environmental impacts and also their employees and 'social and community issues'.[1]

2013

6 August	Statutory Instrument 1970, *Companies Act 2006 (Strategic Report and Directors' Report) Regulations 2013*. These regulations come into force on 1 October 2013, and make it mandatory for directors of quoted companies to report their energy consumption and emissions in the Directors' Report.

2014

February	*Environmental Reporting Guidelines*, published by DEFRA to support the Regulations 2013.[2]

2015

8 July	The Summer Budget announces that the government will review the business energy efficiency tax landscape and consider how to simplify and improve the effectiveness of the regime.[3]
September	The Treasury's consultation document *Reforming the Business Energy Efficiency Tax Landscape* is published.[4]

2016

16 March	The Budget of 2016 reaffirms the commitment to reform of the energy efficiency tax landscape, and undertakes to 'consult later in 2016'.[5] Despite this promise, there is no consultation until October 2017.
March	The Treasury publishes *Reforming the Business Energy Efficiency Tax Landscape: Response to the consultation*.[6]
14 July	The Prime Minister, Theresa May, creates the Department of Business, Energy and Industrial Strategy (BEIS) by merging the Department of Business, Innovation and Skills and the Department of Energy and Climate Change.
14 July	Greg Clark MP becomes Secretary of State at the Department of Business, Energy and Industrial Strategy, remaining in post until 24 July 2019.
27 November	Mr Clark is reported in the *Mail on Sunday* as bringing 'nudge' back into government.

2017

12 June	Claire Perry MP is appointed Minister of State in BEIS, remaining in post until 24 July 2019.
June	Publication of Task Force on Climate-related Financial Disclosures, *Recommendations of the Task Force on Climate-related Financial Disclosures*.[7] Report by Michael Bloomberg to Mark Carney of the Financial Stability Board.

October	BEIS publishes *Streamlined Energy and Carbon Reporting: Raising awareness, reducing bills, saving carbon* (October 2017).[8] The consultation document is introduced by Claire Perry. This is the first mention of making mandatory energy and emissions reporting part of a company's annual reports. The possibility of the extension of these requirements to limited liability partnerships (LLPs) is also raised.
16 October	Publication of the impact assessment of the *Streamlined Energy and Carbon Reporting Framework* (BEIS022(F)-17-CG).[9] This document refers to a Regulatory Policy Committee Assessment, RPC16_DECC3338(1), but this does not appear to have been published.
October	BEIS publishes *The Clean Growth Strategy: Leading the way to a low carbon future*[10] alongside the *Streamlined Energy and Carbon Reporting* consultation, and making many references to it. The Treasury's intention to streamline energy and carbon reporting is now absorbed by Mr Clark's 'Strategy' packages, notably the Industrial Strategy.
9 November	*Streamlined Energy and Carbon Reporting* seminar conducted by three BEIS departmental officials: Michael Rutter, Gary Shanahan, and Sami Gllogani.[11]
27 November	BEIS publishes its white paper, *Industrial Strategy*: *Building a Britain Fit for the Future*.[12]
1 December	BEIS's 'Impact Assessment Workshop' announced at the seminar on the 9 November. No documentation is available.
2018	
20 June	Regulatory Policy Committee, *Streamlined Energy and Carbon Reporting*. RPC-3388(2)-BEIS. RPC declares the new agenda 'fit for purpose'.[13]
July	BEIS publishes *Streamlined Energy and Carbon Reporting: Government Response*.[14]
18 July	BEIS publishes *Streamlined Energy and Carbon Reporting Framework*. Impact Assessment.[15]
6 November	Statutory Instrument 2018 No. 1155. Companies (Directors' Report) and Limited Liability Partnerships (Energy and Carbon Report) Regulations 2018 becomes law.[16]
6 November	Publication of Explanatory Memorandum to Companies (Directors} Report) and Limited Liability Partnerships (Energy and Carbon Report) Regulations 2018.[17]
2019	
March	Publication of HM Government (BEIS and DEFRA joint authors), *Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance* (March 2019).[18] Updated Introduction and Chapters 1 and 2.
1 April	Companies (Directors' Report) and Limited Liability Partnerships (Energy and Carbon Report) Regulations 2018 comes into force.

1. Overview

On 6 November 2018, Statutory Instrument No. 1155 *Companies (Directors' Report) and Limited Liability Partnerships (Energy and Carbon Report) Regulations 2018* was made law, coming into force on 1 April 2019. The Statutory Instrument draws on powers conferred on the Secretary of State by the *Companies Act (2006)* and the *Limited Liability Partnerships Act (2000)*.

As a consequence of this Statutory Instrument, it is now a criminal offence in the UK for directors of both registered and unregistered companies and for partners in LLPs (Limited liability partnerships) operating businesses that meet certain thresholds of energy consumption and operational size to fail to report, or to incorrectly report, the energy consumption and emissions of their business. This crime is punishable by a fine of 'any amount'; in other words, by an unlimited fine.

About 12,000 companies are affected by this regulation, a substantial increase on the approximately 1,000 companies in the scope of the 2013 law introducing mandatory greenhouse gas reporting, legislation announced at the Rio+20 Summit by the then Deputy Prime Minister, Nick Clegg.[19]

These facts are little known, even amongst lawyers engaged in the relevant branches of company law. Indeed, company directors and LLP partners themselves are frequently unaware that many breaches of the Companies and the LLP Acts are criminal offences, and therefore do not appreciate the deep significance of adding energy and carbon reporting to the statutory requirements under those Acts.

Adding energy and carbon reporting to existing statutory requirements in the Companies Act, rather than creating a new instrument with penalties proportionate to the significance of breaches, was never raised at any point in the consultation and development of this legislation, between 2015 and the Statutory Instrument of 2018. Competent lawyers will have realised that criminalisation was implicit in the decision to embed the requirements in the Companies Act, but the fact remains that government did not make the point explicit, and one suspects that few who read the documentation and responded to the consultation fully appreciated the significance of the proposal. It does not appear to have been raised in any of the consultation responses released in late 2020 in response to a Freedom of Information request by the present author.

Furthermore, nothing like the 2018 legislation was initially envisaged by the Treasury when Damian Hinds MP, acting as Exchequer Secretary, signed the first public announcement of government's intention to reform the business energy efficiency tax landscape in September 2015. Neither the text of that consultation, nor its formal response, also signed by Mr Hinds, contains any statement of intent to embed the new requirements in the Companies Act and so potentially make breaches criminal offences. On the contrary, it suggests more than once that the new requirements would have their own distinct and independent vehicle, in which the issue of criminality would not arise unless specifically required by new legislation.

There is a curious story here, and a large part of the present paper is devoted to understanding how the Treasury's proposals foundered and were subverted after the reforms were transferred to the new Department for Business, Energy and Industrial Strategy (BEIS) in mid-2016. The Secretary of State for the new department was Greg Clark, who remained in this post from 2016 to 2019.

The first statements of an intent to employ the Companies Act appeared in the BEIS consultation text of 12 October 2017 and in the Impact Assessment of 16 October 2017, both of which were signed by Claire Perry MP, then serving as Minister of State for Climate Change and Industry (the first of two similar positions she held in BEIS between 2017 and 2019).

Superficially, the new consultation appeared to resemble the Treasury's original intentions, with clear references to energy efficiency and the reduction of administrative burden. But the novelty in the new proposals was hardly concealed. Perry's 'Ministerial Foreword' acknowledges the desire to simplify existing legislation, but immediately qualifies the argument with the words 'Reporting still has a valuable role to play – what gets measured gets managed'. That is a very sinister observation; what gets measured in a business may well be managed, but not necessarily by the business itself. And if managed by an external party, indirectly through legislation perhaps, it will not necessarily be controlled either benevolently or competently. There is every reason to fear this negative outcome in the case of energy and carbon reporting.

Perry's foreword continued:

> The proposals here for mandatory reporting are designed to be simple, to align with what we have been told about best practice in the UK and internationally, to potentially build on the existing mandatory reporting of greenhouse gas emissions by UK quoted companies and to ensure we are not imposing unnecessary administrative burdens on UK business. The UK government is not creating new standards, we are simply requiring businesses to measure energy and carbon using existing standards.[20]

In retrospect, we can see that simplification was being combined with increased stringency, an extension of scope, to include many thousands of additional companies and LLPs, as well as the application of criminal sanctions.

Moreover, the underlying justification for mandatory reporting is questionable. Perry writes that 'The message we want business to hear is that energy is a controllable cost.' A moment's reflection is hardly required to see that this cannot have been news to anyone operating a commercial enterprise. Energy is obviously a controllable cost, and it is remarkable that officials can have so convinced themselves of the stupidity of those in commerce as to draft this sentence for a ministerial foreword. One suspects that the department was motivated by other matters and saw an energy efficiency campaign as a convenient cover for a sterner regulatory agenda, namely the erosion of private property rights through stakeholder capitalism to deliver increased control over businesses in the interests of delivering climate-change policy targets.

Consider a further pair of sentences:

> There is a significant potential for UK businesses to save money, estimated at over £2 billion per year, through improved energy efficiency in buildings and processes. Saving energy is a very cost-effective way to reduce costs, save carbon, and help to meet our emissions reduction targets.

When reading this passage before adding her signature, did the Minister ask herself why such a large sum of cash had been left on the table by those most immediately concerned? Did she wonder why those with most to gain from this £2 billion saving, the profit-seeking businesses themselves, should have failed to correctly calculate their self-interest? Did it occur to her to ask why remote and disengaged civil servants were able to see something invisible to those closest to the matter? Was she troubled by a doubt as to who was more likely to be in error about efficiency measures: those engaged on the ground in allocating scarce resources to produce goods and services and secure profit, or the desk-bound and distant devisors of abstract policy and their paid advisors? Or were all these awkward questions simply pushed to one side in the haste to extend regulatory control and correct a 'market failure' the existence of which has become, for many, simply an article of faith.

We may never know what ministers thought about their legislation, and it is conventional to assume good intentions, but we can be quite certain that the ostensible justification – that mandatory reporting would increase the adoption of efficiency measures, and thus reduce consumption and emissions – is intellectually bankrupt. If ministers were sincere, they were extremely foolish. The sentences quoted above from Perry's foreword are a perfect example of what the Victorian economist William Stanley Jevons referred to as the 'complete confusion of ideas' that leads to a belief that energy *efficiency* delivers energy *conservation*.[21] As a matter of empirical fact, from the evidence in the history to which Jevons pointed, and in all subsequent experience, it is certain that efficiency improvements either increase demand for the good or service due to cost reduction or, if demand for those goods and services is inelastic, economise energy for use elsewhere. The economic growth resulting from this 'economy of power', results in *increased* not *reduced* energy consumption. Consequently, the only context in which an efficiency measure delivers conservation of energy is when the efficiency measure fails, increases costs and reduces demand for the good or service. There are no exceptions to this rule, and all policies attempting to present conservation as efficiency should be understood either as intellectually confused or as an evasive pseudonym for rationing.

Thus, the ostensible justification for mandatory reporting is inadequate. There never was any reason to nudge or coerce businesses; they are strongly motivated to seek improvements to productivity and energy efficiency, and their information on how to do so in their own circumstances will always be better than that of a government department. Indeed, the intelligence available to businesses and their directors is all but certain to be superior because they are sensitive to the information in dynamic circulation within the marketplace. By comparison, governments rely on consultants and information from lobbyists, are overly abstract, thinking that one size fits all, and only sensitive to information consistent with current policy. They 'see like a state', and states are purblind.[22] This is not unknown within the bureaucracy, and whenever 'energy efficiency' is mentioned in a departmental document there is every reason to suspect that some other axe is being ground.

Indeed, when BEIS came to justify its 2017 consultation text claim that there was:

> …insufficient awareness, notably at senior management level, of energy costs and cost-saving opportunities that exist across whole businesses…

…all it could find to support the point was an advertorial supplement from E.ON in the *Daily Telegraph*.[23] That scant support base confirms the suspicion, on theoretical and common-sense grounds, that there is no real basis for this view. Business administrators are very conscious of energy costs.

In reality, it seems likely that energy efficiency was simply the camouflage thrown over another policy agenda – for example coerced reductions in energy consumption – that would have been altogether more threatening and less easy to justify in public debate. This is particularly clear with regard to *Streamlined Energy and Carbon Reporting* (SECR), the title by mandatory reporting became known in 2017, where the ostensible aims of the policy – to employ consciousness-raising to improve efficiency and deliver conservation while reducing emissions – could have better been achieved by means other than the introduction of mandatory reporting together with the sanction of criminal law.

That the commitment of both minister and department to efficiency in its real sense is in practice weak or non-existent can be gauged from a further glissade in reasoning. The Minister wrote:

> Public disclosures can make the economy more efficient, and more stable. They address an important market failure – lack of information on exposure to energy- and climate-related risks.

The first claim here, a paraphrase of a remark by Michael Bloomberg,[24] confuses the dissemination of experience and research that underlies technical progress, and the mandatory reporting of a particular resource use. The second is an incoherent muddle of the false and the controversial. As has been already observed, businesses have no lack of information about exposure to energy; they know more about this as it bears on their own case than any other party. Neither do they lack information about climate risks; quite the reverse, they are subject to an incessant bombardment urging the extremity and immediacy of this problem. If businesses are not reacting in the way that government believes that they should, this may not be for lack of information, but because businesses interpret the information differently or find only limited scope for practical action that does not involve economic immolation. Government should have paused to ask whether there was a failure of informational quality and practicality rather than a market failure. But they did not, and the result was the 2018 Regulations.

BEIS is not alone in this error. In many jurisdictions, reporting is now a key element in the pressure applied to companies to deliver climate policy objectives, whether it is the Paris Agreement commitments in general, or, as is the case in the UK, a target for Net Zero emissions by 2050. When speaking at the launch of the COP26 Private Finance Agenda at the Guildhall, London, on 27 February 2020, the outgoing Chairman of the Bank of England, Mark Carney, referred to 'the three Rs of tackling climate change':

> Reporting . . . risk management . . . returns.[25]

And the greatest of these, since it comes first, is *Reporting*. That may seem feeble, limp even. How can reporting have any real consequence? A reader might imagine that reporting is the equivalent of the confessional, a cheap and convenient way of obtaining forgiveness for activities that no one has any real intention of doing without. This would be quite wrong. The manner in which the UK is implementing the reporting of emissions shows clearly that reporting has the potential to be *dirigiste* in itself, but can also pave the way for much more intrusive legal controls. It is, on close examination, quite as significant as Carney's rhetoric implies.

This short study will examine how the UK began by promising to streamline energy and carbon reporting, but instead made reporting requirements more detailed, extended the scope to catch many more companies, and even made it a criminal offence for business officers to fail to comply.

The sweeping requirements of the 2018 Regulations build on those placed on quoted companies in the *Companies Act 2006 (Strategic Report and Directors' Report) Regulations 2013*,[26] which itself builds on the introduction of generalised corporate social responsibility requirements in the *Companies Act 2006*, namely Section 417(6) prescribing the contents of the Business Review:

> The review must, to the extent necessary for an understanding of the development, performance or position of the company's business, include—
>
> (a) analysis using financial key performance indicators, and
>
> (b) where appropriate, analysis using other key performance indicators, including information relating to environmental matters and employee matters.

'Key performance indicators' means factors by reference to which the development, performance or position of the company's business can be measured effectively.

The new regulations of 2018 extend this requirement and its sanction to all companies (quoted and unquoted), listed and unlisted, and to all LLPs, satisfying two or more of the following criteria:

- Turnover: £36 million or more
- Balance sheet total: £18 million or more
- Number of employees: 250 or more

Companies caught by these criteria but consuming less than 40 MWh of energy per year are exempt. The practical effect of this was to greatly increase the number of companies required to report. The government's own Impact Assessment of 2018 estimates the number of companies within scope at about 12,000 before the *de minimis* consumption exemption, and 11,300 after its application,[27] as compared to the approximately 1,000 quoted companies (out of a total of about 2,000 quoted in the UK) within the scope of the requirements of the *Companies Act 2006* and the 2013 Regulations.[28]

Thus, the 2018 Regulations at a sweep hugely increased the scope of environmental regulations, and backed them with criminal sanctions. To call this a streamlining of the regulatory landscape is to play with words; at the economy-wide level, this is regulatory expansionism.

Notwithstanding these implications, the 2018 Regulations have received very little publicity, and there has been no evident disquiet at the precedents created or the fact that such illiberal and intrusive legislation should have emerged under a Conservative administration. Nor has anyone observed that the application of criminal sanctions to energy and carbon reporting was not raised by the government in the consultation documents or the Impact Assessments published during the consultation process prior to the Statutory Instrument.

Government would doubtless say, and with truth, that criminal sanctions already applied to the Regulations of 2013, and therefore no new *principle* was involved, and that the Companies Act[29] was explicit in granting the Secretary of State the power to create criminal offences through further regulations, and that the Secretary of State, Mr Clark, was therefore within his powers.

Nevertheless, an objective observer would surely respond that a great enlargement of the scope of the regulations, and therefore the number of companies and directors facing criminal sanctions, put a moral if not a binding requirement on government to raise the matter in consultation.

It is certainly arguable that there are already too many criminal offences in the Companies Act, and that it was not only wrong to add to them without proper public discussion, but also bad economic policy. Needless criminalisation inhibits entrepreneurial activity and encourages businesses to register and to locate their activities in other jurisdictions.

There is much besides that is unsatisfactory in this situation. Energy and carbon reporting is not in itself a trivial activity, and it is unlikely than many of the companies affected will have sufficient in-house expertise to ensure compliance. This will result in additional costs, either in employing such staff or of contracting with external companies, costs in all probability well beyond the government estimates. Furthermore, and this appears to be little appreciated, the independent auditors responsible for approving directors' reports to ensure compliance with the criminal law will also have to expand their competence or potentially face the consequences of mistakenly signing off non-compliant energy and carbon reports. Even the barnacles have barnacles.

A less immediate concern, though still a concern, is the precedent created by contextual implication through the 2018 Regulations. The Companies Act of 2006 establishes the principle that the directors of quoted companies are under a criminally sanctioned requirement to reveal their environmental impacts. The justification for this would be that an environmental impact is a socially universal matter (in the same paragraph, the Act also requires the disclosure of social effects) and that therefore the criminal rather than the civil law is engaged. The Regulations of 2013 confirm and extend the requirement of the 2006 Act, and the regulations of 2018 take them still further. The next steps are predictable. At some future point, a legislator wishing to criminalise the act of emitting carbon dioxide, or even the consumption of energy beyond a certain, rationed, limit, might argue that *established* company law recognised that failure to disclose energy consumption and emissions was a matter of public interest and therefore a criminal matter, and that therefore by implication it was recognised that consumption and emissions were a matter of concern to the criminal law, and so in consequence that the activities themselves should be subject to criminal sanction.

We do not know whether Treasury was attempting to correct this problem, but it is quite conceivable that in proposing to simplify the regulatory landscape, they intended to remove energy and carbon reporting to a safe distance from the criminal law, by extracting it entirely from the Companies Act. What we can say is that without difficulty or public outcry, their broadly sound simplifying intentions were turned through 180 degrees. That it could happen so confirms just how steep and slippery is the slope created by the *Companies Act 2006* and the Regulations of 2013.

After transfer to BEIS, the Treasury's liberal reform agenda was repurposed to extend the scope and the depth of the reporting requirements, and covertly to extend criminalised non-compliance to a much larger part of the economy. There is every reason to fear that this will, wittingly or unwittingly, be an incremental step towards still more *dirigiste* control at a later date.

But the immediate effect will be to exert a largely indirect pressure on those susceptible to the sanction. Prosecutions by the Insolvency Service under the Companies Act and Regulations derived from it are comparatively rare. I have been advised by experienced company lawyers that they do not feel it likely that government will spontaneously and proactively police the new regulations and issue criminal proceedings. Nor do they believe that this was the department's intention. Government as a whole lacks the resources to perform detailed audits of thousands of energy and carbon reports, and it would be quite beyond the capacity of either BEIS or the Insolvency Service. An entirely new and heavily staffed office would have to be created, and this is not envisaged.

Instead, what the legislation has done is to create a *pressure point* on future administrations that could be used by internal parties such as shareholder activists, and external parties such as Greenpeace, Friends of the Earth, Client Earth, and other green NGOs. Such parties might conduct their own investigations of company reporting, and then refer the matter to the Insolvency Service, or even to the police, and simultaneously put pressure on the government of the day to prosecute. In the febrile context of international climate policy, and since the issue is now criminal, this pressure could be very hard to resist.

That this is entirely plausible can be inferred from the remark by Claire Perry, in the introduction to the 2017 consultation, when she observed that:

> Investors want greater disclosure so that energy and climate risks and opportunities can be accurately priced and factored into their decisions.

To employ criminal sanctions to this end is, in my view, disproportionate to the point of being unjust. Unfortunately, businesses find themselves in an extremely difficult position. Given the criminal sanctions that apply, there is no option but to take the regulations extremely seriously, ensuring punctilious compliance so that climate campaigners and shareholder activists have little opportunity to argue that there has been a breach of the criminal law. Nevertheless, due to intrinsic difficulties in delivering accurate reporting, there is an irreducible minimum of risk, and businesses should be alert to the possibility of malicious *lawfare*, either from campaigning groups or even from industrial and commercial competitors.

In spite of best efforts, the vulnerability will remain. Pinpoint accurate reporting will not always be easy; there is inevitable uncertainty in all such data collection, particularly concerning emissions, around which there are notorious difficulties. Inconsistencies in the time series of energy and emissions data that will be created by annual audited accounts are not unlikely, and even single-minded adherence to the guidelines published by government may not be sufficient to protect businesses from vexatious pursuit. Reform of the legislation, in keeping with the Treasury's original intentions, is therefore needed. The requirement to report energy consumption and greenhouse gas emissions should be removed from the Companies Act, and placed in its own, preferably voluntary, regulatory framework.

2. The prehistory

The history of the Statutory Instrument of 2018 introducing the *Companies (Directors' Report) and Limited Liability Partnerships (Energy and Carbon Report) Regulations 2018* begins with the Summer Budget of July 2015, but, as discussed above, it draws on powers in the *Companies Act 2006* and the Regulations of 2013. Beyond that, there is a still deeper, less formal, intellectual context surrounding energy efficiency regulations. It may be as well to remind the reader of what it is so easy to forget in studying the post-2015 history, namely that the ostensible reason for requiring companies to report publicly on their energy consumption and emissions is to encourage the adoption of energy efficiency measures. It is with the history of efficiency and conservation that we must therefore start.

Government measures to encourage energy conservation date back at least to the campaign of the Ministry of Fuel and Power in 1942, which encouraged citizens to 'Cut your Gas and Electricity', with subsidiary campaigns aimed at reducing domestic consumption of coal to 'Save Fuel for the Factories'. Even in wartime, these campaigns were only dubiously and temporarily successful. Domestic coal consumption did plateau briefly in 1942/3, but a mild winter may have accounted for all the effect observed. It is certainly true that consumption returned to an upward trend in 1943, while household electricity consumption doubled in the period 1943–48, nearly all that being the output of coal-fired power stations. The well-known coal crisis in the exceptionally cold winter of 1946/7 produced emergency measures, involving blackouts and what was in effect electricity rationing, leading ultimately to the end of any formal government involvement in this area; from the fifties until the 1970s there were few state interventions regarding conservation or efficiency, conservation being irrelevant at a time of cheap energy, and efficiency being left to the decisions of individuals and companies.

This changed with the oil shocks of the 1970s, which encouraged government to introduce conservation policies. The well-known 'Save It' campaign of 1974, for example, for the first time introduced the deliberate confusion of conservation measures aimed at reducing consumption with efficiency measures intended to reduce costs: 'Forgetting to turn those little things off wastes £s' ran one slogan. In 1977, government introduced a further package of measures to deliver conservation. A list of these policies differs hardly at all from a list that might be drawn up today, suggesting that almost nothing has changed:

- Bring private and public sector housing up to a basic level of insulation.
- Improve public sector energy efficiency.
- Promote energy-saving investment for industry, commerce and agriculture.
- Demonstrate the value of innovative and inventive new technologies.

- Reduce the rate of growth in demand for oil for transportation.
- Increase national awareness of the need for energy conservation.

Since these policies persist today, it seems that the extended and expensive campaigns have had little effect. It was certainly accepted at the time that the results were disappointing, and in 1983, the then Secretary of State for Energy, Peter Walker, initiated a vigorous interventionist approach. Between that year and 1987, some 20,000 senior business executives had meetings with ministers to discuss energy efficiency. With the help of the Saatchi agency, a new £70m campaign began and a new slogan was adopted: 'Get More for your Monergy'. 1986 was declared 'Energy Efficiency Year'. Energy consumption did decline slightly between 1978 and 1988, but whether this was due to the campaigning or economic turbulence is unclear. What is certain is that consumption in 1998 was much higher than in 1978.[30]

Reflecting on the institutional experience, the civil service should have concluded from this disappointing performance that efficiency campaigns do not deliver conservation and may not even deliver efficiency improvements. But they did not. Instead, they seem to have adopted the extraordinary view that there is a broadscale market failure, an act of collective short-sighted irrationality, whereby commercial operations neglect viable efficiency methods in spite of their obvious merits. This view, seen everywhere in the underlying assumptions of modern policy, is itself irrational, but it finds its explanation in the refusal to accept that the failures of energy efficiency and conservation policy from 1942 to the late 1990s were the result of civil service misconceptions.

By the late 1990s, efficiency and conservation were no longer of interest solely for their economic benefits, but had been absorbed by a concern with climate change, which, if a landmark is needed, became the principal motivating factor with the application of the Climate Change Levy, a tax charged on carbon-emitting fuels used by businesses, on 1 April 2001. The levy was accompanied by the introduction of voluntary Climate Change Agreements, which were entered into by businesses willing to reduce energy consumption and their emissions of greenhouse gases.[31]

The UK was not alone in taking this turn, with the European Union's 'Large Combustion Plant Directive' also being introduced in 2001 and the EU Emissions Trading Scheme (EU ETS) in 2005.

Many other instruments followed. We have already noted that the *Companies Act 2006* introduced mandatory environmental reporting for large companies, and although the term itself is not used in the legislation, the Act moved towards full endorsement of the theory of Corporate Social Responsibility (CSR; now known as Environment, Sustainability, Governance, ESG). Mr Blair, it will be recalled, was Prime Minister. This was followed by the UK's Carbon Reduction Commitment, now known as the CRC Energy Efficiency Scheme, which was announced in the 2007 Energy White Paper, introduced via enabling powers in the *Climate Change Act 2008*, and came into effect in April 2010.

The government of the UK unilaterally introduced a Carbon Price Floor on 1 April 2013, notionally to reinforce the ETS, though having the functional character of preparing the way for carbon taxation in the UK at a later date.

To implement the EU Energy Efficiency Directive (2012), the UK government created the Energy Savings Opportunity Scheme (2014), which is administered by the Environment Agency.[32]

And alongside this, 'Mandatory Greenhouse Gas Reporting', for quoted companies only, was introduced by the Conservative/Liberal Democrat 'Coalition Government' in 2013 via a Statutory Instrument drawing its powers from the *Companies Act 2006*. The Deputy Prime Minister, Nick Clegg, announced the legislation at the RIO+20 Earth Summit on 21 June 2012.[33]

This Statutory Instrument, *The Companies Act 2006 (Strategic Report and Directors' Report) Regulations 2013*,[34] is not limited to emissions reporting, and indeed places requirements on companies to report the numbers of each sex in their employment, a point showing that these amendments to the Companies Act are generally developments of, and consistent with, CSR and ESG.

The introduction was not without opposition. The CBI very sensibly called for the immediate and compensating abolition of the Carbon Reduction Commitment to avoid duplication.[35] But this did not happen, doubtless because the Liberal Democrats did not wish to be seen to be responsible for removing environmental legislation of any kind.

The clumsy and overlapping character of the 2013 Regulations is typical of the period; the years between 2001 to 2013 saw the introduction of many new environmental, and more broadly CSR/ESG-related, regulatory burdens on businesses, several but not all of them supported by criminal sanctions, and several of them touching on energy efficiency. Many of them, such as the CRC and the 2013 Regulations, covered the same ground.

It is not surprising, therefore, that by 2015 Her Majesty's Treasury became sufficiently concerned to initiate a 'review of the business energy efficiency tax landscape' with a view to discovering 'approaches to simplify and improve the effectiveness of the regime'.[36] An account of this phase must begin with the Summer Budget of 2015. David Cameron had somewhat unexpectedly secured a majority at the General Election in May, and had appointed George Osborne as Chancellor and Amber Rudd as Secretary of State for Energy and Climate Change. Free of their awkward coalition with the Liberal Democrats, who had controlled the Department for Energy and Climate Change throughout the period of coalition, there was a general expectation that the Conservatives would attempt to address some of the more heavy-handed policies bequeathed to them by their former partners. The Treasury, which had also been strongly inflected by Liberal Democrat interests, now had David Gauke as Financial Secretary and Damian Hinds as Exchequer Secretary. The 2013 Regulations, clearly a pet policy of the Liberal Democrats, seem to have been in their sights.

3. The history of the 2018 regulations

Summer budget 2015

The detailed background to the Treasury's motivation for the remarks in the Summer Budget,[37] published on 8 July, is not known to me, but we can make inferences based on the wording:

> 1.258 The government also aims to develop a simple, fair and more efficient energy environment for business that minimises administrative burdens and improves incentives for business to invest and grow. The government will review the business energy efficiency tax landscape and consider approaches to simplify and improve the effectiveness of the regime. A consultation will be launched in autumn 2015. (p. 58)

> 2.153 Business energy tax reform – The government will review the business energy efficiency tax landscape and consider approaches to simplify and improve the effectiveness of the regime. The review will consider the Climate Change Levy (CCL), Carbon Reduction Commitment energy efficiency scheme and their interaction with other business energy efficiency policies and regulations. A consultation will be launched in the autumn. (p. 93)

This is classic bureaucratic indirection; no clear interpretation results from repeated readings. However, examined less at the sentence level and more as a collage of verbal impressions, the tendency, if not the precise route to be taken, becomes apparent. For such a reading the key terms are 'simple', 'efficient', and 'tax'. They speak of 'energy efficiency', but it is rendering the policy economically 'efficient' that is their core concern. The clutter of multiple mechanisms is not only administratively burdensome but sends signals that are unclear and hence ineffective. If the author of these passages was thinking of a carbon tax, that would be wholly unsurprising since it has been long known that the Treasury's view is that carbon taxation should form the sole instrument of climate policy.

It is equally well-known that the Carbon Price Support, which was announced in 2010 and came into force on 1 April 2013, was seen by the Treasury as a step towards that end, and not simply as a means of preventing the collapse of the value of the EU ETS. Indeed, the Treasury's clear intention was to secure reductions of income support subsidies to renewables to offset the macro-economic cost of the Price Support Mechanism. However, the Department of Energy and Climate Change was in the hands of Liberal Democrat ministers during the Price Support consultation period; first Chris Huhne and then Ed Davey. Both resisted the Treasury's attempt to reduce Renewables Obligation subsidies to wind power, with the matter coming to a head in mid-2012, when Ed Davey briefed the media that the Treasury was 'actively undermining' the renewables industry.[38]

Because of the delicacy of the coalition government's power-sharing arrangements, Mr Cameron did not believe he could afford to upset the Liberal Democrats, and so on this occasion the Treasury's wishes were frustrated. But by this time neither BEIS nor the Treasury could afford to retreat without losing face, and so the electricity consumer ended up with the worst of both worlds, namely a proto-carbon tax in the form of the Carbon Price Floor, and only very slightly reduced subsidies to renewables.

But the Treasury did not abandon its objectives, and some of the bad blood resulting from the squabble can be detected in the announcement in the Summer Budget of 2015. This was closely followed by a consultation document, *Reforming the Business Energy Efficiency Tax Landscape*[39] in September 2015, which can be read as their return to a battlefield that was by this time free of Liberal Democrats. Ultimately, they would be beaten again, this time by the collapse of the Cameron government and its replacement by Theresa May's administration, in which Greg Clark would take the position of Secretary of State for Business, Energy and Industrial Strategy. However, in 2015 the Treasury appeared to be in a strong position and on the verge of driving forward towards a single carbon tax. The consultation text of September 2015 speaks for itself, as we will see.

The Treasury's consultation

The Treasury's emphasis, throughout the *Reforming the Business Energy Efficiency Tax Landscape* consultation, is on simplicity, exactly as one would expect from the Summer Budget announcement:

> A key aim of this review is to simplify the policy environment for business. This will minimise compliance costs and rationalise the current system of overlapping policies. The government envisages a simplified landscape that minimises overlap so that a single business or organisation faces one tax and one reporting scheme.[40]

Moreover, the purpose of this simplification was to reduce the costs of 'meeting [. . .] environmental and climate change targets':

> Demonstrating that policies provide value for money for the taxpayer is essential for ensuring long term public support for them. Central to this is improving the effectiveness of the policy environment to encourage businesses to realise energy and carbon savings, improve business productivity and support growth.[41]

Crucially, the 2015 consultation firmly, though tactfully, rejects the suggestion that extended mandatory reporting should remain within the realm of the Companies Act. Indeed, on the contrary, it is clearly stated that their preferred option was another legal context altogether. The entire passage deserves study:

> A pre-requisite for effective management of energy use and emissions is for businesses to measure these and understand where in their operations they arise. Some stakeholders have suggested that mandatory board-level reporting creates a standardised framework that can provide information on energy and carbon consumption to investors and other stakeholders to inform investment decisions. Some stakeholders have also said that public reporting can increase transparency and create a reputational driver to incentivise decarbonisation.

> The government would like to develop a single effective reporting framework which incorporates the most effective elements from the existing range of reporting schemes and delivers a net reduction in compliance costs associated with reporting schemes. Subject to the outcome of this consultation, the government proposes to achieve this by developing a single reporting framework, which incorporates the most effective elements from the range of reporting schemes and delivers a net reduction in compliance costs. It proposes to look at designing this framework through the prism of the [Energy Savings Opportunity Scheme], which is an EU requirement under the Energy Efficiency Directive.[42]

There is an implied but unvoiced 'but' separating the two paragraphs. While 'some stakeholders' (and one infers from a remark on the following page that this stakeholder is the Committee on Climate Change) have expressed support for mandatory board-level reporting of the type created in the 2013 Regulations, the government would prefer something else, namely a system akin to the Energy Savings Opportunity Scheme (ESOS), which was derived from the EU Energy Efficiency Directive and created a mandatory energy measurement and auditing system applying to large businesses and their subsidiaries. These businesses were required to calculate their total energy consumption, and subject nearly all of that consumption to an audit every four years, unless they adopted an ISO500014 energy management system. Acting on audit findings was purely voluntary. The Treasury itself noted that:

> While participants are required to provide notice of compliance, ESOS is not strictly a reporting scheme.

It would appear, therefore, that the Treasury was actively pushing back against pressure from the Committee on Climate Change and intending to replace Mandatory Greenhouse Gas Reporting (the regulations of 2013) with something free of criminal sanctions and proportional to the matter in hand, though perhaps still mandatory. The 'prism of ESOS' was to put the whole matter in a gentler light.

Budget 2016

The Budget published on 16 March 2016[43] announced the 'biggest business energy tax reforms since the taxes were introduced' (p. 52). The long-overdue abolition of the Carbon Reduction Commitment (CRC) was confirmed, while the Climate Change Levy was increased slightly in compensation, and its rates were rebalanced. Several other significant though technical alterations were made, and the cap on Carbon Price Support was extended to – and the wording is highly significant – 'limit competitive disadvantage to British business'.

Alongside these generally business- and consumer-friendly measures, the Treasury reaffirmed its commitment to reforms of the energy efficiency tax landscape, and undertook to 'consult later in 2016 on a simplified energy and carbon reporting framework for introduction by April 2019'. Despite this promise, there was no consultation until October 2017, the whole issue being overtaken by the unexpected vote to leave to the European Union on 23 June, and the almost immediate collapse of the Cameron government.

Response to the consultation

Alongside the March Budget, the government published its response to the 2015 consultation, a document signed by the then Exchequer Secretary to the Treasury, Damian Hinds.[44] A single sentence in his Foreword encapsulates the Treasury's agenda:

> The government is […] abolishing the CRC energy efficiency scheme, a burdensome and bureaucratic tax. Instead we will move to a single tax, the existing Climate Change Levy (CCL), and consult on a new streamlined reporting framework.[45]

This largely laudable endeavour, driving onward to a single price of carbon and a simpler energy and carbon reporting system, could hardly be clearer. However, the reporting system itself was still a work in progress. The government's interim decisions, as reported in paragraphs 3.14–3.20, provide several important details of the promised, though undelivered, 2016 consultation. Reporting for large companies, as defined by the ESOS regulations, will be 'mandatory' and 'annual' (3.16), but with only 'some public disclosure of data', indicating that it would not form part of the statutory reporting required under the *Companies Act 2006*; that would entail full public disclosure.

However, listed companies would continue to be required to report emissions under the 2013 regulations, since 'the government believes it is important to maintain this reporting in order to provide data transparency for investors and establish London as a centre of global green finance'.

The distinction is crucial. At this point, Treasury was willing to consider extending mandatory reporting to unlisted companies but was not intending to make *disclosure* mandatory, as it already was for listed companies. It is also worth noting that there is no mention in this document of extending the requirements to LLPs or to unregistered companies, both of which would be later caught in the net of the new regulations.

Paragraph 3.19 provides further confirmation that Treasury envisaged an entirely new structure:

> The government is proposing to explore integration of the existing compliance and reporting requirements of CCAs, EU Emissions Trading System, and ESOS with any new reporting framework, to further minimise administrative burdens.

Such a new reporting framework would be outside the Companies Act and would be closely related to the ongoing drive for a single carbon taxation instrument.

This was all luminously sensible and extremely promising. However, this is where the Treasury's story comes to an end. The Brexit vote on the 23 June drove Mr Cameron to resign and brought Mrs May into power. One of her first actions, on 14 July, was to create The Department of Business, Energy and Industrial Strategy (BEIS) by subsuming the Department of Energy and Climate Change into the Department for Business, Innovation and Skills, possibly the most dramatic and successful reverse takeover in departmental history. Greg Clark MP was appointed as its first Secretary of State, remaining in post until 24 July 2019.

At what point and for what reason the Treasury reforms were transferred to BEIS is unclear. There is no indication in the previous consultation texts that such a transfer of responsibilities was considered, and it seems probable that it was a deliberate decision of the new administration, perhaps because it had connections with an area in which Mr Clark was particularly interested, namely 'Nudge' theory. This shallow and greatly overrated political tactic was *en vogue* at the time due to the publication of the widely read *Nudge: Improving Decisions about Health, Wealth, and Happiness* by Richard H. Thaler and Cass R. Sunstein.[46] Mr Clark was an enthusiastic admirer. Indeed, within a few months of his appointment, the *Mail on Sunday* reported that Mr Clark was bringing 'nudge' back into government.[47]

Clark had been a nudger for some time, having taken a close interest in the subject while Minister of State for Decentralisation at the Department of Communities and Local Government (DCLG).[48] Indeed the Behavioural Insights Team, the infamous 'Nudge Unit', was created in July 2010, shortly after Mr Clark's appointment. Richard H. Thaler was an external advisor.

And indeed there were close relations between DCLG and nudge groups at Manchester and Southampton universities, with the Manchester group's website quoting Clark to the effect that this research track had given him:

> …even greater appetite to understand more about the behaviour and motivations of our citizens. I hope that the teams in Manchester and Southampton…are keen to be part of this learning process. We are all at the leading edge and…champions for localism…[49]

Mr Clark spoke at a public event held by this research group on 23 June 2010, and wrote a preface to the 2011 edition of a book entitled *Nudge, Nudge, Think, Think: Experimenting with ways to change citizen behaviour*.[50] Clark also contributed a new introduction to the Second Edition of 2019, in which he recalls his earlier views:

> Thinking back to the time of the first edition of this book I can remember a time of excitement about 'nudge'; Kahneman's *Thinking Fast and Slow* had just been published. Cass Sunstein was 'Regulation Czar' in Obama's White House. Our own Behavioural Insights Team, as the then 'Nudge Unit', was at the heart of government, in the Cabinet Office, where I would soon become a minister.[51]

This introduction goes on to discuss his attempt to apply 'nudge' theory to retail energy markets while he was Secretary of State at BEIS, and no mention is made of *Streamlined Energy and Carbon Reporting*. Nevertheless, it cannot be said to be far away from his thought, as shown when he writes:

> What the policy-maker and the politician need today, in my view, is a much better understanding of how we can nudge organisations and institutions – firms, NGOs, regulators, and governments themselves – to become the trusted intermediaries without whom a complex modern life is impossible.

It is striking that there is little sense here of any respect for the self-organising character of complex economic systems. The wise and knowing policymaker must be on hand to provide a benevolent but distinctly superior nudge to ensure that all actors, from consumers to corporate bodies, 'even governments themselves' do what Mr Blair would doubtless have called 'the right thing'.

And bearing in mind what BEIS eventually did to the Treasury's intentions for reform of energy and carbon reporting, it is relevant to note that there was clear and undoubted interest in using company reports for 'nudge' policy, as can be seen, for example, in the *Impact Assessment for Improved Transparency of Executive Remuneration Reporting* of 29 May 2013.[52]

It is no surprise, therefore, that with Clark leading BEIS, and now in charge of the energy reporting consultation, that it should have veered off from the Treasury's track, and instead reverted to the thinly veiled coercions of the Corporate Social Responsibility agenda, as embedded in the *Companies Act 2006*.

It was over a year before this change became evident. We do not know exactly what happened during this long hiatus, but it is interesting to note that in the interim, in June 2017, the Task Force on Climate-related Financial Disclosures (TCFD) published the *Recommendations of the Task Force on Climate-related Financial Disclosures*,[53] a report by Michael Bloomberg and the TCFD to Mark Carney of the Financial Stability Board. This was certainly a key document for BEIS since it is referred to (and indeed paraphrased without citation) in the introduction to the October 2017 energy and carbon reporting consultation, as well as in a BEIS seminar of 9 November 2017.

One might note, in addition, that Mr Clark was the driving force behind the 'Industrial Strategy' also announced by government in November 2017.[54] Suspicions that this term is a pseudonym for 'economic planning' are well-founded. The document is shot through with scarcely concealed contempt for individual decision-makers, and with the determination to replace this with a sense of collective responsibility; the word 'we' appears over five hundred times in the White Paper, *Industrial Strategy: Building a Britain fit for the future*. Less prominent, but also significant is the fact that the White Paper leaves no doubt that it regards governmental oversight of commercial behaviour as crucial. In this key passage the first person plural and the Whitehall planner are brought together as one:

> We must have the right reporting mechanisms in place to ensure we achieve our ambitions. The Economy and Industrial Strategy Cabinet Committee, chaired by the Prime Minister, will remain responsible for our strategic vision and for driving delivery across government.

The concept of using mandatory reporting to steer commercial behaviour in directions selected by government was much on Mr Clark's mind, and it seems probable that his pressure caused the Treasury's 2015–2016 simplification agenda to crumble, leading on the one hand to the adoption of a variety of crypto-coercive policies, ranging from nudge to the newly announced Industrial Strategy, and on the other to Mr Carney's increasingly strident advocacy for the use of mandatory reporting to coerce decision-making in the interests of climate policy, a case that he continues to press to this day.

The BEIS consultation

The consultation, issued in October 2017,[55] and with an introduction by Claire Perry, represents an almost complete reversal of the direction of travel established by the Treasury, incorporating numerous new features inconsistent with the objectives of simplifying energy and carbon reporting and reducing administrative burdens. Indeed, there is no exaggeration in saying that from now on the reforms, badged as *Streamlined Energy and Carbon Reporting,* flies false colours. What it purports to do is one thing, but what it does in fact is quite another.

Claire Perry's 'Ministerial Foreword' gives the first indication of what had happened in the long delay since the Treasury's March 2016 promise of consultation later that year. Rather than viewing the matter through the 'prism' of the Energy Savings Opportunities Scheme (ESOS), as the Treasury had, Perry suggests that government will 'potentially build on the existing mandatory reporting of greenhouse gas emissions by UK quoted companies'[56] In other words, the new department had decided to locate the reporting requirements within the *Companies Act 2006*, thus supporting them with criminal sanctions. Whether ministers understood this we may never know. They certainly should have understood it, and they should have made the point explicit in the consultation itself. However, there is no reference to the creation of new criminal offences potentially affecting many thousands of companies. This is a serious fault in the consultation. For the avoidance of doubt, there is no reference to the creation of criminal offences in any of the departmental texts until the Explanatory Memorandum to the Statutory Instrument of 2018. That is highly unsatisfactory, to say the least.

The consultation document is as abrupt as it is evasive. Without any warning or justification, the Government simply announced that 'Reporting is proposed to be done within companies' annual reports, which shareholders can request, and are filed with and made available by Companies House'. The Treasury, it will be recalled, was aware that consultees were concerned that only some information should become public. By engaging the *Companies Act 2006*, BEIS had ensured that whatever was reported would and must become public.

Equally surprising, the government announced its intention not only to apply the mandatory reporting regulations to 'certain UK companies formed and registered under the *Companies Act 2006*', but also, potentially, to LLPs. This suggestion also comes out of the blue. Nowhere in the Treasury documentation is there any suggestion of placing requirements on LLPs, and the BEIS consultation texts offer no explanation. One suspects that this suggestion came from larger businesses who had become resigned to the new agenda, and to protect their interests had decided to ensure that the burden should be common to as many of their competitors as possible. The consultation responses released in late 2020 after a Freedom of Information request by the present author support this hypothesis, with enthusiastic support for the inclusion of LLPs on the ground that they are 'no different from any other business in their use of energy, and should not be encouraged to think that they are "different" from the rest of the business, commercial and governmental establishments.' This determination to ensure that inevitable-though-foolish regulatory disadvantages apply evenly across the market is understandable, though odious.

As we will see in considering the government's ultimate decisions on this consultation, this creeping expansion of scope was to proceed a little further, this time to include unregistered companies meeting the size thresholds.

Still more brazen, paragraph 1.6 of the document not only notes that the newly proposed regulations would add to burdens already placed on about 1,000 quoted companies by the 2013 regulations and would extend these requirements to approximately 11,000 larger businesses, but presents this as if it were a positive achievement rather than a betrayal of the reforms begun in 2015 by the Treasury.

But this new-found zeal to cast a wide net had definite limits, and BEIS was reluctant to place any additional burdens on the public sector. The voluble coyness of paragraph 1.14 suggests that the department knew that this was inconsistent and possibly suspicious:

> Mandatory reporting on energy and carbon is not proposed to apply at this time to the public sector. Government is currently seeking views on a voluntary carbon emissions reduction target and reporting mechanisms for the wider public and higher education sectors through a Call for Evidence but mandatory reporting is not proposed at this time. Central government departments and their agencies have a well-established framework for reporting against greenhouse gas emissions targets as well as other sustainability indicators, through the Greening Government Commitments. The most recent annual report covering the year 2015–16, was published in December 2016. In the wider public sector, we support energy efficiency measures through the public sector energy efficiency loans scheme administered by Salix Finance among other initiatives.

The justifications offered are implausible. If mandatory annual, fully transparent reporting of energy consumption and emissions is good for the private sector, then it must also be good for the public sector. Sauce for the goose is sauce for the gander. But the mystery is not difficult to solve. The regulations create an opportunity for public embarrassment and lawfare, an opportunity that the government itself spelt out in paragraph 3.47, where they write that the proposed:

> …intensity metrics can provide for third parties to draw comparisons between companies to drive competition and show year-on-year trends.

Thus, third parties, who might be vexatious campaigners or hostile competitors, have the opportunity of exposing the shame of underperformance, or of discovering failures to report or misreporting, both of which could attract criminal prosecution. The department was entirely happy to create a criminalised pressure point at which green NGOs and climate activists could harry private enterprise, but unsurprisingly it hesitated to expose the public sector to the same attacks.

We have now traced the morphogenetic history of the Regulations of 2018 and seen how BEIS secured legislation at odds with the intentions of the Treasury ministers and officials who began the process. We have noted that this design was consistent with Mr Clark's deep and abiding interest in 'Nudge' theory, and also observed that nudge was supported with the big stick of criminalisation. We now reach the government's first official Impact Assessment, the stage at which a rigorous analysis of its disadvantages and benefits is attempted. That such assessments are frequently tendentious and rarely convincing is perfectly true. Nevertheless, in straining to present a specious argument, as required by the Minister, the authors may reveal much that is not evident elsewhere, and this is true in the present case.

Impact Assessment

Impact Assessment BEIS022(F)-17-CG, *Streamlined Energy and Carbon Reporting Framework*,[57] was published on 16 October 2017 alongside the consultation document discussed above. It offers several options for realising the policy intent already decided upon. Because the consultation was open at the time of writing, it does not present a preferred policy option, but the underlying policy intent is taken for granted and the likeliest route towards realising that intent is singled out. It should be recalled also that impact assessments consider the effect of a policy against the baseline of the legislative *status quo*. In other words, they assess the cost of the *changes* to legislation, not the cumulative effect of all legislation to date in this area.

The headline figures immediately set the context. The total net present value of the likeliest option (Option 3) for implementing the proposed legislation is positive at £1,057 million, while the net present value to businesses is negative, –£141 million, with a net cost to businesses estimated at £10.2 million per year.

We can therefore immediately see that the Treasury's hoped-for reduction has been transformed into quite certain net additional costs for businesses, and the impact assessments shows clearly that as far as businesses are concerned, *Streamlined Energy and Carbon Reporting* was not an immediate improvement on the legal situation then current.

One should also note that the cost burden is not borne proportionately across all business types. Paragraph 95 of the main document reveals that large companies that were already in the scope of the Carbon Reduction Commitment (CRC) and/or Mandatory Greenhouse Gas reporting would see a *reduction* in administrative costs. That is of course precisely what the Treasury expected when proposing to reform the business and energy efficiency tax landscape. However, due to the decision to expand the mandatory reporting to cover all large firms in the economy, there is an additional cost to the over 10,000 businesses that were not previously required to report. This asymmetry of interest should be borne in mind when reflecting on the silence of the institutional voices of business, such as the CBI. Large companies already subject to the 2013 Regulations and to the CRC had something to gain; for smaller businesses and LLPs there was no advantage. Indeed, larger businesses could not only envisage a reduction in their own costs but also the obvious market advantage of applying a costly administrative burden to their smaller competitors, as well as exposing those smaller competitors to external criticism. As has been frequently observed, large businesses may enthusiastically embrace state regulation as a burden that they can easily carry but which will disproportionately disadvantage smaller competitors and discourage new entrants.

Furthermore, while the Impact Assessment reports a positive value at the general level, this is far from comforting. Anyone familiar with energy efficiency policy and climate policy cost–benefit analyses will suspect that the benefits said to be outweighing the costs are grounded in fragile assumptions. Reference to the details of the calculation confirm this suspicion.

The Impact Assessment calculates costs of £2,300 million and benefits of £3,357 million, giving a net present value of £1,057 million. The benefits are composed of a net increase in energy savings, estimated at £2,567 million, air quality improvements of £95 million, carbon savings of £620 million, and a reduction in noise pollution of £74 million (all figures being net present values).

We can therefore see that the immediate cost to business of £10.2 million a year is only offset if the energy efficiency measures adopted work. There are of course real doubts as to the likelihood of this outcome. Government's information on the efficacy of such measures is almost entirely theoretical, while the reluctance of business – which government confidently diagnoses as 'market failure' – is empirical and based on knowledge of the realities of trying to apply them.

One might have further abstract concerns about the nebulous character of some of these values and the uncertainties involved. For example, of noise pollution, the assessment's authors write that 'More efficient engines tend to be quieter' (para. 63) and then assign, without explanation, monetary estimates of the value of this reduction. It is difficult to believe that there is any robust rationale underlying these numbers.

Putting these minor objections to one side, there is a much more serious problem vitiating the net benefit calculation. The authors candidly admit that all the benefits without exception rely on the assumption of a 'net increase in energy savings […] resulting from the increased uptake in energy efficiency measures'. The central question, therefore, is whether that assumption is correct.

As noted above, the ghost of W.S. Jevons continues to haunt this debate. Writing in 1865, Jevons observed that:

> It is wholly a confusion of ideas to suppose that the economical use of fuel is equivalent to a diminished consumption. The very contrary is the truth.[58]

The literature on Jevons's observation is now large, and many refinements have been proposed, mostly concerning short-run or localised effects, but nothing has been produced to controvert the fundamental logic of his position as it applies to the macroeconomy over time, which is not only brilliantly reasoned in his book but entirely free of the wishful thinking that clouds the majority of the subsequent analysis. Indeed, anyone attempting to form a realistic view of the benefits arising from improvements in energy efficiency must read Jevons' original 1865 chapter, 'Of the Economy of Fuel', and should not rely solely on subsequent secondary summaries, which cannot do justice to the refined power of his argument.

Jevons' position is that an improvement in the efficiency of an energy conversion, a steam engine for example, makes that process more *productive* and thus makes its output *cheaper*. Consequently, demand for the output will in all probability *rise*. Indeed, Jevons goes further. He sees efficiency improvements and thus productivity as the fundamental cause of the observed growth in wealth and in energy consumption over human history:

> It needs but little reflection, indeed, to see that the whole of our present vast industrial system, and its consequent consumption of coal [i.e. energy], has chiefly arisen from successive measures of economy.

Paraphrasing the German chemist Justus von Liebig's profound and parallel observations to the effect that 'Civilization…is the *economy of power*', Jevons continues:

> It is the very economy of the use of coal that makes our industry what it is, and the more we render it efficient and economical, the more will our industry thrive, and our works of civilization grow.[59]

As processes become more productive, they are typically used more, and even if demand is inelastic, any energy saved is 'only saved from one use to be employed in others' (p.115).

In other words, Jevons' view is not merely theoretical or speculative, as is often supposed by later writers. His thinking is grounded in a deeply practical understanding both of the *observed* economic history and the *evident* growth of human wealth. Both of these show that it is naïve to expect improvement in the efficiency of conversion devices to reduce total, absolute energy demand:

> …if economy in the past has been the main source of our progress and growing consumption of coal [i.e energy], the same effect will follow from the same cause in the future. Economy multiplies the value and efficiency of our chief material; it indefinitely increases our wealth and means of subsistence, and leads to an extension of our population, works, and commerce…

If modern analysts or campaigners wish to reject Jevons' conclusion, then they must show where his analysis of evidence is wrong. As far as I am aware, there is nothing in subsequent history, or in the datasets of, for example, the International Energy Agency, to suggest that he is mistaken.[60]

For the avoidance of doubt, improvements in energy efficiency are, of course, unquestionably desirable, for they will bring great benefits to humanity, as they have done in the past. They will increase our wealth and means of subsistence; they will reduce mortality; they will free energy from immediate consumption uses for longer-term capital investment, ('works' as Jevons calls them), creating demand for yet more energy to create still greater wealth; and thus they will drive trade to the benefit of all. But if efficiency measures work, they will not deliver reductions in the consumption of energy.

Since the Impact Assessment relies on assuming precisely the reverse of what Jevons argues to be the case, one has a right to assume that the Government has some sort of foundation for their disagreement.

Turning over the summaries for the four policy options considered, we note also a recurring paragraph applying to each, under the heading 'Other key non-monetised costs by "main affected groups"':

> The rebound effect, whereby organisations improve their energy efficiency and spend some of the financial savings on other energy-using activities. This effect has not been monetised due to a lack of quantitative evidence.[61]

In other words, they have dismissed the challenge of the Liebig-Jevons analysis simply because they have been unable to arrive at a precise quantitative estimate. *But of course, as Jevons' logic shows, a precise estimate is not necessary. If the logic and the historical evidence shows that effective efficiency measures cause total energy consumption to rise rather than fall, then none of the benefits in the Impact Assessment can be claimed.*

Insofar as there is doubt, it relates to the scale of the additional economic growth, which is a benefit that comes with, according to BEIS, additional societal costs resulting from increased carbon dioxide emissions, degradation of air quality and increased noise levels.

The department's extraordinary admission concerning the rebound effect is fatal and invalidates the entire exercise. The policies should be considered on a different basis. For example, if the reporting requirements encourage the adoption of energy efficiency measures, and these measures work, then economic growth will follow, increasing energy consumption and resulting in greenhouse gas emissions, air quality decline, and noise pollution. However, the economic growth might, arguably, more than compensate for these supposed impacts, and an impact assessment should consider that matter.

Of course, such an assessment brings us back to the original question hanging over the Government's assertion of market failure concerning energy efficiency measures. If effective energy efficiency measures deliver economic growth, and are, as Jevons and Liebig indicate, the fundamental engine of such growth, then it is extremely unlikely that profit-seeking businesses will neglect them. The assertion of market failure is implausible.

It is therefore much more likely that government is mistaken, and that the efficiency measures neglected by businesses are ineffective and neglected for that reason. If government coerces adoption with a nudge from a big stick, then businesses will face not only the cost of the reporting mechanism but also the cost of the failed measures and the fuel that was not saved as planned.

Further criticism of the Impact Assessment's discussion of economic matters is not required; it is a worthless document. However, the text provides other information that is revealing and deserves comment.

For instance, paragraph 47 informs us that 'A voluntary reporting option has not been considered'. This confirms that the Treasury's desire to see reporting through the 'prism' of ESOS had foundered, and that Clark had insisted on mandatory reporting within the framework of the *Companies Act 2006*. The Impact Assessment's commentary on this point confirms my interpretation of the threat implicit in this decision. Voluntary schemes, the authors write:

> …have not succeeded in providing the clarity and consistency of information required to affect organisational behaviour. They also do not meet the transparency needs of investors and others, in order to allow companies to be held to account.

The context of the criminal law provides both extreme clarity and severe consistency, and it is highly significant that the Impact Assessment refers to the 'transparency needs' of both investors and *'others'* who might wish to hold businesses to account. The authors clearly understood that they were creating a pressure point for open 'lawfare' on a vastly increased number of companies.

This contempt for private ownership is entirely consistent with the generally statist context that policy was creating elsewhere at the same time. The Treasury's essentially deregulatory agenda had now, paradoxically, been absorbed and turned by the 'Strategy' packages, for example, *The Clean Growth Strategy: Leading the way to a low carbon future*[62] also released in October 2017, the flagship White Paper published in November, and *Industrial Strategy: Building a Britain fit for the future*, all of which can be characterised as low profile and cryptic economic-planning.[63]

It remains only to observe, for the avoidance of doubt, that there was still no indication of criminalisation in any of the documents, or in the published texts provided at public events held to inform businesses, such as the SECR seminar conducted by departmental officials.[64]

Government response

The government's consultation on SECR ran from 12 October 2017 until 4 January 2018, and BEIS published its response in July of that year. 155 responses were received, and these are summarised in the Government's response document.[65] The responses themselves were, as noted above, not published by BEIS until a Freedom of Information request by the present author in late 2020.

The format of the material makes it extremely difficult to examine, with nearly 150,000 words scattered through an Excel spreadsheet, but it appears that no responding party raised the issue of criminalisation. This is unsurprising since government had given no indication whatsoever that the new regulations would indeed criminalise non- or misreporting. Admittedly, quoted companies and their lawyers will probably have been aware that this was likely since the 2013 Regulations were sanctioned in this way; but the many thousands of other businesses would have had no reason to suspect it.

The responses to the consultation provided by the Government are more or less exactly in line with Option 3 as proposed in the consultation and identified by the Impact Assessment as the most likely outcome, but with some important alterations.

The response tells us that the SECR regime will apply throughout the UK (para. 5), that the vehicle used for reporting would be annual reports (para. 22), and that quoted and unquoted companies (para. 42) and LLPs (para. 47), and even unregistered companies (para. 53), meeting two or more of the following criteria: at least 250 employees, annual turnover greater than £36 million, annual balance sheet total greater than £18 million (para. 42).

The probable addition of LLPs to the catchment had been noted in the consultation, but the extension to unregistered companies is a novelty and had not been consulted upon.

One welcome addition is that a 40 MWh *de minimis* threshold was introduced to protect companies meeting the other criteria or size but consuming very little energy (paras 12, 46). However, one suspects that there are very few such companies, and this is a cheap gift for government to make. Overall, the catchment is for well over 10,000 businesses, as opposed to the 1,000 or so caught under the 2013 Regulations.

The document also clears up some loose ends, finally tightening the noose. While some respondents to the consultation were still hoping that the scheme would resemble the light-touch approach of ESOS, as Treasury intended (para. 17), BEIS at last killed this hope in paragraph 45, preferring to locate the regulations firmly within the framework of the *Companies Act 2006* and its definition of large enterprises. The subversion of the Treasury's vision for reforming the energy efficiency and tax landscape was now complete.

The changes noted above did have a significant effect on the government's estimates of cost, and the Impact Assessment[66] differs from that of 2017 predominantly in the scale of the costs and benefits. The net present value of the proposed regulations amounted to £1,549 million, as compared to £1,057 million, and the negative cost to businesses rose to –£245 million, as opposed to –£141 million. The revised annual costs to businesses came to £15.6 million (2014 prices), up from £10.2 million.

The benefits were all estimated to have increased, though this was largely a function of the increased catchment of the regulations and the assumption of still wider uptake of efficiency measures, which were said to amount to £2,856 million, with air quality improvements worth £103 million, carbon savings worth £597 million, noise pollution avoidance worth £7 million, and a suggestion that there would be £262 million of additional annual savings on business energy bills occurring as an 'indirect' result of energy and carbon reporting.

None of this is any more persuasive than the original Impact Assessment, and the criticism offered above relating to the 'rebound' effect is still relevant: BEIS persists, naïvely, in declaring 'This effect has not been monetised as there is insufficient evidence available to assess the scale and likelihood of its effect.' As this study has already noted, the effect is certain, and the precise scale is irrelevant since if the efficiency measures work to plan then energy consumption will be sure to increase due to economic growth, and if they do not then companies will not experience the benefit estimated. The 2018 Impact Assessment is as economically worthless, and for the same reasons, as that of 2017.

However, there is one element in both studies that appears to be robust and informative, namely consideration of the Distributional Impact of Streamlined Energy and Carbon Reporting. Large companies within the soon-to-be-abolished Carbon Reduction Commitment – a Treasury initiative and not to BEIS's credit – could expect to see a reduction in the administrative burden necessary to meet the requirements of the new regulations. Some 900 of these companies would not fall within the catchment of SECR, and around 3,800 would see reporting under SECR cheaper to administer than participation in the CRC. The total annual saving for these companies is estimated at £11.5 million per year. However, this is almost exactly balanced by the additional cost for some 7,600 companies not previously within the scope of either the CRC or of Mandatory Greenhouse Gas Reporting under the 2013 Regulations, whose additional costs would amount to just under £10 million per year. Even if we trust these calculations – and intuitive cynicism makes one suspect that BEIS has almost certainly overestimated the savings and underestimated the new costs – the net effect of 'streamlining' energy and carbon reporting was to save UK businesses £1.5 million in administration costs.

4. Conclusion

In certain respects, the character of the 2018 regulations is not very different from previous Acts. Energy and carbon reporting was already a statutory requirement for about 1,000 quoted companies, as a result of the 2013 Regulations. That requirement was supported by criminal sanctions, a point almost certainly little appreciated, but proved by the fact that while the 2018 Regulations do not comment on the matter, because it is already established within the *Companies Act 2006* and the Regulations of 2013, criminality is explicitly discussed in relation to LLPs, since this was a novel element and the implication might not be appreciated. The *Explanatory Note* to the Regulations remarks:

> […] the inserted regulation 12B applies sections 415 and 419 of the 2006 Act, with modifications, which includes provision that it is a criminal offence to either fail to comply with a duty to prepare an energy and carbon report where the member failed to take all reasonable steps or to approve an energy and carbon report that does not comply with the statutory requirements where the member acted knowingly or recklessly and failed to take reasonable steps.[67]

Streamlining, it turns out, involves legal sharpening, and, as we have seen above, a greatly expanded scope of application, more than ten thousand businesses, both large companies and LLPs, are being *nudged* with a very big stick.

But whether criminalisation is proportional to the matter must be highly questionable. The 2018 Regulations criminalise a failure to report accurately energy *consumption*, not the production and sale of taxable commodities. It criminalises the failure to report emissions of a non-toxic gas, already present in the atmosphere, not radiation or a dangerously toxic substance or a pathogen. Those who fall foul of this law will not have provided false information to obtain public privileges or funds, they will not have been found guilty of bearing false witness to a court in the justice system. They will simply have failed to report their consumption of a legally traded commodity, energy, for which they will have been taxed at source, and for which they will have paid out of company funds. The application of criminal sanctions seems quite disproportionate.

It is interesting to note at this point that the 2018 Regulations passed into law as a Statutory Instrument and were not therefore debated in detail by Parliament. Granted that the *Companies Act 2006* explicitly gives the Secretary of State the power to create criminal offences through regulations introduced by Statutory Instrument, and that this principle occurs elsewhere in current law, it is surely in a general sense undesirable for ministers and their civil servants to be able to create criminal offences without rigorous parliamentary scrutiny. This is a clear step towards arbitrary power, and to be resisted while resistance is still possible.

Furthermore, as noted above, criminalising the failure to report emissions and energy consumption is a small and crablike step towards criminalising the act of emitting carbon dioxide or of consuming energy that causes such emissions. Admittedly, there is no immediate threat of such an outcome; but SECR represents precisely the sort of scarcely perceptible incremental erosion of liberty that prepares for and disarms resistance to the larger and more dramatic legislation that follows.

Furthermore, companies are being required to report what they cannot in reality measure very accurately or consistently. The Regulations of 2018 create a vulnerability, a pressure point at which third parties, ranging from climate activists to commercial competitors, can interfere with the operation of a business. The consultation documents give every reason to suppose that BEIS understood this.

Overall, we should see the 2018 Regulations as an element within the CSR and ESG agendas and their determined effort to move towards 'stakeholder capitalism'. There is nothing new here – the 'Stakeholder Model' has been in circulation for some time, forming an integral part of Adair Turner's *Just Capital* (2001)[68] – but it does appear to be gathering new momentum. The Business Roundtable at Davos in 2019 made a formal commitment to the concept.

If *Streamlined Energy and Carbon Reporting* is understood as part of that agenda, what seems at first blush to be merely a tiresome and neurotic meddling in company affairs proves on examination to form one attack amongst many on shareholder and private ownership. This is nationalisation on the instalment plan, and it promises to be very effective, partly because it is so little noticed or appreciated by those who are most threatened or who are attempting to protect private ownership. Some will take comfort from the fact that stakeholder capitalism has hitherto been impeded by legal duties of companies, but this is complacent. One free-market think-tank author, for example, notes that legal regulations in North America and the UK mitigate against the stakeholder agenda:

> Woke capitalists cannot brush aside existing legal and practical barriers, even if they would like to. Corporate laws in Canada, the United States, and the United Kingdom—for instance—do not allow companies to prioritize social and environmental mandates. Shareholders have taken companies to court and won over dereliction of duty to profitability.[69]

However, these legal and practical barriers are under attack, and the SECR legislation is a definite step towards the removal of such legal inhibitions and is combined with a psyops campaign, of which the criminal sanction is an important part, nudging both managers, who are in any case interested in reducing shareholder power, and even shareholders themselves. SECR attempts to insinuate the entirely false view into shareholder minds that their interests are served by compulsory reporting, if only to avoid criminal prosecution.

There is most certainly more of this to come. The Department of Work and Pensions is now revising regulations to put pressure on institutional investors. I earlier noted that Mark Carney, a powerful figure in the background to SECR, was still very active in this area. In a recent article co-authored with the Secretary of State for the Department for Work and Pensions, Therese Coffey MP, he observes:

> …we must ensure that the UK continues to lead the world in creating a green economy. Pension funds look after the savings of those in retirement and those that will later retire. People must be able to see and understand whether their funds are invested in line with the values that they hold.
>
> Steps have already been taken by the Taskforce on Climate-Related Financial Disclosures (TCFD), who have developed recommendations for companies to report their emissions, their plans to reduce them and on climate-related financial risks.
>
> We can and will go further.
>
> UK pension funds hold more than £1.6 trillion in assets. They have the opportunity to lead the way in how they set their long-term agenda, and their investment decisions have the power to channel funding towards companies with a plan to make the transition to net zero.
>
> This week the Government is legislating so that we can mandate disclosures by large pensions schemes – making the UK the first country in the world to do so.[70]

The legislation is an amendment to the Pensions Act 1995, and is remarkably reminiscent of SECR since it requires trustees to:

- set a strategy for managing their scheme's exposure to climate risks
- set targets relating to their scheme's exposure to climate risk
- measure performance against those targets, and
- prepare documents and publish prescribed information relating to the effects of climate change on the scheme.[71]

Interestingly, the Pensions and Lifetime Savings Association has objected, and has already commented that this moves climate requirements from reporting to coercion, with one of its directors commenting:

> Parts of these new amendments appear to go significantly beyond the current requirement for schemes to disclose what they are doing on scheme investment around climate change and would give unprecedented new powers to government bodies to interfere and request changes to private sector schemes' investment strategies.
>
> If that's the case it would set a dangerous precedent and be wholly inappropriate. Nothing should cut across schemes' fiduciary duty and freedom to invest in members' best interests – and this will vary scheme by scheme.[72]

However, as we have seen, *dirigiste* and criminalising intervention in the management of private property and wealth is by no means unprecedented. The subtle perversion of the Treasury's attempt to reduce the burden of energy and emissions reporting on businesses has already cleared the way.

Notes

1. https://www.legislation.gov.uk/ukpga/2006/46/resources.

2. Since it has been superseded by *Guidelines Supporting the Regulations* 2018, this document is no longer published in pdf form by the government. However, a Word text version is still accessible: https://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjwz8Wc88DsAhXRolwKHdG-bAP4QFjAEegQIBBAC&url=https://consult.defra.gov.uk/climate-change/ac04ad33/supporting_documents/Option1_GHG_reporting_update_2014_netgross.docx&usg=AOvVaw2oMpd9lRe_5ETa-uXKwO6F.

3. https://www.gov.uk/government/publications/summer-budget-2015.

4. https://www.gov.uk/government/consultations/consultation-reforming-the-business-energy-efficiency-tax-landscape.

5. https://www.gov.uk/government/publications/budget-2016-documents.

6. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/508159/reforming_business_energy_efficiency_tax_response_final.pdf.

7. https://www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-TCFD-Report-062817.pdf.

8. https://www.gov.uk/government/consultations/streamlined-energy-and-carbon-reporting.

9. https://www.gov.uk/government/consultations/streamlined-energy-and-carbon-reporting.

10. https://www.gov.uk/government/publications/clean-growth-strategy.

11. https://www.gov.uk/government/consultations/streamlined-energy-and-carbon-reporting.

12. https://www.gov.uk/government/publications/industrial-strategy-building-a-britain-fit-for-the-future.

13. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/787131/RPC-BEIS-3388_2__Streamlined_energy_and_carbon_reporting_framework.pdf.

14. https://www.gov.uk/government/consultations/streamlined-energy-and-carbon-reporting.

15. https://www.gov.uk/government/consultations/streamlined-energy-and-carbon-reporting.

16. https://www.legislation.gov.uk/uksi/2018/1155/made.

17. https://www.legislation.gov.uk/uksi/2018/1155/resources.

18. https://www.gov.uk/government/publications/environmental-reporting-guidelines-including-mandatory-greenhouse-gas-emissions-reporting-guidance.

19. https://www.jonesday.com/en/insights/2012/06/mandatory-greenhouse-gas-emissions-reporting-for-uk-listed-companies.

20. *Streamlined Energy and Carbon Reporting* (Oct. 2017), 3.

21. W. S. Jevons, *The Coal Question* (Macmillan: London, 1865), 103.

22. James C. Scott, *Seeing Like a State* (Yale UP: New Haven, 1998).

23. BEIS, *Streamlined Energy and Carbon Reporting: Raising awareness, reducing bills, saving carbon* (October 2017), Paragraph 1.7. The link in the BEIS document is broken. This is the correct: https://www.telegraph.co.uk/content/dam/business/spark/e-on-energy-efficiency/eon-business-and-energy-guide.pdf.

24. *Recommendations of the Task Force on Climate-related Financial Disclosures* (June 2017), p. ii. See: https://www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-TCFD-Report-062817.pdf.

25. https://www.ft.com/content/f97ef746-5968-11ea-a528-dd0f971febbc.

26. https://www.legislation.gov.uk/uksi/2013/1970/pdfs/uksi_20131970_en.pdf.

27. Impact Assessment (2018), p. 21.

28. The BEIS consultation of 2017, *Streamlined Energy and Carbon Reporting: Raising awareness, reducing bills, saving carbon* (October 2017), paragraph 1.6 gives the figure of 1000 companies within the scope of mandatory greenhouse gas reporting.

29. Companies Act 2006 (c. 46) Part 15 — Accounts and reports Chapter 12 — Supplementary provisions, 468(4).

30. A more complete account of the mediocre performance of energy efficiency campaigns in the UK is given in Renewable Energy Foundation, *Shortfall, Rebound, Backfire: Can we rely on energy efficiency to offset climate policy costs?* (REF: London, 2012).

31. https://www.gov.uk/guidance/climate-change-agreements--2.

32. https://www.gov.uk/guidance/energy-savings-opportunity-scheme-esos.

33. This was widely indicated in the press at the time: https://www.businessgreen.com/news/2185657/coalition-confirms-introduction-mandatory-carbon-reporting; https://transform.iema.net/article/clegg-orders-mandatory-reporting-2013. For reasons that are not clear it does not seem to figure in the pre-delivery text published on the government website: https://www.gov.uk/government/speeches/nick-cleggs-rio20-plenary-speech.

34. https://www.legislation.gov.uk/uksi/2013/1970/contents/made.

35. https://transform.iema.net/article/clegg-orders-mandatory-reporting-2013.

36. *Reforming the business energy efficiency tax landscape* (2015).

37. https://www.gov.uk/government/publications/summer-budget-2015/summer-budget-2015.

38. https://www.businessgreen.com/news/2192229/treasury-accused-of-actively-undermining-renewables-industry-with-subsidy-delay.

39. https://www.gov.uk/government/consultations/consultation-reforming-the-business-energy-efficiency-tax-landscape.

40. *Reforming the business energy efficiency tax landscape* (2015), 13.

41. *Reforming the business energy efficiency tax landscape* (2015), 6.

42. *Reforming the business energy efficiency tax landscape* (2015), 13.

43. https://www.gov.uk/government/publications/budget-2016-documents.

44. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/508159/reforming_business_energy_efficiency_tax_response_final.pdf.

45. Her Majesty's Treasury, *Reforming the business energy tax landscape: response to the consultation* (2016), p. 3.

46. Richard H. Thaler and Cass R. Sunstein, *Nudge: Improving Decisions about Health, Wealth, and Happiness* Yale University Press, 2008.

47. Alex Hawkes, 'Competition Probe to nudge consumers into switching', *Mail on Sunday* (27 November 2016).

48. https://www.gov.uk/government/news/new-research-shows-a-nudge-helps-people-develop-the-tools-to-build-the-big-society.

49. https://www.socialsciences.manchester.ac.uk/politics/research/impact/encouraging-civic-behaviour/

50. Peter John et al. *Nudge, Nudge, Think, Think: Experimenting with ways to change citizen behaviour.* Bloomsbury Academic, 2013.

51. Greg Clark, Foreword to John, Peter, et al, *Nudge, nudge, think, think: Experimenting with ways to change citizen behaviour* (Manchester U.P.: Manchester, 2019), xi.

52. https://www.gov.uk/government/publications/improved-transparency-of-executive-remuneration-reporting-impact-assessment.

53. https://www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-TCFD-Report-062817.pdf.

54. https://www.gov.uk/government/publications/industrial-strategy-building-a-britain-fit-for-the-future.

55. https://www.gov.uk/government/consultations/streamlined-energy-and-carbon-reporting.

56. The consultation document is unpaginated, but this remark appears on what would be page 3 if it were numbered.

57. https://www.gov.uk/government/consultations/streamlined-energy-and-carbon-reporting.

58. A. W. Flux, ed, *The Coal Question* (London, 1865), 103.

59. A. W. Flux, ed, *The Coal Question* (1865), 105.

60. For further discussion see John M. Polimeni, et al, *The Jevons Paradox and the Myth of Resource Efficiency Improvements* (Earthscan: Oxford, 2008).

61. Impact Assessment BEIS022(F)-17-CG*, Streamlined energy and carbon reporting framework*, p. 2.

62. https://www.gov.uk/government/publications/clean-growth-strategy.

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64. 9 November 2017. https://www.gov.uk/government/consultations/streamlined-energy-and-carbon-reporting.

65. https://www.gov.uk/government/consultations/streamlined-energy-and-carbon-reporting.

66. *Streamlined energy and carbon reporting framework*. *Impact Assessment* BEIS016(F)-18-CG https://www.gov.uk/government/consultations/streamlined-energy-and-carbon-reporting.

67. *Companies (Directors' Report) and Limited Liability Partnerships (Energy and Carbon Report) Regulations 2018*. See Explantory Note, p. 22.

68. Adair Turner, *Just Capital* (Macmillan: London, 2001).

69. https://fcpp.org/2020/03/13/stakeholder-capitalisms-sleight-of-hand/.

70. https://www.telegraph.co.uk/business/2020/02/12/pension-schemes-must-disclose-fight-climate-change/.

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72. https://citywire.co.uk/wealth-manager/news/pension-funds-warn-dwp-seeking-unprecedented-powers-over-strategy/a1323428.

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