

## SMART POLICY

### ***A framework for understanding and developing energy policy***

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#### **Summary**

*The energy market is a political market. This is the reality of the world we live in today. However, political markets can be difficult to understand. Difficult for businesses trying to understand the risks of future Government intervention and difficult for Governments who are trying to ensure businesses take the actions necessary to deliver certain policy objectives.*

*This paper sets out a simple framework that will help policy makers devise good policy interventions, market participants to understand the nature of the intervention risks they face and observers of the markets to assess more accurately whether or not we have an appropriate energy policy. This framework is called 'smart policy'.*

*Smart Policy involves four simple steps. Step 1 establishes the basic conditions that ensure the energy market is working correctly. Step 2 helps crystallise the politically important outcomes that must be delivered. Step 3 identifies the business actions that are required now to deliver the desired outcomes. Finally, Step 4 develops the policy interventions that will drive the necessary actions in a business friendly way.*

*This framework is applied to the issue of domestic climate change policy. The absence of clear targets for reductions in greenhouse gas emissions is important and makes it difficult to assess the suitability of the current suite of policy mechanisms. However, it seems sensible that the EU Emissions Trading Scheme should remain at the centre of the policy albeit augmented by targeted regulations that drive the delivery capability in key parts of the value chain*

#### **The Energy Challenge**

There is a lot going on in the energy policy world. It is a high priority area for politicians at both national and European levels. The media has become engaged to the extent that the awareness and interest in energy issues amongst the general public has increased enormously. And those people close to the industry, who have for some time battled with complex market fundamentals, find themselves trying to guess the extent of future Government intervention and find their actions subject to continuous scrutiny and challenge.

However, there is little or no consensus as to whether the UK Government energy policy is a good one or even exactly what it is.

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We have moved a long way from the early days of the liberalised power and gas markets in the UK when the then Conservative government could confidently assert that their energy policy was to have ‘no energy policy’ – the market would ‘sort it out’.

The first complexity to understand is that energy policy is now set on two levels: national and European<sup>2</sup>. The recently published Energy White Paper<sup>3</sup> provides an extensive account of the UK energy policy whilst the European Commission is looking to establish a similar position for Europe as a whole<sup>4</sup>. At both levels there appears to be a thorough understanding of the challenges that are faced and the need for action and extensive packages of energy policy measures to address the challenges either exist or are under consideration.

So why are there so many concerns being raised about the adequacy of UK energy policy<sup>5</sup>? Are policy makers being deliberately vague or even incompetent? The answer, to my mind, is clearly ‘no’. We are experiencing the inevitable consequences of having an energy market. Governments wish to achieve (or avoid) certain outcomes, such as security of energy supplies, but do not have the direct levers to make them happen. The ‘indirect’ policy measures that are necessary in an energy market can be difficult to understand and often do not give the appearance of Government taking firm action to address the issues.

In the old days of nationalisation and central planning, it was easy to understand energy policy since it was encapsulated in the actions of Government owned entities such as the Central Electricity Generating Board. Similarly, a ‘pure market’ policy is equally apparent – it is effectively stating that there are no outcomes that the market might deliver that the Government would find unacceptable<sup>6</sup>.

Neither of these extreme situations represents the reality of the energy world that we face today. Energy is central to quality of life and Governments are rightly concerned about the impact that energy markets can have on society. At the same time, the paradigms of central planning and nationalisation have been rejected in favour of the efficiency of investment and innovation that markets can deliver. We therefore find ourselves operating in that murky world of a political market in which Governments are active participants and yet the ultimate choice of when and where to invest and what actions to take lies with the private sector.

Energy markets therefore present a number of challenges. For Governments, the challenge is to intervene in ways that allow the benefits of de-centralised decision making to emerge. For market participants, the challenge is to understand and manage the risks of Government intervention. And the challenge for both Governments and market participants is to recognise the inherently unstable nature of the political

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<sup>2</sup> Increasingly, the devolved administrations in Scotland, Wales and Northern Ireland are looking to establish independent energy policy positions

<sup>3</sup> ‘Meeting the Energy Challenge’, A White Paper on Energy, May 2007

<sup>4</sup> European Council Presidency Conclusions, 2 May 2007

<sup>5</sup> See, for example, ‘From Review to Reality: The search for a credible energy policy’, Dieter Helm, October 2006

<sup>6</sup> This should not be confused with the ‘no energy policy’ situation following privatisation – during this period I suspect that policy makers and politicians were merely sufficiently confident that it was extremely unlikely that the market would produce unacceptable outcomes

market and the ability that both parties have to undermine its integrity through imprudent action.

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This paper is an attempt to present a framework for energy policy. A framework that will help policy makers devise good policy interventions, market participants to understand the nature of the intervention risks they face and observers of the markets to assess more accurately whether or not we have an appropriate energy policy. It draws on the author's experience of the way large energy companies make strategic decisions, the nature of energy politics and, most importantly, how they interact.

First, however, it is necessary to explain in more detail the unusual and particular nature of energy markets.

## **The nature of energy markets**

It is possible to approach a discussion on the nature of energy markets<sup>7</sup> from one of two perspectives.

Firstly, why do we need a market? Markets are a rather complicated and uncertain way of achieving known outcomes and, given the importance of these outcomes, shouldn't Governments just decide what need to be done and make it happen<sup>8</sup>?

Alternatively, why is any Government involved in energy markets? Competitive markets will deliver customer needs most efficiently and effectively and society is, after all, comprised of a collection of energy customers. Shouldn't energy markets be the province of market participants acting within the constraints of effectively applied competition laws?

These idealised positions are attractive in terms of their simplicity. However, if we consider, for example, the need for secure energy supplies, it is easy to demonstrate that neither of these pure approaches is relevant in the real world.

Security of energy supplies requires a guarantee of adequacy in a number of areas: availability of fuel, delivery of fuel, assets to convert fuel into usable energy (for example, power stations) and delivery of usable energy to consumers. A fully centralised solution to these requirements can be made to work and, indeed, it did so for many years in the UK and is still the chosen model in many countries. Views of the future can be developed and technologies and contracts put in place to deliver secure energy supplies within certain confidence limits. It is also possible for Governments to use energy policy derived in this way to pursue certain industrial or foreign policy goals.

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<sup>7</sup> Energy markets exhibit significant diversity across geographical regions and between the various fuels. The focus of this paper is on the UK power and gas markets and the extent to which they are influenced by broader European markets.

<sup>8</sup> This discussion is not addressing the issue of ownership (private or public) but the extent to which company actions are mandated centrally or devolved to each separate corporate entity. However, it is clear that situations in which some market participants are Government owned adds a particular dimension to energy markets which is not addressed here.

The centralised model for energy supply needs to be taken seriously – because it can work. However, experience has shown that an absence of competitive pressure will lead to ‘gold plated’ and, therefore, high cost solutions, a lack of engagement with customers in meeting their real needs (one size fits all) and a strong single mind set that suppresses the ability to respond flexibly to changing circumstances. Moreover, it is difficult to argue that a single centralised response is necessary for all the decisions involved in a hugely complicated industry to meet what are a fairly limited number of political imperatives.

Of perhaps greater interest is the pure market solution since this illustrates the very political nature of the problems faced. Individual customers would each place a certain value on secure energy supplies and pay competing suppliers for energy plus the relevant insurance premium that will provide security during extreme conditions (or, more likely given the integrated nature of power and gas systems, compensation when supply is cut). The big problem here is that this approach is counter to the experience and expectation of the vast majority of energy customers. Members of the general public largely believe that it is not their job to insure themselves against energy supply interruptions and very few people have given any real thought to the value they place on it. Any adverse experience that will help people learn the value of energy is likely to be accompanied by a political backlash against the Government – something politicians are keen to avoid.

Therefore, Governments accept that it is their job to ensure that secure energy supplies are maintained and they must make interventions in the market to ensure that this happens.

We can therefore conclude that energy markets will necessarily involve a mixture of Government intervention and competitive market processes. Moreover, the hegemony of market processes over centrally planned solutions is now widely accepted. This enables us to pose the energy policy challenge more accurately as being to minimise the role of Governments and maximise the role of competitive market processes consistent with achieving particular policy objectives.

So, to understand energy markets, we need to understand the nature of business, politics and how they interact.

## **The Business Imperative**

Why do businesses do what they do?

There is now an extensive literature analysing the intrinsic nature of business and many ways in which the business drivers can be considered. For example, I find risk based analysis a particularly relevant and useful way to explore energy market behaviour. However, businesses can never be completely understood without exploring the basic human dynamic which drives them.

Business is about people; people working together in collectives and competing against other groups of people. And although people can be very different in their motivations and aspirations, at senior levels within corporations, particularly large corporations, there is a strong level of commonality that emerges. People who run most businesses are highly competitive and goal driven. They would not have risen to

senior levels within their organisations if this were not the case. And competitive people need battles to fight and win. Therefore, to really understand why a business does what it does, it is necessary to understand the battles that the leaders of the organisation are fighting and what will enable them to be considered as ‘winners’.

Primarily, business leaders will be trying to beat their targets. Central amongst these targets will be financial ones that emerge, perhaps indirectly, from shareholders. Shareholders will have a certain expectation of the return they expect from a particular business. This will be based largely on the historic performance of the business and its competitors, but will include some recognition of the future market challenges. These targets are critical. Success in delivering these targets is a prerequisite before the business can focus on other aspects of its operations. In particular, the leadership is unlikely to be very concerned about the long term future of its business if it has a limited period of time to avoid being categorised as a ‘failure’ by missing short term targets.

Secondly, business leaders wish to be compared favourably with their peers – the essence of competition. This generally manifests itself in a desire for growth and to achieve increasing market share. The tension between this aspiration and short term financial targets lies at the heart of the strategic challenge facing energy companies. Until a sustainable means is found to differentiate the product ‘energy’ with a significant proportion of customers, it is likely that the aspiration for growth will be met primarily through acquisition and asset investment.

Generally speaking, business leaders do not have long periods of time to establish their winning credentials. They will identify the key battles they need to fight and start fighting them immediately. It is these battles that will dominate the agenda within an organisation and issues that are unrelated to them will receive little airtime. Certainly, if an issue is of strategic importance, it’s only chance of progressing in the short term is if it aligns with one of the key corporate battles.

So, from the outside of an organisation, it can be difficult to understand why a business is taking the actions that it is unless the key battles are obvious. Similarly, it is only likely to be possible to successfully incentivise businesses to take particular actions if these actions can be aligned with the key corporate battles. And the significance of understanding these corporate battles is especially important in energy markets where the key objective of policy interventions is to incentivise businesses to take certain actions.

## **Energy politics**

Energy is central to the wellbeing of society. Improvements in living standards are generally associated with the consumption of more energy and our dependence is now such that a loss of energy supplies can seemingly plunge us back into the dark ages extremely quickly. The availability of energy supplies has become an accepted norm and this creates the overriding context for energy politics – you might not be able to

win elections by effective stewardship of the energy market, but you can certainly expect to lose them if voters lose the ability to access energy supplies when required.

The economy is always electorally significant. Energy represents a sizeable input cost to the economy – the lower these costs, the greater the potential for economic growth. Throughout the 1980's and 1990's in the UK, Governments were trying to progressively reduce energy costs whilst retaining secure supplies. The entire privatisation and liberalisation agenda can be attributed to this ambition. Competitive markets are now widely accepted as the most effective way to deliver this objective and now form the backbone of energy policy in the UK and, increasingly, elsewhere in Europe.

Unfortunately, the production and transport of energy creates negative impacts on the environment and energy policy has constantly sought to minimise these impacts albeit within the constraints of maintaining security of supply and low energy costs. However, recently, the issue of climate change has begun to alter this implied prioritisation. Indeed, the 2003 Energy White Paper<sup>9</sup> claimed to have put the issue of tackling climate change at the heart of energy policy. The environment is now firmly on the political agenda with politicians competing to demonstrate their green credentials in an attempt to win over the increasing, and electorally significant, green vote.

Security, cost and environment are the classic objectives of energy policy with Governments requiring assurance that certain outcomes will (or will not) happen. The relative weighting of these objectives, and the confidence that the desired outcomes will happen, alters as time moves on and events unfold<sup>10</sup>. This inevitably leads to a succession of reviews, with particular focus applied to those outcomes that are deemed significant in the current electoral cycle.

It is therefore very important to know what particular outcomes are desired and how these might change if we are to understand the politics of energy markets. However, they are not always clear. For example, it is not obvious what levels of CO<sub>2</sub> emissions would be unacceptable over the coming decade or two for the UK Government (something that the planned Climate Change Bill<sup>11</sup> might address). We can perhaps be more confident about some other high level objectives. For example, I would suspect that the security of supply objective is that consumers should have full availability of energy as required unless interrupted by circumstances clearly beyond the control or influence of Government. Similarly, for cost, the energy markets will operate as effective competitive markets as determined by OFGEM and other competition authorities operating within their statutory objectives.

It is now accepted that the political issues arising from energy markets cannot be solved on a country by country basis. Energy security, effective energy markets and climate change all demand concerted action on the part of the international community. In consequence, energy policy is increasingly being set at the European level, with the Council of Ministers recently approving a number of significant energy

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<sup>9</sup> 'Our energy future – creating a low carbon economy', Energy White Paper, 2003, HMG Cm 5761

<sup>10</sup> Other policy objectives can also become important from time to time, such as industrial policy or social policy, however security, cost and environment remain as constant features.

<sup>11</sup> Draft Climate Change Bill, March 2007, HMG Cm 7040

policy measures. In practise, this means that desired outcomes for the UK will be increasingly defined initially in Europe before they can be broken down and the impacts on individual member states understood.

## **Where markets and politics collide**

It is not difficult to see the scope for tension between Government and businesses operating in the energy market.

Businesses see the ongoing round of energy reviews as an indication of future interventions in the market that are difficult to predict or control. In an uncertain world, there is value in keeping options open and clear risks in betting the future of the company on the durability of a particular Government intervention. Moreover, the constant pressures on delivering this year's financial targets in competitive and volatile markets make it difficult to focus on significant strategic shifts in corporate positioning. This can be exacerbated by the all-consuming nature of mergers and acquisitions and subsequent integration and re-organisations. The consequence of these factors is that strategic actions tend to change little from year to year and be similar across the competing companies.

Governments on the other hand find it difficult to understand if the correct actions are being taken to deliver the outcomes that they desire. They recognise the need to be cautious about making a substantive intervention since any such move would inevitably affect the position of some market participants adversely. This in turn can increase costs of capital, perhaps even to the extent that investors are effectively unprepared to participate in the market until confidence is restored. Moreover, political priority resides with those issues that are significant in the current electoral cycle. It is therefore tempting to defer action where the desired outcomes are far into the future.

It is, therefore, easy to see how we find ourselves in the situation where energy markets continue to function in broadly similar ways from one year to the next. And yet the need for significant change seems to be widely accepted – both by Government and industry. It is difficult to reconcile this rhetoric with the actions evident in the market. Do we have a problem? And, if we do, what can be done about it? We need to think differently about the policy setting process and the extent to which it is leveraging the business imperative and delivering the necessary actions in the market. This is what I call 'smart policy'.

## **Smart policy**

Smart policy seeks to set out a simple framework which can be use to explore the effectiveness of energy policy measures. The objective is to help people understand how policy goals can be delivered through tapping into the business imperative thereby creating a self-reinforcing system between the market and political objectives and avoiding the risk that they undermine and ultimately destroy each other. It involves a simple step-by-step analysis that will help policy makers confront the

business response to their interventions and businesses to identify the commercial opportunities as energy policy evolves.

### ***Step 1: Basic market conditions***

The objective of energy policy interventions is to ensure that businesses are incentivised to take the necessary actions. The pre-requisite to this is to ensure that the basic market conditions prevail that allow businesses to focus on the future and consider the relevant strategic issues.

In practise, this means a number of things. It is essential that Government interventions should not undermine the ability of businesses to hit reasonable financial targets. Clearly the impact of interventions that alter the ability to gain a reasonable return on historic investments<sup>12</sup>, through reducing current and future earnings, should be minimised. However, creating the correct basic market conditions goes beyond this. It is vital that financial targets have been set on the basis of a reasonable expectation of Government and regulatory action.

In the first instance, this requires a stable economic and competition regulatory regime such that company targets are consistent with reasonable expectations of future regulatory action. There have been numerous calls for reform of OFGEM's statutory objectives to enable it to promote higher cost, but environmentally beneficial, outcomes. I believe this is extremely dangerous and the highest priority should be given to stability of the regulatory regime.

Moreover, it is important that any significant changes to the market are confirmed before short term targets are established. In practise, this means that changes to the market framework should be included within the business plan for the years in question. A minimum notice of a year is therefore necessary with more than this required if significant preparatory actions need to be made.

Finally, it is important that businesses can actually take the actions required and that they are not excluded by onerous and asymmetric regulation. This effectively re-states the 'better regulation' agenda which is widely accepted as an important factor in effective business operation.

### ***Step 2: Outcomes***

Energy policy decisions rightly reside with Governments. They need to be very clear what it is about the energy market that really matters to them and to society at large and they need to do everything possible to make it happen. Conversely, Governments need to recognise that this is a market and markets are very good at finding the best outcomes. Unless there is a clear political imperative, and a reasonable likelihood the market will not achieve the desired outcomes, then the market should be left alone to find its own way forward. The number of measures and consultations contained in the

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<sup>12</sup> This is of particular importance to investments made in the relatively recent past which are still recovering capital costs or making debt repayments and in relation to earnings in the relatively near term future (say, 3-5 years).

2007 Energy Policy White Paper is striking but it is not clear that all these current and potential interventions are well focussed on achieving politically important outcomes.

So, the Government needs to be very clear what outcomes it desires and over what timescales<sup>13</sup>. There should not be many of these. I would certainly expect them to involve a security of supply imperative that requires a low probability of loss of load for all timescales going forward. And there is clearly something about CO<sub>2</sub> – although this is currently not well defined in terms of quantity and timescales. However, I would not expect to see anything quantitative about costs (other than perhaps for vulnerable customers) – the optimum cost position will emerge from a well functioning competitive market which will arise from effective and consistent regulatory processes. Other candidates include the composition of energy production (e.g. renewable generation/heat), the nature of the energy transportation system (e.g. strategic interconnectors) and the way energy is consumed (e.g. overall demand or the levels of information available to customers about their energy consumption).

The challenge is then to demonstrate that there is a clear policy in place to make these outcomes happen.

### ***Step 3: Short term necessary actions***

The next stage is to identify which actions must be taken in the short term<sup>14</sup> to enable the outcome to arise.

Hopefully the necessary actions have been taken to deliver the appropriate security of supply standards for the next 2 to 3 years. Similarly, for the long term, no actions are yet necessary (other than perhaps in the fields of research and development). However, there may be a timescale over which security of supply is not at the appropriate levels and actions are required – this is important to understand.

An important and difficult aspect of this exercise is to understand the delivery chain that is involved. It may take a year to build a wind farm, but if it takes a number of years to pass through the planning processes and all suppliers of wind turbines have full order books then actions may be required several years in advance.

Finally, it is equally important to recognise that if no new action is required, then no intervention is necessary – let the market evolve and review the circumstances when actions are required.

### ***Step 4: Incentivise actions***

With the correct market conditions in place, it is necessary to ensure that businesses are incentivised to take the actions necessary to enable future outcomes to be

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<sup>13</sup> Dieter Helm has highlighted the need for clarity of objectives in his pamphlet: 'From Review to Reality: The search for a credible energy policy', October 2006

<sup>14</sup> The 'short term' must relate to typical business planning cycles – therefore, we should be looking at actions necessary in the next, say, 2 years

achieved. This is important since private energy companies have the choice of when and where<sup>15</sup> to invest.

If the required actions involve significant financial investments, then ideally the need will be made apparent in advance of the preparation of the business plan relevant to the year in which action is required. Also, it is important that businesses have the delivery capability to take the necessary actions. If this is not the case then it is likely that the short term necessary actions in Step 2 have been identified too late and incorrectly.

The task is then simply to structure the incentive such that it is only possible for market participants to preserve or improve their market position if the relevant actions are taken. There are many ways in which this can be done – however, the relationship between the action and the market position must be clear. We then need to trust the market and the business imperative for growth to ensure that the appropriate action is taken.

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These steps provide the framework for creating a complete energy policy that will be delivered by businesses operating in a competitive market place. It does suggest the need for a more routine and holistic Government process that regularly reviews the policy measures against the desired outcomes. However the regularity of such a process should improve predictability and avoid the need for energy reviews that readdress all issues from first principals.

### **Example: Climate Change**

So, how does the current Government policy on addressing climate change stand up against the ‘smart policy’ framework described above?

The basic market conditions relate to all policy issues and are not restricted to tackling climate change. Much has been done since the introduction of the new electricity trading arrangements in 2002 to improve the climate for investment and Government and OFGEM appear well aware of the need to create the appropriate basic market conditions. It is, therefore, not apparent that there are any major problems in this area.

It is interesting to note that Government initiatives around nuclear power fall into this category. It is a matter for Government to decide if civil nuclear power is an acceptable way to generate electricity – if they decide that it is, then it follows that it should be made available to market participants as an investment option by removing regulatory obstacles. We may find that policy evolves to the point that the construction of a new fleet of nuclear power stations is deemed a required action which would involve an entirely different set of policy measures.

So, let us consider the outcomes. Government is clearly extremely concerned to do what it can to ensure a stabilisation of concentration of CO<sub>2</sub> in the atmosphere in the range between 450 and 550 parts per million in line with the latest science as outlined

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<sup>15</sup> Given the rise of international energy companies and the global nature of capital markets, this choice generally involves a decision over the relative attractiveness of different energy markets in different countries.

in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. However, this is not a meaningful outcome to help identify policy actions for the UK or even European energy sectors. It will be achieved through effective and delicate diplomacy on the international stage. Instead, it is necessary to identify those national outcomes that are most likely to promote a satisfactory conclusion to these international negotiations. The UK, and most European, Governments, have opted to support reduction targets at national and European levels. Other countries have decided to focus on continuing to drive economic growth in advance of possible future international restrictions or to position themselves at the forefront of low carbon technology. This is a political choice and one in which I would personally support the UK Government.

The European Union has recently taken some significant steps with the European Council agreeing in March to cut greenhouse gas emissions by 20% by 2020 over 1990 levels with the possibility that this will increase to 30% depending on progress with international agreements. They also set a particularly ambitious target of 20% share of renewable energies in overall EU consumption by 2020.

In the UK, the Draft Climate Change Bill sets a reduction target for domestic CO<sub>2</sub> emissions of 26-32% by 2020 over 1990 levels<sup>16</sup> (or, at least, it will be set once the various steps have been taken to enact it into legislation). We also have the declared ambition to reduce greenhouse gas emissions by at least 60% by 2050. Finally, the Draft Climate Change Bill indicates that a new independent panel will advise Government on the levels of interim targets, set on five yearly cycles, and progress towards achieving them.

The extent to which these targets might be shared amongst the energy and other sectors (or, in the case of the EU targets, between greenhouse gases) has yet to be defined. Also, it is not clear on the extent to which the carbon reduction burden may be reduced by the purchase of tradable permits or emission credits if they are cheaper than taking local action to abate emissions.

Therefore, we can conclude that, as yet, the target setting process is incomplete. This is a simple but important conclusion. It is critical that there is clarity over the targets for greenhouse gas emissions. Without this, it difficult to assess what actions may, or may not, be required. However, it is possible to make some observations about the application of Smart Policy principles through Steps 3 and 4 of the framework.

Firstly, it is clear that there is no guarantee that reductions in CO<sub>2</sub> will be delivered without significant market intervention that effectively imposes a cost or constraint on emitting CO<sub>2</sub>. There are many plausible scenarios for the future development of the market that would maintain, or even increase, levels of CO<sub>2</sub> emissions. Therefore, at some point, business will be required to take actions that avoid these higher emission scenarios arising.

Secondly, there are many plausible routes to deliver the necessary emission reductions involving a variety of demand or supply side measures. Governments are not best

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<sup>16</sup> It is interesting to note that only under the most optimistic set of assumptions did the recent Energy White Paper suggest that its policy measures would achieve a 26% reduction by 2020. This reinforces the perception for business that further, as yet unknown, changes in policy will happen.

positioned to identify the right actions and make the investment choices – where possible these decisions should be left with companies and policy measures should not stray onto this ground.

Indeed, one might conclude that there are no specific actions that need to be promoted or inhibited and policy should instead seek to deliver a strong alignment between business growth and the need to reduce overall emissions. This can be achieved through the application of a broad ranging economic incentive which caps or prices CO<sub>2</sub> emissions and which applies as far into the future as possible. This will maximise the options available and minimise the costs of compliance.

These considerations highlight the benefits of a mechanism that generates a long lasting cost of carbon emissions and which can be applied across business decisions. The EU Emissions Trading Scheme (EU ETS)<sup>17</sup> is such a measure and this indeed sits at the heart of current energy policy and sets a clear direction for the future.

But is this enough to drive all the necessary actions? Can Governments credibly deliver a long lasting carbon cap or cost that is immune to revision as events unfold? Will businesses actually be exploring all opportunities with equal resource to deliver paybacks that might not emerge until many years into the future?

Putting aside the fact that the coverage of the EU ETS is limited and other measures are required, for example, in the heat and transports sectors, I believe that a range of measures are required to augment the EU ETS even in the sectors to which it applies. This is not just because empirical evidence to-date suggests that the process of cap setting is unlikely to provide the certainty over long enough periods of time to drive significant changes in commercial behaviour. It also appears to have little or no downsides, provided that the additional measures are implemented prudently.

Steps 3 and 4 of the Smart Policy framework invite us to consider those actions that are being taken now and which are relevant to delivering the policy outcome in question and how these might be influenced. The strategic agenda of organisations involves a constant search for growth opportunities and tackling the competitive threats. What are these issues and how can they be aligned to deliver the policy objectives? There are a whole range of options to consider but I will pick on a couple of key areas.

The UK fleet of power stations is about to enter a significant renewal phase and any energy company wanting to maintain or build scale will be developing options for new plant build. These decisions will significantly affect UK greenhouse gas emissions going forward. Constraining the technical options available by progressively reducing the levels of CO<sub>2</sub> that new power stations will be allowed to emit will eliminate lower cost but higher emission options and directly affect the power station supply chain that is being put in place. For example, a regulation that effectively mandated that all new fossil fired power plant should be fitted with carbon capture and storage capability by, say, 2020 would create a definite market

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<sup>17</sup> More correctly, it is the carbon cap that is the relevant policy measure. The Emission Trading Scheme merely allows this to be met at least cost.

opportunity which would in turn drive the power plant purchase process that is happening now in manufacturers and power generation companies<sup>18</sup>.

In the retail market, suppliers are constantly seeking the products that will allow growth at sustainable margin. This is extremely challenging in a market in which customers are either reluctant to switch, or if they do switch, generally do so because of price or customer service considerations. We need to explore ways to constrain customer choice towards more energy efficient products. Existing policy measures are already pursuing this agenda with the introduction and improvement in building or appliance standards that will force the application of new technology on the part of the relevant producers looking to develop their market position. However, a more radical intervention into the switching process would be required to significantly affect the business of energy suppliers. For example, energy prices could be re-regulated leading to supplier competition being based on customer service levels and products to reduce energy consumption since this would be the only means by which customers could reduce their costs.

This last example reinforces the need for clarity in the political objective. If we really do want to create significant change then we must be prepared to embrace radical policy action. However, such fundamental reform may not be deemed necessary.

So, in summary, this analysis suggests that UK Government policy on climate change is lacking clear targets for reductions in greenhouse gas emissions that can be used to assess the adequacy of the current suite of policy mechanisms. However, it seems sensible that the EU ETS should remain at the centre of the policy albeit augmented by targeted regulations that drive the delivery capability in key parts of the value chain.

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<sup>18</sup> Clearly, this would be much more effective if the regulation applied internationally