

# Innovation and the governance of energy industry codes

Matthew Lockwood,  
Catherine Mitchell,  
Richard Hoggett,  
Caroline Kuzemko.

Energy Policy Group, University of Exeter

August 2016

## Abstract

Energy industry codes set the rules for a large range of practices in gas and electricity networks and markets. They are a key but often overlooked element in the governance of energy. Crucially, for any aspect of energy policy to function well in practice, the relevant codes must be aligned with that policy. Central to this issue is code governance; i.e. the arrangements for changing or modifying codes. While Ofgem has a final veto, and can suggest where there is a need to make major changes to reflect new policies, the process of governing codes still lies primarily with the industry itself. It has long been recognised that there are a number of problems with the code governance system. One is the complexity and fragmentation of both codes themselves and the code governance process, which deter market entry and participation by smaller actors in the governance system. A second, related, issue is the dominance of incumbents on code panels and working groups. A third problem is a lack of fit between code objectives and wider policy objectives. Overall, the concern is that codes deter innovation. These problems inspired Ofgem's 2008 Code Governance Review, but they have nevertheless persisted. Further reforms are being adopted under the CMA's energy markets investigation and a further Ofgem review. However, these reforms remain piecemeal and incremental, and do not engage with the fundamental principle underlying code governance, which can be seen as one of 'self-authored regulation'. This principle was designed to reduce regulatory risk and problems arising from informational asymmetries, but has opened up risks of regulatory and informational capture, and regulatory inertia. An alternative reform agenda, based on a strategic engagement with these trade-offs, is suggested here, which involves relocating code governance into the public sphere, not to Ofgem, but rather to a dedicated codes management body.

## 1. Energy industry codes and code governance in Britain

To obtain a licence to operate in the gas or electricity sectors in Great Britain, companies are obliged to become party to, and comply with, the relevant industry codes and related technical standards.<sup>1</sup> The ten main codes are shown in Table 1. Table 2 shows which type of industry actor is required to sign up to which of these codes. The Grid Code and the Distribution Code can be considered as 'technical' codes, while the others are primarily commercial.

---

<sup>1</sup> It is possible for companies to depart from what is specified in codes and standards, but to do so, they must seek derogations. There are *de minimis* exemptions for small generators. However for distribution and supply licences there are no exemptions.

Energy industry codes are detailed multilateral agreements that define the commercial and technical terms under which participants can access networks and operate in markets. Along with related technical standards, codes set rules for a large range of practices in the gas and electricity system, including: terms of access and connection to networks; charging methodologies; network planning and operation; data reporting and management; requirements, and rewards and penalties in the balancing mechanism. They are a key but often overlooked element in the governance of energy.

Crucially, for any aspect of energy policy to function well in practice, the relevant codes must be aligned with that policy (CMA 2015c). Central to this issue is code governance. Codes are living documents and are frequently changed, or modified. Each code has some form of panel or board which ‘owns’ the code and is responsible for overseeing the modification process. These panels are made up of representatives of industry groups (for example, network operators, different classes of generators, suppliers, etc.) and, in some panels, independents and representatives of consumers. All codes also have an administrator body to maintain the codes and support the code modification process on a day-to-day basis.

A modification (or ‘mod’) to a code is usually proposed by any party to the code, and in some cases, certain named outside bodies as well.<sup>2</sup> Since 2008, the modification process has then been split into three tracks (Table 3). One is for minor modifications with ‘non-material’ impacts on code parties, which are handled entirely by industry on a ‘self-governance’ route. The assessment of the proposal is managed by the panel. Each code has its own specific procedure, although there are some common elements including referral to specialist work-groups for assessment of complex modifications and industry consultation on options. In some codes, alternative proposals or variants can also be raised by other parties. Panels then adopt or reject the modification.

The second track is for modifications that have more major consequences for parties. These are handled in the manner described above for the self-governance route, except that panels cannot decide on the modification themselves but rather make recommendations to approve or reject,<sup>3</sup> with the final decision made by Ofgem.<sup>4</sup>

Third, where Ofgem takes the view that policy change and the carrying out of its duties require it, the regulator itself can instigate a Significant Code Review (SCR) process. Up until further reforms this year (see below) Ofgem could prepare the ground by carrying out analysis of changes needed and their likely impacts, but could not raise a modification itself; instead it would have to direct a licensee to do so on its behalf. As with an ordinary modification, Ofgem retains final decision powers.

## 2. Issues in code governance

Aspects of the codes governance system have long been seen as problematic. Concerns fall into three areas: complexity and fragmentation, dominance by incumbents, and the ability of the system to respond to energy system transformation.

---

<sup>2</sup> Codes can also be changed directly as a result of legislation, although this does not happen very frequently. An example would be changes made to the main electricity codes following the 2013 Energy Act, which brought the Electricity Market Reforms into effect.

<sup>3</sup> In the DCUSA recommendations are reached by voting by parties.

<sup>4</sup> Formally speaking by Ofgem’s governing body, the Gas and Electricity Markets Authority.

## 2.1 Complexity and fragmentation

The British energy code system is highly complex and fragmented, and has thus far proven resistant to rationalisation or consolidation. The total number of pages of code and other licence documentation runs to over 10,000 (Good Energy 2015), with some individual codes being in excess of 1,000 pages.<sup>5</sup> The large number of codes adds to costs<sup>6</sup> and duplication, especially where changes cut across multiple codes, because of a lack of coordination across codes (Ofgem 2014a). While there are some core common elements, each code has separate ICT requirements, process rules, reporting arrangements, and credit and collateral arrangements, which also change frequently. In the last area, Cornwall Energy (2014) argues that it is difficult for new entrants to accurately assess the implications of credit arrangements on the costs of entry, and changes in rules can have distributional impacts that are difficult to quantify (Cornwall Energy 2014). Since collateral requirements are related to the perceived risk of default, new (typically smaller) entrants face higher requirements than do larger well-established companies.

The fixed costs of compliance are disproportionately high for smaller actors. Just keeping up with modifications to codes and other licence conditions is a significant activity – there have been 241 proposed modifications to the CUSC since 2001, 275 to the UNC since 2005, and 327 to the BSC since 2010. One major supplier maintains a spreadsheet with over 3,000 line-items to ensure compliance, and according to one account a typical Big 6 utility would have a team of 30 people solely working on compliance (Ecotricity 2015).

Beyond compliance, effective involvement in the code change process requires technical expertise and significant resource. Ofgem estimates that there are around 150 code panel-type meetings a year, and on average each modification proposal may require around four working groups, with more complex changes needing more (CMA 2015a: 8). While all codes share the basic processes of developing, drafting, consulting and reaching recommendations on modifications, each is different in its details (Lockwood et al 2015). There are different rules about who can raise modification proposals and about raising alternate proposals once a modification has been tabled. Some codes have standing work groups, while others (for example the SEC, MRA and SPAA) form *ad hoc* work groups for specific mods. Formats of reports differ; some panels have independent chairs, while others do not.

There is evidence that a disproportionately higher cost of participation in code governance for small actors prevents their engagement, and *de facto* allows larger incumbents to dominate (CMA 2015b: 22-24, Ecotricity 2015). The challenge for smaller actors is compounded by the variety of governance arrangements across codes, requiring participants: “to master multiple processes to understand what stage modifications proposals have reached. They are hard to rationalise for even well-resourced players, and confounding to smaller ones” (Cornwall Energy 2015: 2).

The difficulties faced by smaller code parties in participating in the governance process were one of the reasons that Ofgem initiated the 2008 Code Governance Review. This Review brought in a Code Administrators Code of Practice (CACoP)<sup>7</sup> which urged code administrators to be ‘critical friends’, giving support especially to “under-represented parties, small market participants and consumer representatives” (Ofgem 2015d: 4). However, while it appears that the

---

<sup>5</sup> In hard copy this weighs in at more than 50 kg Chris Welby, Good Energy, personal communication

<sup>6</sup> British Gas (2015) estimates the cost of code administration across MRA, BSC, DCUSA, UNC, SEC and SPAA for 2015 at more than £10m.

<sup>7</sup> Ofgem (2015d)

CACoP has helped smaller actors to some extent, it is non-binding and in practice it has been unevenly applied and an insufficient measure overall (Good Energy 2015, Cornwall Energy 2015, IGov 2015). Oversight of code administrator performance in relation to the CACoP also appears to be weak (EDF 2015). More fundamentally, governance of code administrators seems almost absent (CMA 2015c: 465), and Ofgem has limited powers to direct them or sanction them for poor performance against the CACoP objectives.<sup>8</sup>

A final concern is that the complexity and fragmentation of the codes system make it more costly and difficult for the regulator to exercise its veto over modification decisions in an effective way. Ofgem currently makes around 100 decisions a year on modifications, drawing on expertise from across the organisation.<sup>9</sup> However, the complexity of codes is such that there are gaps where the regulator is at a disadvantage relative to industry and where external expertise is required. Ofgem has powers under licences to request information from industry, but there is a tendency for this information to be presented in ways that favours its sources.

## ***2.2 Dominance by incumbents***

As noted above, the power to draft code modifications remains largely in the hands of industry. An important issue therefore is the degree to which this process is dominated by large incumbents. The issue of incumbent dominance has several possible dimensions. First, there is the simple issue of who is on the bodies governing the codes. The details of processes for determining membership of code Panels or Boards varies, but they generally involve a mix of elections from amongst industry parties (sometimes structured by type of company i.e. networks, suppliers, large and small generators etc.), and the appointment of independent individual experts and a consumer representative. Some small suppliers argue that working groups and to some extent code panels are dominated by incumbents (CMA 2015b: 22, Cooperative Energy 2015: 2). However, the CMA (2015c: 464) disagrees, taking the view that “current representation of industry participants on code panels, in the light of the nature of each code, achieves a fair balance.”

Table 4 shows the make-up of the main governing body of each code in late 2015. Between 8% and 50% of these bodies are made up of members who are employed by one of the Big 6 utilities. However, if the major regulated network companies are also included, then the incumbent group has a clear majority of members on all codes except the BSC and the SEC. These network companies are of course incumbents in a special sense, as they are not exposed to competition in the normal way. Nevertheless, it is arguable that they have a vested interest in the maintenance of the current situation. Beyond the bodies at the apex of the governance system there are also work groups and sub-committees where much of the detailed analysis is done, and the basis laid for decisions. Here, incumbents tend to predominate more clearly because resource constraints mean that smaller actors often do not have the expertise and time needed (CMA 2015b, DCRP 2015).

There is also some ambiguity about what industry representatives on code panels and work groups are actually representing. In some codes they are supposed to be independent, furthering the efficiency of the codes system rather than the interests of the particular companies they work for, but it is unclear how this is policed and, according to Good Energy (2015: 6), this is rarely

---

<sup>8</sup> There is also a particular question about potential conflicts of interest from the fact that National Grid is at one and the same time an industry actor with interests in electricity transmission and gas transmission and distribution, and administrator of the CUSC, as well as the BSC via Elexon (which is owned by National Grid) (RWE npower 2015).

<sup>9</sup> Interview with senior official, Ofgem, 7 January 2016

the case in practice. Some code parties take the view that in practice panel and work group members typically play a dual role, one involving collective responsibility for efficient and effective working of the Code, and the other keeping an eye on how modifications will affect the commercial interests of their own companies (IGov 2015).

Examples of what appears to be the operation of incumbent bias can be found in code modifications. Cooperative Energy (2015) cites DCUSA mod DCP178, in which some distribution network owners (DNOs) sought to recover deferred revenue owed from 2013 from suppliers based on their current market share, as opposed to market share in 2013. Since the market share of smaller suppliers has grown since 2013, this decision subsidises the large incumbents at the expense of independents. Another example might be BSC P272 on mandatory settlement for half-hourly metered consumers raised by Smartest Energy, which was rejected by the panel (although subsequently revived by Ofgem). However, there are also examples, especially from the BSC panel (which has a higher proportion of independents than other panels) where final recommendations supported the position of smaller companies (Lockwood et al 2015).

### ***2.3 A gap between code objectives and policy objectives***

Most commercial codes were established in the 1990s following privatisation, while the technical codes have their origins in the pre-privatisation post-War period. They were originally designed for a limited range of types of technologies, scales and institutional arrangements. The challenge for codes governance is that all of these aspects of the system are now changing, and the next ten years is likely to see a major transformation in the way energy is produced and used with a far deeper penetration of intermittent renewables, decentralised energy and a much greater role for demand side flexibility.

However, while the current code governance framework is well-suited to delivering incremental improvement, it does not readily support strategic or transformational change of the type that will be needed (IET 2014, CMA 2015a, Ofgem 2015). One issue is coordination of multiple modifications across codes. For example, to have a well-functioning market for demand side response, changes to a number of codes and related standards will be required, including the DCUSA, the D-Code, Engineering Regulations P2/6, the BSC and the CUSC (Lockwood 2014). Moreover, many relevant groups, including manufacturers of meters, electric vehicles and charging equipment, the ICT sector, the home and building automation industry, aggregators, end users and community energy groups, which are currently excluded from the technical electricity codes will have to be brought into the system (IET 2015). Yet, while code administrators do communicate with each other, no single body is responsible for addressing major changes that cut across codes under current arrangements.

More fundamentally, the objectives against which code modifications are formally judged differ from the policy objectives of government. Code governance objectives still focus purely on ensuring effective competition, cost-reflexivity and consistency with European regulation. They do not include social and environmental goals.<sup>10</sup> Ofgem does take its remit (which was amended over the 2000s several times to strengthen the element of sustainable development) into account when deciding whether to reject or accept recommendations, but this comes very late in the process, and is both an ineffective and inefficient way of fitting code governance to this remit. There is also a concern, voiced especially by consumer representatives, that the lack of an

---

<sup>10</sup> The sole exception is the new Smart Energy Code, which does have an explicit objective to facilitate innovation for a secure and sustainable energy system.

explicit consumer welfare objective means that panels can make recommendations without proper consideration of potential impacts of modifications on consumers (Citizens Advice 2015). This situation means that it is effectively impossible to get panels to recommend modifications for the *direct* purpose of furthering the interest of consumers and improving sustainability.<sup>11</sup>

These problems are not new; they helped drive the first Code Governance Review in 2008 (GEMA 2008) and were identified at the time as a “fundamental flaw” in code governance (Brattle Group/Simmons and Simmons 2008: 5). The main response was the introduction of the Significant Code Review mechanism (see above). So far there have been four SCRs, covering gas security of supply, electricity balancing arrangements, electricity transmission charging and faster switching.

However, a number of problems with the SCR process have emerged. The first, as noted above, is Ofgem’s limited capacity in the area of codes, with the result that it has sometimes struggled to specify what it wants from an SCR in an effective way (Cornwall Energy 2015). Another problem is that Ofgem could not impose a modification itself (CMA 2015c: 468). It could possibly choose to impose mandatory timetables for the development of modification proposals within licence conditions but has chosen not to do so. Another issue is that SCRs are taking much longer to undertake than was originally envisaged, with the first three reviews taking between 32 and 44 months (Ofgem 2015a: 7). Citizen’s Advice (2015: 2) argue that: ‘While the SCR process appears to have been intended to allow the regulator to grab important issues by the scruff of the neck and drag them forward, its practical effect has been the opposite with these project conspicuously lacking momentum and making very slow progress’. Ofgem can do preparatory analysis, but a separate round of analysis is subsequently undertaken within the modification process, running the risk of duplication. There is no incentive for parties to raise or identify problems early on, and they arise late in the process, sometimes leading to situations where Ofgem ends up rejecting proposals that it instigated itself.<sup>12</sup>

### **3. Recent reforms of the code governance system**

As discussed above, Ofgem undertook a review of code governance in 2008 which led to the introduction of the Significant Code Review and the CACoP. Further reform has come back on the policy agenda in two ways: one within the energy market investigation conducted by the Competition and Markets Authority (CMA) and another in a further review of code governance by Ofgem.

The CMA investigation concluded in 2016 that the conflicting commercial interests of code parties, their limited incentives to deliver policy changes and Ofgem’s insufficient ability to influence the code modification process all created an adverse effect on competition (CMA 2016). The Authority had initially proposed reforms that granted Ofgem more powers to project-manage and/or control the timetabling of code changes (CMA 2015c). However, following a number of criticisms from industry actors and code administrators, these proposals were amended to more limited reforms in three areas (CMA 2016: 730-31):

---

<sup>11</sup> For example, when a small wind farm operator proposed a change to the CUSC to give guaranteed connection and priority access to renewable generators (CAP148) in 2007, it was rejected because while it was intended to support wider government policy on renewables the panel did not believe it would support the narrower economic efficiency objectives of the CUSC (Brattle Group/Simmons and Simmons 2008). Davenport (2008) gives further similar examples.

<sup>12</sup> Citizen’s Advice (2015) cite the example of BSC P304 and P314 on incentives for balancing

- *Strategic Direction* – new responsibilities for Ofem to produce an annual strategic direction and work plans, laying out how codes need to be changed to match policy change, and the creation of a ‘consultative board’ which would consider cross-cutting code issues.
- *Powers of initiation* – new powers for code administrators and Ofgem to initiate and prioritise code changes in order to meet the strategic direction, a new backstop ‘call-in’ power for Ofgem to bring under its control any change process it deemed of strategic importance. These powers would effectively substitute for the existing SCR powers.
- *Licensing of code administrators* – to harmonise code administration and allow Ofgem to monitor performance against objectives set in licences

Ofgem launched its own further review of code governance in May 2015 (Ofgem 2015a). Again, some initial proposals, such as the requirement for all codes panels to have an independent chair, were dropped following industry consultation. The final proposals for reform from this review include three main elements (Ofgem 2016):

- *Significant Code Reviews* – new powers for Ofgem to raise a modification following an SCR process, and to lead an entire end-to-end process of development and modification itself.
- *Self-governance* – making self-governance the default option for non-significant modifications.
- *Code administration* – a number of changes strengthening expectations of code administrators and panels, including forward work plans and increased cross-code coordination through a modification proposals register, and the requirement that every code change proposal form should have a section on consumer impacts.

It should be noted that both of these reviews were limited in scope. The CMA review was limited by the terms of reference of the wider energy market investigation, with a relatively narrow focus on competition and harm to current consumers. The Ofgem 2015 review explicitly considers only relatively minor changes to the framework set up by the earlier 2008 Code Governance Review.

More importantly, however, these reforms have been piecemeal and incremental in nature, responding to individual problems within code governance rather than engaging with its fundamental structure. It is likely that, just as was the case with reforms emerging from the 2008 CGR, these latest changes to code governance will not address the chronic problems with code governance outlined above.

We argue that to develop an alternative reform agenda, it is necessary to have a clearer analytical framework for understanding the nature of code governance and the trade-offs involved in its design. The next section develops both such a framework and the consequent agenda.

## **4. An alternative approach**

### ***4.1 A theoretical framework***

The CMA describes energy code governance as “a domain of limited industry self-regulation within the wider regulatory framework” (CMA 2015c: 457). However, conventional self-regulation involves companies organising their own rules, with the threat of regulation if outcomes are not sufficiently in the public interest (Bartle and Vass 2007). By contrast, code governance involves (mainly) companies writing rules which, subject to the veto of the regulator, then become regulation with the force of public authority behind it. It is thus perhaps better described as *self-authored regulation*.

This arrangement involves a double delegation of regulatory initiative, first from the government to Ofgem, and then from Ofgem to industry. As with all delegations there are several potential rationales (Thatcher and Stone Sweet 2002), but here two predominated. The first is to minimise regulatory risk, by making code modification subject to the control of industry actors and preventing the regulator from enforcing arbitrary changes.<sup>13</sup> In theory this should reduce the cost of capital and ultimately benefit consumers. A second rationale was informational efficiency (Huber and Shipan 2002; Flinders 2008), based on an argument of information asymmetry and the implication that industry actors would be speedier and more flexible in setting and changing rules, and such rules would be more practicable and more effectively policed (Gunningham and Rees 1997).

Code governance can therefore be seen as built on a set of specific principles for institutional design. However, there are limits to the efficacy of institutional design for a number of reasons, including the fact that institutions have multiple effects, the likelihood of unanticipated effects, and changes to the wider policy environment (Pierson 2004). Institutions can also reflect and maintain inequalities of power “by facilitating the organization of certain groups while actively disarticulating others” (Thelen 2002: 92, see also Pierson 2000). These factors raise the possibility that an institutional design based on delegation may entail certain costs or trade-offs (Flinders 2008: 50). We would argue that there are three areas of particular importance: regulatory capture, informational capture and regulatory inertia.

#### **4.1.1 Regulatory capture**

Self-authored regulation involves a relatively high degree of independence of industry from government, but as independence increases so does the risk of regulatory capture (Shleifer 2005, Wren-Lewis 2011). In code governance, industry drafting of regulation involves a high degree of *de facto* control over the decision-making context, stability of arrangements (avoiding the costs of continuous lobbying), and the use of the monopoly powers of public authority, thus going far beyond attempts at simply influencing the regulatory process (Mitnick 2011). The risks of distortion are potentially very strong.

In the context of code governance, it is unlikely that any single company will manage to extract rent purely for itself through a code change, since it faces all the other companies directly in the modification process. Rather, the concern is that incumbents will collude to use code governance effectively to make entry by potential competitors more costly and difficult, as suggested by Stigler (1971). As outlined above, the record on the complexity and fragmentation of codes, and the dominance of incumbents on working groups and panels, suggests that, at best, these incumbents have allowed the evolution of the system to work in their favour.

---

<sup>13</sup> The property rights of industry actors are already protected to a degree through licences, which are legally enforceable contracts (Newbery 1999). However, licences can also be revoked if conditions – of which codes make up a crucial part – are not met, so codes determine the terms on which property rights are secured.



The risks of capture may be reduced by the representation of other interests, including those of consumers, within the process (Wren-Lewis 2011). The issue here is one of balance of representation; where panels do have consumer representation there is only one representative, with limited resources. Risk of capture may also be reduced if the workings of code governance are transparent to government and citizens. Conversely if these workings are more transparent to incumbents, then the risk of capture is greater. The technical complexity and fragmentation of the governance system here works strongly in favour of incumbents.

#### **4.1.2 Informational capture**

The regulator holds a veto power over proposed modifications, which is in part designed to act as a check on capture of the modification process. However, this check will only be effective if the regulator has sufficient expertise and information to judge effectively whether rule-writing powers are being abused or not, and here the regulator faces the problem of informational asymmetry (which was one of the arguments for delegation) (Flinders 2008, Baldwin et al 2012). The more that the regulator has to depend on industry itself for analysis and information the higher the risk of ‘informational capture’ (Wren-Lewis 2011), involving partial, selective or misleading representation. The more complex an area of activity, the more difficult this is likely to be (McCarty 2013). Again, the complexity and fragmentation described above means that there is a strong risk of informational capture in the codes governance system.

#### **4.2.2 Regulatory inertia**

A third problem may arise when institutions do not respond to changes in the wider context (Pierson 2004: 119-120). The codes governance system in Britain was designed for conditions of technological and institutional stability, with a focus on economic efficiency, but the challenge is that the energy system is now facing a period of rapid and fundamental transformation.<sup>14</sup> Here there is a potential trade-off between independence and inertia, or as Newbery (1999) puts it, between durability and stability on the one hand and flexibility and adaptability on the other.

Independence of decision making, along with formal remits that are hard to change, is built in to the design of regulatory frameworks precisely to protect regulators against the potentially changing agendas of future governments. However, the disadvantage of such arrangements is that it can create *regulatory inertia* when wider policy goals, or other aspects of the environment such as technology costs, change (Faure-Grimaud and Martimort 2003). Inertia would appear to be almost inevitable in the case of the codes governance system, partly because incumbents have few incentives to drive through modifications needed for transformational change, and partly because wider policy goals are not sufficiently represented in code objectives.

### **4.2 A reform agenda**

The framework developed above makes it clear that many of the problems of the code governance system have their roots in the principle of self-authored regulation. The history of code governance reform, both in 2008 and in the more recent CMA and Ofgem reviews, is a

---

<sup>14</sup> As one supplier put it recently, the content of codes “was created at the dawning of the energy market when big power stations and big companies dominated. Little of it anticipated a world where decentralised technologies such as wind and solar would be producing 24% of the UK’s electricity.” (Julia Davenport quoted in Good Energy Press release on the CMA inquiry, 7 July 2015, <http://www.goodenergy.co.uk/press/releases/2015/07/01/ceo-statement-on-cma-investigation-into-the-energy-market-findings-due-7-july>)

series of small steps moving slowly away from this principle. However, these steps have been piecemeal and unsatisfactory, in part because they have not addressed the principle explicitly.

Our starting point for an alternative approach is that there is a need to move away from self-authored regulation in a strategic way. The costs of this institutional design principle are considerable. At the same time, there is little evidence that departures from the principle to date have raised the cost of capital. Had the introduction of SCRs in 2010 increased regulatory risk, one would have expected to see the cost of capital for network companies rising after that date. The actual cost of capital for companies is commercially confidential, but on the basis of Ofgem's allowances for the weighted average cost of capital (WACC), which are set through extensive research and consultation with financial markets, the reverse is in fact true. The allowed WACC has fallen steadily from above 5% for price controls in the mid-2000s to under 4% by 2014.<sup>15</sup>

This move would involve relocating code governance, including the proposing and development of modifications, out of the hands of industry and into a body within the public sphere. Variants of this type of arrangement already exist in a range of contexts, including the energy sector in the US, Norway, Northern Ireland, Australia, Finland and Denmark, as well as UK rail and UK postal services (Brattle Group/Simmons and Simmons 2008).

However, even the limited increases in the scope of Ofgem's powers to steer or manage the code change process through Significant Code Reviews (SCRs) have met with opposition from industry, based mainly on the same arguments originally put forward for self-authored regulation, i.e. increased regulatory risk and the lack of codes expertise in the regulator.<sup>16</sup> At the most basic level, the concern is that a public body that is able to write and adopt code changes itself is both 'judge and jury'. Issues arise at three stages in the process: the initiation of code change, the process of code change, and the right of appeal. A credible proposal to relocate code governance into the public sphere needs to engage with these arguments.

#### **4.2.1 Initiating code changes**

Here the concern is about short-term political pressures and "the need to do something" leading to "inappropriate" interventions (e.g. E.On 2008). Crucial for avoiding these would be a legal requirement to show *clear and transparent links* between major code changes and policies. Code change would effectively be part of a policy delivery function. A body in the public sphere managing code change would also need to have a *mandate that was rule-based but clearly linked to specific policy decisions*, rather than general powers, to help reduce regulatory risk.

#### **4.2.2 The process of code change**

A second fear is that code governance located in a public body would lead a flawed process, without consultation.<sup>17</sup> To counter this, code change led by a public body would need to include

---

<sup>15</sup> The full list of vanilla WACC determinations is as follows: DPCR4 (2004) 5.55%; TPCR4 (2005) 5.1%; GDPCR (2008) 4.9%; DPCR5 (2009) 4.74%; RIIO-GD1 (2011) 4.2%, and RIIO-ED1 (2014) 3.76%.

<sup>16</sup> See the submissions at <https://www.ofgem.gov.uk/publications-and-updates/code-governance-review-major-policy-reviews-and-self-governance-initial-proposals-8409> and <https://www.gov.uk/cma-cases/energy-market-investigation>.

<sup>17</sup> There are in fact incentives for government to ensure a good process for code change. The first is that in the absence of a robust and transparent process that is properly followed, the government is open to Judicial Review (As currently happens: RWE recently undertook Judicial Review of a decision on transmission charging, but lost in July 2015). The second is that government fears disruption and a collapse in investment in the energy sector even more than does the industry, so it has a strong interest in making code changes that work effectively.

*a robust and transparent consultation and decision-making process*, laid out in statute. Possible major code reviews would ideally be signalled as far ahead as possible, somewhat along the lines of the strategic work plans proposed by the CMA and Ofgem.

There is also a concern that even a well-intentioned public body leading code change may impose misconceived code changes, or changes with unintended consequences, because they do not understand the detailed working of the industry.<sup>18</sup> Here, credibility and effectiveness can only be established over time by ensuring that a body in the public sphere making changes to codes does in fact have the *necessary knowledge and expertise*.

Under the recent reforms discussed above, Ofgem is currently proposing to undertake more code changes by expanding its powers within the Significant Code Review process. However, we would argue that Ofgem is not the appropriate public body in which to locate code governance. Ofgem is a large organisation with multiple responsibilities and limited resources. As discussed above, it already sometimes struggles to exercise its veto in an informed way. The CMA argues that it has engaged with code change in an isolated, reactive and piecemeal fashion, and does not have the incentive to devote significant resource to “systematically developing its knowledge and understanding of the substantive provisions set out in codes” (CMA 2016: A10.4-4). Ofgem itself has suggested to the CMA that “as an economic regulator it is not efficient or effective for it to lead on the delivery and/or take a prominent role in drafting and implementing detailed and often technical code change in an on-going basis.”

It is therefore more appropriate that a new *code management body* with dedicated resource and expertise be created. Such a body is likely to require capacity across a range of expertise, including a detailed knowledge of existing codes, electricity markets and networks, including supplier-consumer relationships and consumer behaviour; detailed knowledge of new and emerging areas and technologies; relevant legal expertise; analysis of economic impact; energy systems analysis; an understanding of IT, and project management.

There are other reasons for locating powers to manage code change in a new body rather than in Ofgem. Separating economic regulation (which involves Ofgem in particularly close relationships with network companies) and code governance would therefore be desirable. Finally, by removing Ofgem completely from the upstream end of the code governance process, it can then play the role of monitoring compliance with licence conditions.

There are also arguments for a dedicated code management body *taking on the current functions of the code administrators*. A single body would facilitate better coordination of cross-code changes and allow for the standardisation and simplification of the current range of different practices, collateral requirements etc., where beneficial, all of which would help support smaller actors. There could be a single point of contact and website, plus basic steps such as the accurate translation of code requirements and code change proposals from legal and technical language into plain English, and the provision of ‘one-stop shop’ guidance to what parts of the code landscape an actor actually needs to pay attention to. This approach does open up the danger of the creation of silos in what becomes a larger organisation than any of the existing code administrators. This issue would have to be addressed through writing in the prevention of siloing into the core strategy of the body, and linking it to performance indicators and, crucially, incentives for staff.

---

<sup>18</sup> RWE npower (2015) cites the example of Project Nexus, where it considers that Ofgem set unrealistic milestones because it did not sufficiently understand the complexities of IT change. Another example would be the electricity balancing SCR, where it was only once the mod had gone through the BSC process that it became clear that what Ofgem wanted might have anti-competitive implications.

### **4.4.3 The right of appeal**

Finally, industry incumbents are concerned that any move away from self-governance to regulator-led or publicly-led code governance should be balanced by a *robust right of appeal by individual companies or actors*, although this should be seen as a last resort. Under the Energy Act 2004, code decisions can be appealed to the Competition and Markets Authority. This could simply be continued.

#### ***Acknowledgements***

This work was supported by The Engineering and Physical Sciences Research Council (EPSRC)[EP/K001582/1]. We are grateful to participants at a workshop on ‘Codes Governance for the 21<sup>st</sup> Century’ held in London in October 2015.

**Table 1**  
**Main energy industry codes and standards in Great Britain**

<b>Area</b>	<b>Title</b>	<b>Description</b>
<b>Electricity distribution</b>	Distribution Code (D-Code)	Technical parameters relating to the planning and use of electricity distribution networks
	Distribution Connection and Use of System Agreement (DCUSA)	Covers commercial aspects of use of electricity distribution network services
<b>Electricity transmission</b>	Connection and Use of System Code (CUSC)	Framework for connection and use of high voltage transmission system and certain balancing services
	Grid Code	Technical aspects relating to connections, operation & use of transmission network
	System Operator/Transmission Code (STC)	Defines the relationships between National Grid as system operator and transmission owners
<b>Electricity balancing</b>	Balancing and Settlement Code (BSC)	Sets out rules for participating in Balancing Mechanism and for settling energy imbalance
<b>Electricity retailing</b>	Master Registration Agreement (MRA)	Rules for retail market processes including electricity registration, change of supplier processes and the Green Deal
<b>Gas transmission and distribution</b>	Unified Network Code (UNC)	Defines the rights and responsibilities for users of the gas transportation systems, and provides for all system users to have equal access to transportation services
<b>Gas retailing</b>	Supply Point Administration Agreement (SPAA)	Sets out the inter-operational arrangements between gas suppliers and transporters in the UK retail market
<b>Gas and electricity smart metering</b>	Smart Energy Code (SEC)	Defines the rights and obligations of energy suppliers, network operators and other relevant parties involved in the end to end management of smart metering in Great Britain.

Source: Licences, Code and Standard documents

**Table 2**  
**Code requirements under standard licence conditions, by type of licence**

		D-Code	DCUSA	CUSC	Grid Code	STC	BSC	MRA	UNC	SEC
Electricity	Transmission					X	X			
	Distribution	X	X	X	X		X	X		
	Interconnection	X		X	X		X			
	Generation	X	X	X	X		X			
	Supply	X	X	X			X	X		
Gas	Transporter								X	
	Interconnector								X	
	Shipper								X	
	Supplier							X	X	
Both	Smart Meter Communication Licence									X

Source: Licence Standard Conditions documents

**Table 3**  
**Alternative modification processes from the Code Governance Review 2008**

<b>Modification procedure</b>	<b>Initiation</b>	<b>Development</b>	<b>Decision</b>	<b>Implementation</b>
Self-governance (fast-track and regular)	Industry	Industry	Industry	Industry (network owner)/ code administrator
Ordinary	Industry	Industry	Ofgem	Industry (network owner)/ code administrator
SCR	Ofgem	Ofgem first then industry	Ofgem	Industry (network owner)/ code administrator

Source: CMA (2015c: 467)

**Table 4**  
**Code Panels/Boards**  
**Number of members by category, October 2015**

	<b>MRA</b>	<b>BSC</b>	<b>DCUSA</b>	<b>CUSC</b>	<b>D Code</b>	<b>Grid code</b>	<b>SPAA</b>	<b>UNC</b>	<b>SEC</b>
VI supplier- generator	2	1	2	4	3	3	4	2	2
Network company	1	2	3	2 <sup>b</sup>	6	10	2	5	2
Other Code rep.	1	0	0	0	0	2 <sup>c</sup>	0	0	0
Other supplier	0	0	0	0	0	0	1	3	2
Other generator	0	1	1	2	1	3	0	0	0
Other network	0	0	0	0	1	0	1	0	0
Independent	0	8 <sup>a</sup>	0	2 <sup>a</sup>	3 <sup>a</sup>	2	0	1	4
Consumer rep.	0	2	0	1	1	0	0	1	1 <sup>d</sup>
<b>Total</b>	<b>4</b>	<b>12</b>	<b>6</b>	<b>11</b>	<b>15</b>	<b>20</b>	<b>8</b>	<b>12</b>	<b>11</b>
% VI	50%	8%	33%	36%	20%	15%	50%	17%	18%
% VI + network	75%	25%	83%	55%	60%	65%	75%	58%	36%
Independent chair	No	Yes	No	Yes	No	No	No	Yes	No

Source: Code websites, SSE (2015)

Notes:

Excludes secretaries and GEMA members

a Includes one independent working for Energy UK

b Only one network rep. is allowed to vote on a given issue

c Includes Irish SO rep.

d Currently vacant

## References

- Baldwin, R., Cave, M. and Lodge, M. (2012) *Understanding Regulation: Theory, Strategy and Practice* 2nd Edition, Oxford, Oxford University Press
- Bartle, I. and Vass, P. (2007) 'Self-regulation within the regulatory state: Towards a new regulatory paradigm' *Public Administration* 85, 4, pp. 885-905
- Brattle Group/Simmons and Simmons (2008) *Critique of the industry codes governance arrangements – A report for Ofgem*, <https://www.ofgem.gov.uk/ofgem-publications/61470/20080612-codes-governance-review-final-draft.pdf>
- British Gas (2015) Response to Question 1 of Ofgem Open Letter on Further Review of Code Governance, available at:  
[https://www.ofgem.gov.uk/sites/default/files/docs/2015/07/british\\_gas\\_response\\_2.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2015/07/british_gas_response_2.pdf)
- Citizen's Advice (2015) Response to Ofgem Open Letter on Further Review of Code Governance, available at:  
[https://www.ofgem.gov.uk/sites/default/files/docs/2015/07/cab\\_response.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2015/07/cab_response.pdf)
- Competition and Markets Authority (2015a) *Energy market investigation: Codes* CMA, London
- Competition and Markets Authority (2015b) *Case studies on barriers to entry and expansion in the retail supply of energy in Great Britain* CMA, London
- Competition and Markets Authority (2015c) *Provisional Findings* CMA, London
- Competition and Markets Authority (2016) *Provisional Remedies* CMA, London
- Cooperative Energy (2015) Response to Ofgem Open Letter on Further Review of Code Governance, available at:  
[https://www.ofgem.gov.uk/sites/default/files/docs/2015/07/cooperative\\_energy\\_response.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2015/07/cooperative_energy_response.pdf)
- Cornwall Energy (2014) *Credit and collateral in the GB energy markets: Vol. I Main report*
- Cornwall Energy (2015) Response to Ofgem Open Letter on Further Review of Code Governance, available at:  
[https://www.ofgem.gov.uk/sites/default/files/docs/2015/07/cornwall\\_energy\\_response.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2015/07/cornwall_energy_response.pdf)
- Davenport, J. (2008) 'Codes governance and the sustainability challenge'  
<https://www.ofgem.gov.uk/ofgem-publications/61474/juliet-davenport.pdf>
- Distribution Code Review Panel (DCRP) (2015) Response to Ofgem Open Letter on Further Review of Code Governance, available at:  
[https://www.ofgem.gov.uk/sites/default/files/docs/2015/07/dcrp\\_response.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2015/07/dcrp_response.pdf)
- Ecotricity (2015) Response to Ofgem Open Letter on Further Review of Code Governance, available at:  
[https://www.ofgem.gov.uk/sites/default/files/docs/2015/07/ecotricity\\_response\\_0.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2015/07/ecotricity_response_0.pdf)

- EDF Energy (2015) Response to Ofgem Open Letter on Further Review of Code Governance, available at:  
[https://www.ofgem.gov.uk/sites/default/files/docs/2015/07/edf\\_respnse\\_0.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2015/07/edf_respnse_0.pdf)
- E.On UK (2008) *Code Governance Review: Major Policy Reviews and Self Governance*  
<https://www.ofgem.gov.uk/sites/default/files/docs/2009/07/e.on-response---84-09.pdf>
- Flinders, M. (2008) *Delegated Governance and the British State: Walking without order* Oxford, Oxford University Press
- GEMA (2008) *Minutes of the meeting of the Gas and Electricity Markets Authority, Thursday 19<sup>th</sup> June*, <https://www.ofgem.gov.uk/ofgem-publications/38072/19-june-2008.pdf>
- Good Energy (2009) *Review of Industry Code Governance – Environment and Code Objectives*  
[https://www.ofgem.gov.uk/sites/default/files/docs/2008/11/good-energy\\_0.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2008/11/good-energy_0.pdf)
- Good Energy (2015) Response to Ofgem Open Letter on Further Review of Code Governance, available at:  
[https://www.ofgem.gov.uk/sites/default/files/docs/2015/07/good\\_energy\\_response\\_0.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2015/07/good_energy_response_0.pdf)
- Good Energy (2015b) *Good Energy's response to the updated Statement of Issues*  
[https://assets.digital.cabinet-office.gov.uk/media/553e2743e5274a1572000053/Good\\_Energy\\_-\\_resp\\_to UIS.pdf](https://assets.digital.cabinet-office.gov.uk/media/553e2743e5274a1572000053/Good_Energy_-_resp_to UIS.pdf)
- Gunningham, N. and Rees, J. (1997) 'Industry self-regulation: An institutional perspective' *Law and Policy*, 19, 4: 363-414
- Huber, J. D. and Shipan, C. R. (2002). *Deliberate Discretion?: The Institutional Foundations of Bureaucratic Autonomy*. New York: Cambridge University Press.
- IGov (2015) *Codes governance and reform discussion paper*, Energy Policy Group, University of Exeter, available at:
- Institute of Engineering and Technology (IET) (2014) *Transforming the Electricity System* London: IET
- Institute of Engineering and Technology (IET) (2015) Response to Ofgem Open Letter on Further Review of Code Governance, available at:  
[https://www.ofgem.gov.uk/sites/default/files/docs/2015/07/iet\\_response\\_0.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2015/07/iet_response_0.pdf)
- Kay, M. (2012) Letter on revision of Engineering Recommendation P2,  
<http://www.dcode.org.uk/assets/images/P2%20Security%20of%20Supplies%20Open%20Letter.pdf>
- Kuzemko, C. (2016) 'Governing for Demand Management in Germany: Politics, Policy and Practice', IGov Working Paper 1601, February 2016:  
<http://projects.exeter.ac.uk/igov/category/research/working-papers/>
- Laffont, J.-J. and Tirole, J. (1993) *A Theory of Incentives in Procurement and Regulation* MIT Press, Cambridge MA



- Lockwood, M. (2014) *Energy networks and distributed energy resources in Great Britain* Working Paper 1406, Energy Policy Group, University of Exeter, <http://projects.exeter.ac.uk/igov/wp-content/uploads/2014/10/WP11-Energy-networks-and-distributed-energy-resources-in-Great-Britain.pdf>
- Lockwood, M., Mitchell, C., Hoggett, R. and Kuzemko, C. (2015) *Innovation and energy industry codes in Great Britain* Working Paper 1505, Energy Policy Group, University of Exeter
- McCarty, N. (2013) ‘The regulation and self-regulation of a complex industry’ Unpublished manuscript, Princeton University
- Mitnick, B. M. (2011) ‘Capturing “capture”: definition and mechanisms’ in D. Levi-Faur (ed.) *Handbook on the Politics of Regulation*, Edward Elgar, pp. 34-49
- Newbery, D. (1999) *Privatization, Restructuring and Regulation of Network Utilities* Cambridge MA: MIT Press
- Ofgem (2007) *Transmission Access Review – A call for evidence for a review of transmission access* [https://www.ofgem.gov.uk/sites/default/files/docs/2007/08/070816\\_ex\\_tar-call-for-evidence\\_final\\_0.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2007/08/070816_ex_tar-call-for-evidence_final_0.pdf)
- Ofgem (2010) *Code Governance Review – Final Proposals* [https://www.ofgem.gov.uk/sites/default/files/docs/2010/03/cgr\\_finalproposals\\_310310\\_0.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2010/03/cgr_finalproposals_310310_0.pdf)
- Ofgem (2014a) *Energy Market Investigation: Initial Submission to the Competition and Markets Authority* <https://assets.digital.cabinet-office.gov.uk/media/53d8caf8ed915d560900000d/Ofgem.pdf>
- Ofgem (2015a) *Further review of industry code governance*, Open letter, May 2015 <https://www.ofgem.gov.uk/sites/default/files/docs/2015/05/cgr-open-letter.pdf>
- Ofgem (2015b) *Code Governance (Phase 3): Initial Proposals* [https://www.ofgem.gov.uk/sites/default/files/docs/2015/10/cgr3\\_initial\\_proposals\\_final\\_0.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2015/10/cgr3_initial_proposals_final_0.pdf)
- Ofgem (2015c) *Simplification Plan 2015-16* [https://www.ofgem.gov.uk/sites/default/files/docs/2015/03/simplification\\_plan\\_2015-16\\_0.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2015/03/simplification_plan_2015-16_0.pdf)
- Ofgem (2015d) *Code Administration Code of Practice*, [https://www.ofgem.gov.uk/sites/default/files/docs/2015/08/proposed\\_cacop\\_v.4.0\\_clean\\_version\\_0.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2015/08/proposed_cacop_v.4.0_clean_version_0.pdf)
- Ofgem (2016) *Code Governance Review (Phase 3): Final Proposals* [https://www.ofgem.gov.uk/system/files/docs/2016/03/code\\_governance\\_review\\_phase\\_3\\_final\\_proposals\\_2.pdf](https://www.ofgem.gov.uk/system/files/docs/2016/03/code_governance_review_phase_3_final_proposals_2.pdf)
- Peters BG (2012) *Institutional Theory in Political Science*. 3rd edn. London, Continuum

- Pierson P (2000) Increasing returns, path dependence and the study of politics. *American Political Science Review* 94(2): 251-267.
- Pierson P (2004) *Politics in Time: History, Institutions and Social Analysis*. Princeton NJ: Princeton University Press.
- RWE npower (2015) Response to Ofgem Open Letter on Further Review of Code Governance, available at:  
[https://www.ofgem.gov.uk/sites/default/files/docs/2015/07/npower\\_response\\_1.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2015/07/npower_response_1.pdf)
- Scottish and Southern Energy (SSE) (2015) Response to Ofgem Open Letter on Further Review of Code Governance, available at:  
[https://www.ofgem.gov.uk/sites/default/files/docs/2015/07/sse\\_response\\_0.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2015/07/sse_response_0.pdf)
- Shleifer, A. (2005) "Understanding regulation" *European Financial Management* 11, 4, pp 439-451
- Stigler, G. (1971) 'The theory of economic regulation' *The Bell Journal of Economics and Management Science* 2, 1: 3-21
- Thatcher M and Stone Sweet A (2002) Theory and practice of delegation to non-majoritarian institutions. *West European Politics* 25(1): 1-22
- Thelen K (2002) The explanatory power of historical institutionalism. In: Mayntz R (ed) *Akture-Mechanismen-Modelle: Zur Theoriefähigkeit mackro-sozialer Analysen*. Frankfurt/New York: Campus Verlag, pp.
- Wren-Lewis, L. (2011) 'Regulatory capture: risks and solutions' in A. Estache (ed.) *Emerging Issue in Competition, Collusion and Regulation of Network Industries* CEPR, London, pp.

### **Keyword set**

- Governance
- Regulation
- Information
- Codes
- Electricity
- Gas
- Markets
- Networks