Re-Inventing Regulation for the Challenge of Climate Change

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Abstract

Tackling climate change requires a fundamental shift in regulatory paradigm. An effective climate change policy demands a change in behaviour at all levels of society. It has long been recognised that traditional types of environmental regulation, where the state adopts uniform environmental standards enforced mainly by public authorities (‘command’ and ‘control’), are not enough to achieve this. Different, new ways of regulating must be employed. One such alternative involves using the market to encourage environmentally friendly behaviour, by making firms (and perhaps individuals also) pay for the environmental cost of polluting (market-based methods of regulation). These methods include carbon taxes, emissions trading, and companies voluntary improvement of their environmental behaviour. This paper evaluates these ‘new’ regulatory techniques, their advantages and their limitations and asks whether market based methods potentially have as many drawbacks as more traditional methods. We argue that, in addition to market based methods, a broader range of regulatory techniques should be considered which makes use of the combined power of law, the market and also social and community pressures to influence behaviour in a way that effectively addresses climate change.

1 Introduction

There is increasing consensus on the need for a rapid and sharp fall in greenhouse gas emissions \[1\]. Though EU states have signed up to significant international commitments in greenhouse gas reductions, most – including Ireland – are experiencing difficulty in meeting these commitments in practice. An important reason for this is because reducing greenhouse gas emissions demands large-scale behavioural change. If states’ obligations are to be met, they must be reflected in individual and corporate behaviour. The challenge for governments is to design a regulatory regime which effectively achieves behavioural change. This is likely to involve the enrolment of actors and processes which take us beyond contemporary thinking about regulation.

This paper argues that, in seeking to meet this challenge, it is important to understand the reasons behind behavioural choices. In order to tackle climate change effectively, a regulatory regime must draw fully on these reasons for action. This approach helps to explain why, as is widely accepted, ‘traditional’ environmental regulatory techniques are in themselves insufficient to combat climate change effectively. Perhaps more importantly, our approach suggests that, though the current wave of market-based environmental regulatory techniques – such as carbon taxes and emissions trading schemes – has the potential to improve climate change policy effectiveness, it will not be enough to achieve the large-scale behavioural change required. In addition, care must be taken in designing a regulatory regime to identify, and avoid, potential counterproductive effects which may result from the regulatory technique selected.

2 Which behaviour?

Designing a regulatory regime which maximises behavioural change requires identification of which behaviour needs to be changed. In the case of climate change, this means identifying the principal behaviour leading to the production of anthropogenic greenhouse gas emissions. It is evident that the sources of such emissions are highly diffuse. Important sources include:

- Industrial energy use, such as in power generation, manufacturing and transportation, as well as consumer-led energy use, such as in home heating and private transport;
- Primary industries such as agriculture and forestry; and
- Waste disposal.
As discussed below, the diffuse nature of greenhouse gas sources is a vitally important context in seeking to draw up an effective climate change policy. Key requirements of a successful policy include reducing consumption of energy, moving to more efficient use of energy and tackling deforestation.

3 Explaining Behaviour: Three Reasons for Acting

Social theory generally holds that all reasons for acting may be grouped under three headings: command, interests and community. In simple terms:

- We act for command reasons when we act pursuant to law or legal authority – that is, obeying an order in the context of a defined hierarchy. This includes reasons relating to formal legal rights, such as property or contractual rights, but also reasons relating to taxation and regulatory requirements;

- We act for reasons of interests when we act motivated by pursuit of self interest – for example following economic incentives, driven by the (potential) pay-offs from our behaviour or avoiding (potential) loss – notably, in the marketplace; and

- We act for reasons of community when we act pursuant to social norms, driven by habits, tradition, values and social pressures.

Evidently, a major overlap exists between these three reasons for acting. For instance, laws which give rise to command reasons for acting (or refraining from action) often also provide interests- and/or community-based reasons for action (or refraining from action). We refrain from killing people not just because the law prohibits it, but because we feel that it is wrong. Likewise, interests-based reasons for acting, such as the pursuit of profit or the avoidance of loss, may, if accepted to the point of becoming social norms, also constitute community-based reasons for acting. Companies may choose not to mistreat their workers in factories abroad not only because treating workers decently may form part of their values, but also because failure to treat them decently may damage their reputation and profits. This overlap means that, in practice, as will be seen, many regulatory techniques in fact represent hybrid instruments, drawing on most or all of the three reasons for acting, albeit with a primary emphasis on one reason. Nonetheless, applied to current climate change regulatory instruments, we argue that this basic analytical approach provides a useful perspective for identifying any potential gaps in the current regulatory regime which arise from a failure effectively to harness all reasons for acting, and for evaluating new directions in climate change regulation.

4 Climate Change Regulation Viewed through the 'Reasons for Acting' Lens

The three reasons for acting discussed in the previous section, command, interests and community, are, simultaneously, aspects of both the problem and the solution associated with climate change. It is a problem where behaviour driven by interests or participation in a community causes excessive industrial or vehicle emissions. A key challenge in re-inventing regulation is to flip vice into virtue [2], using the very same reasons for acting as a stimulus to actions which better support reductions in greenhouse gas emissions. Studies regulatory regimes suggest that even the command reason for acting can often be counterproductive and in similar need of flipping [3].

4.1 Command-based Climate Change Regulation

Traditional techniques of environmental regulation rely on command-based reasons for acting. Such techniques fall into two broad categories: private law and ‘command-and-control’ regulation.

4.1.1 Private law

When, following the advent of industrialisation, problems with environmental pollution first began to emerge as a large-scale problem during the nineteenth century, private law – in particular, tort and contract – was used to regulate the environment. These techniques focus above all on the protection of private property via enforcement in the courts. For instance, the law of tort prohibits unreasonable interference with the use and enjoyment of land, or causing material physical harm to a neighbouring property.¹

Limitations of private law techniques

- By definition, the effectiveness of these techniques is limited by the extent of private interests (namely, private property rights), as well as by private financial resources (as litigating to protect such rights is expensive).

- As a result, reliance on private law alone is inadequate directly to counter an environmental problem such as climate change, for classic ‘tragedy of the commons’ reasons: no-one ‘owns’ the atmosphere into which excessive greenhouse gases are being emitted.

¹ See, for instance, St Helen’s Smelting Co v Tipping (1865) 11 HL Cas 642, Hanrahan v Merck Sharp & Dohme [1988] ILRM 629 and Rylands v Fletcher (1868) LR 3 HL 330.
4.1.2 ‘Command-and-control’ regulation

Historically, the next ‘wave’ of environmental regulation comprised the use of state-set standards (commands), to be enforced by public bodies, for instance environmental agencies or the courts (control). Much of what we now consider as ‘environmental law’ falls into this category, from laws on minimum bathing and drinking water quality, to laws regulating the labelling of dangerous chemicals, to laws requiring waste disposal operators to have a permit for their activities. Often, these commands are controlled by means of a licence or permit, compliance with which is generally overseen by a state agency. Commands may permit some level of environmental interference or, exceptionally, where potential environmental damage is viewed as particularly serious, impose virtually complete bans on interference (for instance, laws regulating trade in endangered species).

Command-and-control techniques have, over time, proven to be highly effective in tackling certain types of environmental damage – for instance, in limiting environmental damage arising from the activities of large single-source polluters, such as power stations and other large industrial installations. Moreover, they are at present the only generally accepted technique suitable to protect particularly precious natural resources, where a (virtually) complete prohibition on interference may be the only solution acceptable to society. Nonetheless, it is now widely accepted that command-and-control techniques suffer from significant limitations.

Limitations of traditional command-and-control regulation

- Such techniques are generally inadequate to deal with diffuse-source pollution, where the environmental problem results from a large number of actors which it would be virtually impossible for the state effectively to police. As already noted, the production of greenhouse gases is a classic example of diffuse-source pollution.

- The effectiveness of these techniques depends on effective ‘control’, which ultimately depends on the effectiveness of public enforcement of environmental law. In practice, public enforcement is often severely constrained – for instance, by lack of resources. Where permitting and licensing are used to effect traditional command-and-control regulation, the permits/licences are normally given out for free, meaning that polluters have no incentive to reduce their pollution levels below those required by the standards set in the applicable law(s).

- A regulatory model based on state-set standards laid down in laws means that, when applied to a fast-moving area, it is difficult for the laws to keep up, and a certain degree of time lag is inevitable. This can be a disadvantage when dealing with environmental issues where scientific opinions, as well as relevant technologies, can alter rapidly.

4.2 Interests-based Climate Change Regulation

In recent years, we have witnessed a shift in the environmental regulatory paradigm, with ‘market-based’ techniques constituting the new orthodoxy in environmental regulation. Such techniques aim, in essence, to harness the market to incentivise environmentally friendlier behaviour on the part of market actors (for instance, producers and consumers). In this way, regulators hope, the environment can be brought into the boardroom, to play a genuine and legitimate role in corporate decision-making.

Analysed in terms of reasons for acting, market-based instruments are generally hybrid instruments, drawing on a mixture of interests-based and command-based behavioural motivations. Such instruments are interests-based, as market actors are given the (financial) incentive to act in an environmentally friendlier way. They are command-based, as markets function within a legal framework set up by the state. Current market-based techniques can be divided into two categories: those which seek to make use of existing markets, and those which create new markets.

4.2.1 Use of existing markets

The first comprises instruments aimed at better incorporating environmental factors into decisions being made in markets which already exist. One way of using existing markets for environmental means is by conditioning state-granted financial advantages on market actors’ environmental performance – for instance, by ‘greening’ public procurement practices such that successful tenderers must satisfy specified environmental standards, or making the grants of subsidies (whether grants or tax reductions) conditional on a company’s environmental credentials. Another way of doing this is by seeking to incorporate the cost

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of the environmental damage caused by a good over its life cycle into the market’s price mechanism, by subjecting the good to an environmental tax. Clearly, this has a strong command element (taxes are imposed by law), but makes use of interests-based reasons for action in the marketplace in order to influence production and consumption patterns. From an EU perspective, though environmental taxation has long been used by certain EU Member States (particularly the Scandinavian states), little EU legislation exists on the topic, because taxation measures are subject to unanimity of voting in the EU’s Council of Ministers. An exception is the 2003 Energy Directive, which has had limited impact due to its special derogations for certain energy-intensive industries.

Applied to the climate change problem, it is clear that, as a regulatory technique, the use of environmental taxes may have major advantages. For instance, as a carbon tax can be made to apply across the board to carbon emissions, they may be a relatively simple way of sending price signals to the market in general, and can have effects far beyond the reach of command-and-control licensing techniques aimed primarily at large-scale polluters. Nonetheless, unless properly crafted, environmental tax regimes run the risk of being ineffective and counterproductive.

Limitations of Environmental Taxation

- The political sensitivity of environmental taxes may not only reduce the likelihood of the introduction of a carbon tax in the first place, but may also mean that any scheme ultimately passed may be littered with substantial exemptions which reduce, or eliminate, the effectiveness of the tax. Such was effectively the case, for instance, with the EU’s Energy Tax Directive.
- Even where it is possible for an environmental tax to survive the legislative process relatively unscathed in terms of exemptions, it is notoriously difficult to know the level at which the tax rate should be set. In the case of carbon taxes, for instance, it is almost impossible to place an accurate value on the environmental damage being caused by, say, one tonne of carbon dioxide emissions. Setting the tax rate too high will, just as setting it too low, mean that the market will fail to work properly and will be inefficient.
- There is strong evidence that in order for regulatory taxes to be effective, market actors (producers and consumers) need to be able to shift their production or consumption to an (environmentally) better alternative – in the case of carbon taxes, a low(er) carbon alternative. A familiar example is the Irish plastic bag levy, where consumers had the (apparently) environmentally-friendlier alternative of using (free) paper bags instead of paying the levy. If no such alternative exists, introducing environmental taxes may provoke a shift to untaxed, but equally polluting, alternatives, or simply to tax evasion.

In addition, there is some evidence to suggest that introducing environmental taxes may, in some cases, have the unintended counterproductive effect of removing individuals’ free-standing ethical motivations to make environmentally-friendlier choices voluntarily for moral reasons. For instance, research suggests that being offered money to donate blood may reduce the amount of blood donated among people who would otherwise have given blood, as the ethical motivation for doing so will be reduced. In contrast, there is evidence that offers of payment increased motivation in people who were not already motivated to be donors [4]. Applying this reasoning to environmental taxes, this suggests that an ideal environmental tax regime might not impose taxation in any areas where, at present, significant voluntary carbon reduction efforts take place, motivated by ethical reasons. This has led some to suggest that the scope of carbon taxes should be restricted to companies and firms (who in principle act to maximise profits) and should not apply to individuals (who are more likely to act for ethical reasons) [5]. Nonetheless, not only would such an approach significantly reduce the scope of carbon tax regimes (the breadth of which is, as we have seen, one of the main advantages of this regulatory technique), it also risks overestimating individuals’ environmental ethical motivations in the current state of society.

4.2.2 Creating new markets

A second category of market-based instrument involves creating new markets to achieve environmental goals. The prime example is that of tradable permit schemes, where markets are created in rights to pollute. The EU’s Emissions Trading Scheme (ETS), initially created to enable EU Member States to satisfy their Kyoto Protocol obligations, is the biggest tradable permit scheme of its kind to date. As such, it has been quite a regulatory experiment since its
first phase began in 2005. As is well-known, the advantages of such a scheme are that, as rights to emit carbon dioxide⁸ can be traded on a market, polluters have an incentive to reduce their pollution and sell their excess allowances on the market for a profit. Where, however, polluters calculate that it is cheaper for them to purchase extra allowances than to reduce their carbon dioxide emissions, they will choose the cheaper option. In theory, this means that emissions are reduced in the most cost-effective manner. Like many experiments, however, the EU’s ETS has not initially been entirely successful, and has needed significant fine-tuning due to certain unintended effects flowing from its original design. Unintended Effects of the Original ETS Design and Proposed Solutions

In Phase I of the ETS far too many allowances were given out by Member States, who were charged with drawing up National Allocation Plans, to installations subject to the scheme. Once this fact became known on the market in April and May 2006 (following a report of the European Commission), the price of allowances plummeted by over €20 to just over €5. Though NAPs were subject to prior approval by the European Commission, the Commission’s approach was (understandably) relatively lenient for Phase I NAPs. Its approach toughened considerably in Phase II, and its proposals for Phase III (post-2012) of the scheme include the proposal that the task of allocating allowances be centralised with the Commission, and thus taken away from the Member States.⁹

Even if this controversial proposal passes muster with Member States in the Council, other difficulties with the ETS remain. Most notably, allocation of allowance is at present carried out overwhelmingly by examining an installation’s past emissions (the ‘grandfathering’ technique of allocation), and allocating allowances for free on that basis. This creates two problems. First, it has the potential to create an inherent bias against installations entering the market for the first time, unless care is taken to set aside a sufficient quantity of allowances for such new entrants, which are subsequently distributed free of charge. This could deter new, cleaner competitors from entering the market. Second, allocating allowances for free to historical polluters has led to much-criticised ‘windfall’ profits for big polluters who subsequently reduce their emissions, or where past emissions were over-estimated. Again, the European Commission’s latest proposals for Phase III of the ETS include proposals to remove these unintended side-effects by increasing the proportion of allowances distributed by auction (at present limited to 10% of total allowances).

4.3 Community-Based Climate Change Regulation

Community-based behaviour, and in particular ways of thinking and doing things – culture – is a major inhibitor to achieving climate change. Patterns of consumption to which we have become accustomed support ways of life we have created for ourselves. The challenge of effective regulation requires fully exploiting not only command- and interests-based, but also flipping community-based reasons for acting into part of the solution. This represents the final frontier in climate change regulation. As noted, community-based reasons for acting are reasons based on goals and values (whether of an individual or of a society). Community-based reasons for acting are strongest when some kind of mechanism for feedback exists (e.g., an opportunity for others to show approval, or disapproval, of one’s actions, resulting in social pressure to change behaviour), and when there is a chance for behaviour subsequently to be modified as a result of such feedback. For instance, we might be less likely to engage in illegal dumping, even if we think that the relevant public enforcers are unlikely to catch us, if we fear that our disapproving neighbour may find out about our actions. In other cases, community-based reasons for acting may work in combination with interests- and/or command-based reasons for acting. Demand for gas-guzzling SUVs in cities, for instance, may decline as a result of increased tax on fuel, making them more expensive (interests and command), but also due to public disapproval of their use.

Community-based reasons for acting can also play an important role in the corporate sphere. The key example here is that of corporate voluntary initiatives, including the development and use of eco-labels, the adopting of environmental management standards, and other voluntary agreements between companies to adopt higher environmental standards than those required by legislation. Evidently, such initiatives may rely on a mixture of reasons. For instance, eco-labels may be supported by a legislative framework setting out criteria for admission and use of the eco-label (as is the case with the EU’s own ‘flower’ eco-label). More broadly, companies may choose to engage in such apparently ‘voluntary’ behaviour for underlying interests-based reasons: being greener can be good for their business, through attracting customers, avoiding stricter legislative standards which would otherwise be introduced, or gaining first-mover advantages in emerging markets for greener technology. An example can be found in the conduct of the major banks in developing the Equator Principles under which customers seeking project finance are required to comply with

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⁸ European Union Allowances
sustainability principles. In many instances supply chain contracts are used by firms to impose environmental requirements on other firms [6]. The Forest Stewardship Council provides a key example, directed at sustainability of logging [7].

As with other reasons for acting, however, community-based reasons for acting may be vulnerable to unintended counterproductive effects and limitations.

Limitations of Community-Based Reasons for Acting

- Taking the SUV example, the existence of general public disapproval may, perversely, constitute for some a reason for purchasing an SUV (unintended enticement). Evidently, community-based reasons for acting are by their nature likely to exclude such 'deliberate individualists', and for this part of society reliance must be placed on interest- and/or command-based reasons for acting.

- Voluntary corporate initiatives may be vulnerable to the 'greenwash' criticism: in the absence of formal conditions for entry to an eco-label, or an obligation to report accurately in an environmental annual report, the credibility of such signals may be diminished. Voluntary corporate initiatives may be entered into as a tactic where companies are faced with the threat of command regulation. In such cases, there is a risk of an inferior environmental outcome, due to the non-binding nature of voluntary initiatives.

- Finally, it is clear that, in order to maximise community-based reasons for acting, environmental values must be internalised as part of an individual's, or a society's, values. As noted, it is possible such values can ultimately develop from the existence of regulation drawing on command- and interests-based reasons. However, non-regulatory factors, such as information campaigns and appeals, can also be vital.

5 Conclusion: Optimising the Potential of Climate Change Regulation

In the area of climate change regulation, the challenge is to draw on the potential of each of the three motivations for behaviour:

As regards command-based reasons, this entails above all, as we have seen, careful consideration of possible counterproductive effects of proposed regulation, and tailoring the command to avoid these as far as possible. A further challenge is maximising the potential of non-state actors as a source of command. This can be done, for instance, by the imposition of environmental standards as contractual obligations imposed on a given group of trading partners, through supply chain contracts. A further possibility which has met with success in other spheres has been the use of non-state actors with 'gatekeeper' functions (i.e., who play a decisive role in an individual's or company's affairs) to enforce environmental standards, as where the banks impose environmental conditions on the grant of loans. Finally, voluntary corporate agreements to reduce greenhouse gas emissions beyond legislative requirements have played a role in the UK, where certain sectors entered into negotiated Climate Change Agreements with the UK government, which were taken into account in the UK's own ETS (which preceded the EU ETS).

As regards interests-based reasons, the challenge is to maximise the scope of interests-driven behaviour by successfully internalising environmental damage into the market's price mechanism, and by better invoking rivalry and reputational effects. Rivalry steers behaviour in non-market settings as where individuals or firms compete for prizes for green behaviour; or where governments are made the targets of league tables showing performance against agreed environmental objectives.

Internalising environmental damage can be achieved not only, as we have seen, by properly crafted environmental taxes, but also by effective use of green public procurement standards, whereby successful tenderers must meet certain environmental specifications. Similarly, the grant of public funds can be made conditional on specified environmental credentials (for instance, compliance with a credible environmental management programme). Moreover, markets can conceivably be created in areas traditionally covered by command-and-control regulation, to complement such regulation. An example is the US-developed concept of habitat banking, where conservationists are awarded 'credits' for their work in preserving habitats covered by the US Endangered Species Act, which can be purchased by a development which gives rise to a 'debit' under the Act (i.e., damages a habitat elsewhere). In this way, the cost of conservation can be funded, and the price of environmental damage internalised.

Rivalry and reputational effects can be better invoked by increasing the profile and credibility of eco-labels and environmental management schemes, for instance by subjecting them to compulsory minimum standards and publicising these standards. In addition, care should be taken to align pre-existing rules governing market behaviour (for instance, trade law, competition law and state aid law) with the aim of enhancing environmental incentives.

As regards community-based reasons, the challenge is in the first place to promote effective change in social norms and values. One way in which this can be done is by integrating social norms into interests-
and command-based regulation. A good example of this at EU level is the adoption of the principle of environmental stewardship as a responsibility of agricultural property owners under the Common Agricultural Policy, by which (under the REPS scheme) receipt of certain CAP funds is made conditional on attaining certain stewardship standards. A further example is the concept of the ‘social licence to operate’, which observes and makes a virtue out of the relationship between communities and firms which creates a form of accountability for the firms’ actions [8].

Further, the availability of information on the environment, the ability to participate in environmental decision-making, and the ability to appeal decisions affecting the environment before the courts, are inextricably linked to the development of environmental social norms. As such, national implementation of the principles of the Aarhus Convention, which have been transposed into EU legislation, is crucial if environmental values are to be internalised in our society, and if we are to progress to a true ‘environmental democracy’.

A final factor in promoting community-based motivation is the importance of setting an example. The behaviour of the state, and of high-profile, respected individuals, can be of crucial importance in the development of social norms. The example of the TD choosing to cycle, rather than take the car, may have far broader implications than one might imagine.

In conclusion, effective climate change regulation requires drawing on each of the three reasons for acting: command, interests and community. Regulation by the state alone will not succeed in meeting the challenges posed by climate change. Citizens, firms, NGOs and governments must be ‘nudged’ [9] into actualising behavioural change, using regulatory techniques going beyond those of traditional regulation. In turn, this promotes the change in social norms and values necessary to invoke community-based reasons for acting, through mutual reinforcement. This paper has sought to highlight potential novel regulatory techniques aimed at achieving this change. An effective climate change policy demands a proper understanding of the practical outcomes of these techniques, which constitutes fertile ground for further research.

References