



Ian Marlee  
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Ofgem  
9 Millbank  
London  
SW1P 3GE

31<sup>st</sup> March 2010

Dear Ian,

**Project Discovery: Options for delivering secure and sustainable energy supplies**

Drax Power Limited ("Drax") is the operating subsidiary of Drax Group plc and the owner and operator of Drax Power Station in North Yorkshire. In March 2009, Drax acquired an electricity supply business, Haven Power Limited ("Haven"). Haven supplies some 25,000 business customers and provides an alternative route to market for some of Drax's power output.

Drax welcomes Ofgem's consultation regarding the market scenarios identified and analysed as a part of the Project Discovery work-stream. There are two parts to this consultation response:

- Part A consists of this letter and a response to the consultation questions (which can be found in Appendix 1); this part is **non-confidential**; and
- Part B contains two case studies that link to the issues highlighted in the main response; this part is **confidential**.

Drax would also like to highlight the following key points from the response:

- Drax agrees that the current market arrangements require significant reform if they are to encourage decarbonisation and secure energy supplies, whilst simultaneously delivering affordable electricity to consumers;
- There are two notable weaknesses in the GB wholesale electricity market that have a detrimental effect on the level of new investment by new entrants and independent generators; these are low liquidity and limited term (i.e. greater than two to three years ahead);
- The current market arrangements work to the benefit of those businesses that can bypass the traded market and keep price / investment signals internalised; the market must enable greater price transparency (in the long-term) if efficient investment is to be facilitated by market signals and new entrants are to gain project finance;
- Supply businesses do not test the market for volume, meaning they may not contract with the most cost effective source of generation; associated generation businesses build new assets to hedge future supply business demand without testing the market, even if existing plant or investment from new entrants could fulfil supplier requirement more cost effectively;
- With regards to incentives, it will be increasingly important to ensure that a diverse generation mix is available in future years, from both a renewables and backup generation point of view;
- The changing landscape of energy is expected to lead to a greater penetration of intermittent generation and a lower percentage of flexible plant to provide backup capacity; as greater volumes of

new renewable and nuclear capacity become subsidised, it must be questioned how much “unsubsidised” investment will occur to provide the much needed backup capacity, given that there will be less meaningful price signals in the wholesale market;

- When considering subsidies and price signals for renewables and low carbon investment, it is important to ensure that the signals and aims of the differing mechanisms are clear in order to avoid them becoming overly complex or confused; such subsidies must provide support over a sufficient period of an investment’s lifecycle in order to be meaningful, with an appropriate level of grandfathering or support protection;
- If a minimum carbon price is to be introduced as a price signal to encourage investment in nuclear generation, then the Government should be very clear as to the new role of the carbon price, with such change introduced at a time that coincides with the arrival of investment it aims to support and on a timescale that takes into account existing commercial arrangements;
- Furthermore, consideration should be given to the consequence of the UK introducing a carbon tax unilaterally; whilst a carbon tax may make the UK more attractive to renewable and low carbon investment, it may incentivise investors to build conventional (backup) generation in other countries;
- The ROC “market” is in desperate need of reform as suppliers have no incentive to purchase ROCs for compliance and are in the dominant position of being able to demand substantial discounts to ROC price, meaning that the full value of ROCs never reaches renewable generators; should suppliers choose not to purchase the available renewable power, there is no criticism, no risk and no penalty;
- Ultimately, the current market arrangements encourage investment decisions that are, in the long run, detrimental to consumers as the least cost solution may not prevail.

Drax does not support any of the identified policy packages, but does agree that reform is required now. Given the need to address price (thereby investment) signals, investor confidence, environmental goals, security of supply and, importantly, both short- and long-term market liquidity, Drax suggests that a number of measures from across the range of identified policy packages could be combined. Such a package could consist of:

- Market structure reform, where large suppliers are obligated to contract for volume in the wholesale market (either licence conditions to limit self supply or an obligation to contract for a set percentage of supply requirement);
- Obligations on large suppliers to contract for volume in the longer-term market, particularly three to five years out;
- Obligations on large vertically integrated companies to show that major generation investments have been 'market tested';
- Measures to provide greater revenue stabilisation for renewables investment; and
- A capacity mechanism to ensure backup / reserve generation is sourced from a diverse mix of generation technologies, ensuring flexible and secure supplies remain available as old plant disconnects due to the LCPD, the IED and the decommissioning of old nuclear plant.

In summary, Drax agrees that there is a need for stable market arrangements and greater certainty of regulatory risk; however, the stability of the regime is meaningless if it is not fit for purpose. As such, early action should be considered, including a Competition Commission investigation into the way in which parties interact with the traded wholesale electricity market and the effects of such interactions on market liquidity and price signals. It is vital that actions to address market arrangements are taken now, given that major investment decisions that will shape the UK’s generation mix for the next twenty or more years are taking place now.

We look forward to viewing both Ofgem's and industry participants' responses to this consultation. In the meantime, if you would like to discuss any of the views expressed in this response, please feel free to contact me.

Yours sincerely,

By email

Stuart Cotten

Regulation  
Drax Power Limited

## Appendix 1: Drax Response to Consultation Questions

### Chapter 3: Appraisal of current arrangements

**Question 1: Do you agree with our assessment of the current arrangements?**

**Question 2: Are there other aspects of the current arrangements which could have a negative impact on secure and sustainable energy supplies, or costs to customers?**

Drax welcomes Ofgem's assessment of the market and agrees that such assessment is timely, given the value of investment that is required by the electricity industry over the next decade. Whilst Drax believes that the document is not a complete analysis of the market and the potential remedies to improve market conditions, the document does highlight the lack of market signals and incentives to encourage much needed investment in electricity generation.

Drax agrees that the current market arrangements require significant reform if they are to encourage decarbonisation and secure energy supplies, whilst simultaneously delivering affordable electricity to consumers. Although Drax is a keen advocate of stable markets and measures to reduce uncertainty for investors, it must be recognised that such stability will only be realised in practice if the market arrangements are fit for purpose.

There are two notable weaknesses in the GB wholesale electricity market (which are touched upon by the document) that have a detrimental effect on the level of new investment by new entrants and independent generators; these are low liquidity and limited term. These issues have been highlighted in Ofgem's recent consultation on liquidity<sup>1</sup>. However, these issues play a crucial part in the development of price signals and market confidence, thereby they are highly relevant to Project Discovery.

The level of liquidity in the GB wholesale electricity market, along with the volume of longer-term market trading (i.e. greater than two to three years ahead), are extremely important areas for reform. Wholesale electricity market liquidity and term has diminished considerably since self-supply restrictions were removed from licence conditions. There are currently six large supply businesses that hold over 95% of the retail market with very stable market shares; in addition, each of these suppliers has an associated generation business that supplies a large percentage of their generation needs. The vertically integrated nature of these businesses provides a natural hedge, meaning there is less of a need for these businesses to hedge via the traded markets; this has a substantial effect on new entrants and / or independent generators, who will seek to hedge their investment via the wholesale market.

Essentially, the current market arrangements encourage vertical integration and reduced liquidity. A lack of liquidity forces independent businesses to use vertically integrated solutions, which has been demonstrated by independent generators that have bought small supply businesses to provide them with a new route to market (i.e. directly via the retail market). However, more worryingly, greater consolidation is occurring between the generating interests of the "Big 6", where parties have joined forces to create three significant nuclear investment businesses.

As trades take place internally to company structures, price signals that would otherwise facilitate new investment do not form part of the market price. This means that the true value of generation is effectively hidden from the wider market. Supply businesses do not test the market for volume, meaning they may not contract with the most cost effective source of generation; associated generation businesses build new assets to hedge future supply business demand without testing the market, even if existing plant or investment from new entrants could fulfil supplier requirement more cost effectively. Ultimately, this is most detrimental to consumers as the least cost solution may not prevail. This is concerning, particularly during a period of time when major investment decisions are taking place that will shape the UK's generation mix for the next twenty or more years.

With regards to the potential reform of existing commercial / network codes, it should be recognised that these documents are between parties that have vested interests, therefore it is in their interest to ensure that modifications are raised to address perceived defects. If a party believes that the rules are not fit for purpose or that they discriminate against any particular class of user, any party to a given code is able to

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<sup>1</sup> "Liquidity Proposals for the GB wholesale electricity market", Ofgem, February 2010.

raise a modification to the rules; hence, the codes continually evolve. The codes have been under significant review over the last three years, including a Cash-out Review and a Transmission Access Review, which have resulted in significant analysis and the development of potential solutions (these have either been implemented or are soon to be implemented). It would seem inappropriate to subject these areas to further review, with a high cost of resource, when there are higher priority issues to address.

The Renewables Obligation Certificates (ROC) market is in desperate need of reform; in fact, it could be argued that currently there is no ROC “market” as suppliers have no incentive to purchase ROCs for compliance. Suppliers currently have a choice in how to fulfil their obligations under the Renewables Obligation (RO); they can either (a) purchase ROCs from generators to surrender for compliance, (b) decide not to submit an adequate volume of ROCs to comply with their obligation and, instead, pay a set price that is known in advance and has no penalising effect for non-compliance, or (c) a combination of the two. As such, each supplier is in a dominant position of being able to demand substantial discounts to ROC price or to decide not to transact with sellers with little consequence to their business; this means that the full value of ROCs never reaches renewable generators, with suppliers often taking a slice of the revenue for providing a route to market. Drax has commented on this issue in previous responses to DECC Consultations, arguing that if the vertically integrated suppliers choose not to purchase the available renewable power, there is no criticism, no risk and no penalty. A confidential case study to illustrate this issue can be found in Appendix 2.

There also needs to be consideration regarding the long-term signals associated with the RO. The RO, at present, aims to make projects commercially viable via a technology specific subsidy, i.e. a banded multiple of ROCs per MWh. The vast majority of renewable technologies have grandfathering rights which protect the level of support from changes that may result from the four yearly banding reviews; this is critical to providing investors with the certainty that they require in order to invest. Currently, biomass technologies do not have grandfathering rights, however, it was announced in the Budget 2010 that the provision of a minimum level of support for such technologies would be consulted on.

Further issues highlighted by Ofgem are covered in answer to Question 3.

***Question 3: Do you agree that the five issues we have highlighted are the most important?***

Drax has a number of comments on the five main issues chosen by Ofgem’s Project Discovery consultation document.

Required Investment versus Risk and Uncertainty

As mentioned earlier in this response, whilst Drax supports stable market arrangements and greater certainty of regulatory risk, such regime stability is meaningless if the regime it is not fit for purpose. Given the level of investment that is required over the next decade, along with the current condition of the financial markets, energy policy must be much more coherent and supported by stronger market price signals if the UK is to reach its desired rate of energy infrastructure investment.

The changing landscape of energy is expected to lead to a greater penetration of intermittent generation and a lower percentage of flexible plant to provide backup capacity. If greater volumes of new renewable and nuclear capacity are subsidised, it must be questioned how much “unsubsidised” investment will occur to provide the much needed backup capacity, given that there will be less meaningful price signals in the wholesale market; the output from wind plant will be independent of price signals.

It may prove useful to consider the potential of using capacity tenders for reserve generation (as part of Packages A and/or B), rather than just to incentivise new plant (as described in Package C and D). Such a mechanism could ensure that the most cost effective backup generation remains on the system during the transition period to a low carbon economy.

Future Carbon Price Uncertainty

The carbon price acts as an incentive on generators (and many industrial sectors) to invest in carbon abatement via the most cost effective means. The traded carbon market allows EU ETS participants to

either purchase carbon allowances or invest in carbon abatement to avoid the need to surrender carbon allowances for each compliance period. The EU ETS has been successful in delivering such abatement, with a prime example being the investment at Drax Power Station since the scheme's inception. Drax has committed £100m to upgrade its high pressure and low pressure turbines at Drax Power Station, which has the potential to reduce carbon emissions by 1Mtpa; in addition, Drax has invested £80m in biomass handling, processing and direct injection equipment for its co-firing operations at the power station, which has the potential to reduce carbon emissions by over 2.5Mtpa.

When considering price signals for renewables investment, it is important not to confuse the EU ETS with the RO; the EU ETS is a market that allows investors to find the most cost effective route to deliver a set "cap" on carbon emissions, whereas the RO has been developed to encourage direct investment in "pure" renewables technologies that would otherwise be commercially unviable. The carbon price reflects demand for carbon allowances given the overall cap on emissions set by the EU; hence, the price signal has worked effectively (i.e. as designed) and is ultimately controlled by the tightness of the cap.

If a minimum carbon price is to be used (either at EU-level or unilaterally) as a price signal to encourage investment in, say, nuclear generation, then the Government should be very clear as to the new role of the carbon price, with such change introduced at a time that coincides with the arrival of investment it aims to support (i.e. when new nuclear plant connects, as suggested by Ofgem's policy packages). It will also be crucial for any decision to move to minimum carbon price, via taxation or any other means, to be signalled well in advance of implementation; investors must be provided with a reasonable timeframe to accommodate the new arrangements. A minimum carbon price would have a significant impact on existing contracts that were not designed to handle the regime, such as forward trades in the OTC market that are transacted under a GTMA or power tolling contracts.

Furthermore, consideration should be given to the consequence of the UK introducing a carbon tax unilaterally; whilst a carbon tax may make the UK more attractive to renewable and low carbon investment, it may incentivise investors to build conventional (backup) generation in other countries.

### Short-term Price Signals

Drax agrees that it is important to ensure short-term price signals are meaningful; such signals should provide investors with confidence that the market works by reflecting system stress and the cost of securing supply. However, short-term signals are only one part of the overall equation as they only reflect the supply availability and demand requirement in a particular settlement period; it could be argued that spiky short-term prices indicate that investment is too late.

For such signals to be meaningful to investors they must feed into the forward price of generation; however, this can only happen if there is adequate liquidity in the forward market. The GB wholesale electricity market currently suffers from very low long-term liquidity (i.e. greater than two to three years out), which means long-term investment signals to encourage new investment are not visible to any potential investors. This goes some way to explaining why the vast majority of non-subsidised (i.e. CCGT) investment is being developed by the "Big 6", whereas a greater percentage of subsidised generation (i.e. those attracting ROCs), where the investment signal is transparent, is being developed by independent generators and new entrants.

The ability to contract in the forward market is very important for new entrants and independent generators, as such parties do not have a supply business to provide a natural hedge for their generation investment. Currently, there is a very limited need for the major suppliers to contract via the wholesale market due to the natural hedge provided by vertical integration. Ensuring adequate liquidity is available across the curve, from the within-day market to the forward market, must be a key focus for reform.

If price signals are to encourage efficient capital allocation across the market, they must facilitate investment from non-vertically integrated businesses and new entrants; the market must provide greater investor confidence in the ability to contract over longer timescales than currently available via the GB wholesale electricity market. Furthermore, if the market is going to attract non-energy sector traders to re-enter the market (i.e. financial institutions that take more speculative positions and, in turn, provide greater market liquidity), then there needs to be greater volume brought to market by physical parties across and beyond the current curve.

## Interdependence with International Markets

With the decline in UKCS supply, the UK has become increasingly dependent upon non-indigenous sources of gas. As such, the cost of such fuel has become increasingly influenced by international markets and this appears to be set to continue in the future; an example of this is the international LNG market where the UK is effectively the consumer of last resort due to alternative markets being significantly less attractive (closed) and the influence Asian demand has on market price and, thereby, deliveries.

Whilst greater gas and electricity interconnection with other Europe Member States could help to lessen the effect of fuel and / or electricity supply shortages, UK market prices will be heavily influenced by issues being faced on the continent. As an example, a shortage of gas supplies across Europe could lead to the UK exporting gas, hence increasing demand in the GB wholesale gas market and, in turn, creating upward pressure on the GB wholesale electricity market. Again, it is having a diverse generation technology mix that will help to diminish price sensitivity, by being able to switch between fuel sources and generation technology in reaction to market prices.

Furthermore, whilst a greater use of renewable generation (such as offshore wind) will provide a benefit in terms of being less reliant on international fuel sources, it is important to consider the consequences of being dependent upon interconnection to provide backup electricity supplies. The Government currently estimates around 33GW of offshore wind could connect over the coming decade; in comparison, the Project Discovery consultation paper anticipates a maximum of 8GW of interconnector capacity could become available over the same period. It should be noted that a growth in intermittent power sources across the whole of Europe further weakens the protection provided by interconnection. It will be important to ensure that the GB market has sufficient backup supply to cover times of limited wind availability, whilst not being reliant upon a single backup generation technology that is, in turn, reliant upon the same fuel and price sensitivities as our interconnected neighbours. Again, it is only technology diversification that will provide greater security of supply and protection against extreme local and international price movements.

## High Cost to Consumers

Whilst Ofgem have a duty to ensure that investment in energy infrastructure provides good value for consumers, it is widely recognised that there is an inherent cost to decarbonisation and the provision of supply security. This careful balancing act highlights the importance of ensuring that price signals reflect the true value of capacity and are visible to all investors, in order for the market and its participants to deliver the least cost route to achieving policy targets.

### ***Question 4: Do you have any comments on our description of what might happen if no changes are made to the current arrangements?***

With the combined effect of the LCPD, the IED, an aging nuclear fleet, inadequate market price signals and uncertainty over future revenues from the Renewables Obligation (RO), it appears likely that a limited subset of generation technologies will prevail; for example offshore wind, due to the grandfathered subsidies on offer, and CCGT, due to this technology being the cheapest form of conventional (backup) generation to build.

The closure of LCPD opted-out plant should signal a substantial decrease in capacity that, in turn, should signal the need for greater investment in backup capacity in future years (i.e. to support the system when intermittent generation is unavailable). Interestingly, all of the LCPD opted-out plant is owned by the vertically integrated companies, with 80% of this plant owned by just two companies; although a proportion of this plant is not being used it is still kept open, meaning that there is still an excess of capacity on the system.

The same companies are currently building new capacity (in the form of CCGT investment) without signalling the closure of old plant or approaching the market to see if there are other generators or investors that could supply or build generation at a lower cost than their new CCGT projects. This means that the least cost solution may not be chosen, which ultimately increases the cost of supply to consumers; there is effectively six mini markets that optimise independently of each other, rather than a

single optimised market that signals investment in the least cost solution. A confidential case study to illustrate this issue can be found in Appendix 3.

The Government and the regulator must consider the potential consequences to the rate of investment from new entrants if the current market arrangements are not reformed. As mentioned in answer to Question 3, the vast majority of all new CCGT investment is being developed by the “Big 6”; this further increases the UK’s reliance on a small number of generators. Ofgem must question why there is a lack of investment from new entrants in non-subsidised generation (i.e. generation that does not receive payments under the RO) when compared to new entrant investment in renewable technology (e.g. wind). There is a clear difference in the investment signals for new entrants / independent generators: conventional generation relies upon unreliable wholesale market signals (i.e. limited price and term), whereas investment in renewable generation relies upon much clearer signals from the RO (i.e. ROC multiples and grandfathered rights).

Further to this, Drax suggests that the transition to a decarbonised energy industry must be exactly that – a transition. Investment in new renewable generation must be rewarded in a cost effective manner and must deliver a diverse energy mix that secures the UK’s energy needs for future generations. At the same time, the market needs to ensure that consumers have access to the energy supply they require during the transition period. In order to ensure the correct balance, the role of the regulator and of Government policy must be to ensure that whilst the correct incentives are in place for investment in renewable technology, the correct mechanisms are also in place to ensure that adequate levels of efficient backup generation remain on the system during the transition period, providing flexibility and fuel diversity. The Project Discovery analysis demonstrates the need for such diversity of generation technology, particularly the results of the “Dash for Energy” scenario.

#### Chapter 4: Possible policy responses

***Question 5: Do you believe that our policy packages cover a sufficient range of possible policy measures?***

***Question 6: Do you have suggestions for variants to these policy packages?***

***Question 7: What other policy measures do you believe should be considered, and why?***

The policy packages identified by Ofgem cover a wide range of issues, with some being of greater importance than others. Drax does not consider that proposed reform would necessarily have to take the form of a single policy package identified in the Project Discovery consultation document; rather a range of measures could be taken from the packages to address market defects. Drax does agree, however, that given the value of investment that is required over the next decade, reform should be approached in a holistic fashion to ensure that the direction of policy is coherent.

As previously stated, Drax agrees that there are distinct benefits in improving investment signals, although Project Discovery focuses too much on short-term signals and the price of carbon, and too little on liquidity and term trading. Whilst short-term price signals should reflect system stress and ultimately feed into long-term prices, it is the long-term prices and trading that are currently missing in the GB wholesale electricity market and are particularly important given the major investments required to provide adequate generation and support for the increased volume of intermittent sources. It should be noted that no investor would part with their money based upon short-term signals alone.

The lack of longer-term market trading is due to the lack of impetus on the large vertically integrated companies to trade within the wholesale market beyond two to three years forward. Greater liquidity across the current market curve, and further initiatives to increase trading beyond the current two to three year barrier, would drastically increase the strength of price signals in the wholesale market. The suggested Enhanced Objectives on suppliers to contract in the longer-term would help to address this issue, but the finer detail on the additional volume that would be brought to market and the way in which such trading would be transacted will determine how effective this measure could be. Ultimately, to deliver efficient capital allocation and the lowest cost to consumers, investment decisions must be made across the market rather than internalised within the major vertically integrated companies; to allow this there must be clear market price signals.



With regards to renewable investment support signals and the carbon price, it is important to ensure that the aim of each mechanism is clear in order to avoid the signals being confused. The EU ETS acts as a successful tool to encourage existing emitters to reduce their CO<sub>2</sub> output via the least cost route, i.e. either to invest in emission reduction technology or purchase allowances. On the other hand, the RO aims to ensure the appropriate level of support is offered to renewable investment in order for such investment to be commercially viable.

There is a need to review renewable subsidies in order to ensure that they provide support over a sufficient period of an investment's lifecycle (i.e. by providing grandfathering or support protection); however, this issue should be addressed via the appropriate renewable support mechanism (i.e. the RO), rather than trying to bolster renewable support via other mechanisms.

If the carbon price is to be turned into a nuclear subsidy, Government policy should be very clear that this is the intention and state why this is the correct solution. Given that the industry is becoming increasingly subsidy driven, it is essential that the signals of such subsidies are not confused in an attempt to promote specific technologies (i.e. new nuclear plant); making such mechanisms more complex may lead to adverse investment consequences.

Finally, whilst the Project Discovery paper focuses on the use of capacity tenders for new renewable generation (Package C) or all generation (Package D), it may prove useful to introduce capacity tenders for reserve generation in earlier packages (Package A and/or B). This methodology could be used to ensure that cost effective, highly flexible generation remains on the system during the 2012-2022 transition period, i.e. the period where LCPD opted-out, IED opted-out and old nuclear plant disconnect, and new renewables, CCS and nuclear plant are expected to connect. Such a measure would also ensure that an adequate generation mix remains available to the system post 2015.

#### Chapter 5: Assessment of the five packages

##### ***Question 8: Do you agree with the assessment criteria that we have used to evaluate the policy packages?***

Given the three key issues of environment, security of supply and cost to consumers, against a backdrop of European integration and energy policy, the assessment criteria appear reasonable.

##### ***Question 9: Do you have any comments on our initial assessment of each of the packages?***

##### ***Question 10: Do you agree with our summary of the key benefits and key risks of each policy package?***

The packages have been designed in such a way that the level of intervention in GB energy markets increases in intensity from package to package. The earlier packages aim to address market issues such as price signals and liquidity to encourage investment, whereas the later packages move the UK closer to a central planning regime, where Government policy ensures investment follows a prescribed agenda.

As such, Drax agrees that the likelihood of reaching targets on environment and security of supply will increase across the packages (A to E), although the risk of a costly mistake (ultimately paid for by consumers) also appears to increase across the packages should a central entity choose the "wrong" options (i.e. policy does not deliver the desired outcome). As indicated by Ofgem, issues concerning European policy on competition and the move to a single European market model come in to play with Package E; this may make the package unviable.

Furthermore, given that new investment, which plans to connect around 2015, is likely to require an investment decision within the next 18 months, policy makers should be mindful of the legislative, time and resource requirements of a given reform path, particularly if more complex policy packages are to be considered.

As indicated in answer to earlier questions, Drax believes that:

- Whilst investment has been delivered in conventional plant despite diminished price signals, such investment has been provided by the “Big 6”, who happen to be the only parties that can determine the true value of capacity;
- The RO mechanism has delivered investment, but only to any great effect in a single technology, i.e. wind (the UK’s continued technology of choice); and
- The EU ETS is the only mechanism that has delivered substantial low carbon investment, i.e. in carbon abatement technology.

Each of these mechanisms (the market, the RO and the EU ETS) has substantial flaws:

- The current market model encourages vertical integration, with price (thereby investment) signals being hidden by internalised trading structures;
- There is limited liquidity in the long-term market, meaning investment signals for new entrants are not visible;
- There are no mechanisms in place to ensure capacity will be available during the capacity gap envisaged at some point over the next decade;
- There are no clear mechanisms in place to ensure cost effective support for the increased level of intermittent generation expected on the system;
- The RO grandfatheres the revenue streams of differing technologies inconsistently; there is a potential need for greater revenue stabilisation for renewable investment; and
- Uncertainty surrounding future phases of the EU ETS is not conducive to encouraging future carbon abatement and “low carbon” project investment.

It would appear that actions to fix / enhance the current market arrangements, promote greater competition within the wholesale market and address the necessary investment / capacity subsidies would go some way to encourage investment from new entrants and alleviate concerns over security of supply, whilst minimising the increased cost of such investment to consumers.

#### Package A – Targeted Reforms

In principle, Drax believes that a policy package that aims to increase incentives to invest whilst retaining the benefits of competitive markets would be beneficial to the wholesale market and to Government in achieving its environmental targets. However, without addressing the liquidity and limited trading term issues, as we have highlighted in answer to earlier questions, it is unlikely that a given policy package would achieve its objectives. The current arrangements work to the benefit of those businesses that can bypass the traded market and keep price / investment signals internalised; the market must enable greater price transparency (in the long-term) if investment is to be realised by market prices and new entrants are to gain project finance. As such, Drax does not believe that this policy package would deliver the necessary reform.

#### Package B – Enhanced Obligations

Drax believes that the additional Enhanced Obligations in Package B could help to address the forward contracting and liquidity issues that Package A fails to address. For example, the need for suppliers to contract forward *via the wholesale market* to ensure security of supply, along with the obligations on National Grid to contract for flexible backup supplies, could go some way to address these concerns, although the devil will be in the detail (i.e. the level of forward trading required and how such trades will be reflected in price signals).

A centralised renewables (or wind) market may help to remove cash-out price risk for investors in intermittent technologies, but it will also remove the spiky prices signals that will be required to encourage backup generation. Without addressing how backup generation investment would be supported (would this be sufficiently addressed by the System Operator’s (SO) obligations?), this model may not encourage investment in much needed backup generation. Further to this, if wind were to be moved to a central renewables market, new nuclear plant were to receive some form of nuclear subsidy and other renewables continue to receive ROCs, there must be a question regarding how much “unsubsidised” capacity will remain to provide much needed liquidity to the wholesale electricity market. Would a handful of CCGTs supply the necessary price and investment signals to invest in new backup plant?

Drax agrees that this package may not be enough to address financing challenges, although the approach of targeting reform in liquidity and market term (by addressing market structure and the way in which trades are transacted) could be a valuable element of any future reform package, as such a move could help to ensure that forward prices better reflect the true value of capacity.

#### Package C – Enhanced Obligations & Renewable Tenders

The addition of renewable tenders has a number of risks and benefits. The obvious benefit is that the process would ensure that the “chosen” projects deliver the greatest value to consumers (i.e. the least cost option prevails), whilst simultaneously providing investors with greater certainty of revenue. Government policy could also set the range of renewable technologies required, which ensures that renewable supplies do not rely upon a single technology / fuel source. However, a distinct disadvantage of this package is that the same approach is not taken for backup generation, meaning that there may be no diversity of backup supply.

This is the first package of the five to move from a pure market model to some form of centralised planning, as a central entity would determine the availability of tendered capacity for each specific technology type; once again, there would need to be greater detail to determine how this would work in practice. There would certainly be a need to ensure that support for committed investment (prior to tenders) is grandfathered, as suggested by the consultation document; however, this could add significant complexity to the renewables subsidy mechanism.

Whilst this model would move some way to ensuring that the Government’s environmental goals are achieved, it will be for Government policy to set renewable technology requirements and determine the technology mix required. As with Package B, the key risk could be the disjoint that occurs between two separate markets (the renewable and conventional generation markets) and how this may affect investment decisions regarding backup plant, which would not be covered by the tender process.

#### Package D – Capacity Tenders

As with Package C, capacity tenders for new plant has the advantage of ensuring that new build decisions will deliver the greatest value to consumers (i.e. the least cost option prevails). A further advantage of this package is that the range of technologies covered also includes backup generation, which should help to ensure greater security of supply and a more diverse generation mix, in addition to providing greater confidence of returns for investors.

However, as the tenders aim to provide the *additional* revenue required to earn an appropriate return on investment, adequate market signals will still be required in order for investors to be able to judge the level at which they set their tender. This means that reform to the way in which parties’ trade in the market is still required to ensure that investment signals are transparent and no single operator has an advantage in determining the true value of capacity.

As suggested by the consultation document, whilst this model seeks to find the least cost solution to consumers in providing an adequate mix of generation technology, it may prove more costly to consumers if Government policy does not identify the “correct” mix.

#### Package E – Central Energy Buyer

This package ultimately takes the industry back to centralised planning and would mark an end to the market approach adopted under NETA. Whilst the use of long-term supply contracts from a central buyer would provide the highest level of investor confidence, the model could not be conducive to the wider European goal of open, competitive markets. Again, this model would rely on Government determining the “correct” generation mix, rather than the market finding the least cost route to decarbonisation.

***Question 11: Do you have a view on which package is preferable, or alternative policy measures or packages that you would advocate? We are particularly interested any analysis you may have to support your views.***

Drax agrees that reform is required to the wholesale market. Given the need to address price (thereby investment) signals, investor confidence, environmental goals, security of supply and, importantly, both short- and long-term market liquidity, Drax suggests that a number of measures from across the range of identified policy packages could be combined. Such a package could consist of:

- Market structure reform, where large suppliers are obligated to contract for volume in the wholesale market (either licence conditions to limit self supply or an obligation to contract for a set percentage of supply requirement);
- Obligations on large suppliers to contract for volume in the longer-term market, particularly three to five years out;
- Obligations on large vertically integrated companies to show that major generation investments have been 'market tested';
- Measures to provide greater revenue stabilisation for renewables investment; and
- A capacity mechanism to ensure backup / reserve generation is sourced from a diverse mix of generation technologies, ensuring flexible and secure supplies remain available as old plant disconnects due to the LCPD, the IED and the decommissioning of old nuclear plant.

This package aims to:

- Address market structure issues that lead to low liquidity in the GB wholesale electricity market;
- Improve short- and long-term price signals due to the added volume of generation being traded via the market (ideally, 100% of trades should take place via the wholesale market);
- Provide a long-term market in which price (thereby investment) signals become visible;
- Ensure *all* parties can evaluate the true value of generation, thereby making the market more competitive and lowering the barriers to new entry;
- Ensure that all renewable investment has more certainty and confidence in the returns it can expect;
- Ensure that there is a greater mix of both renewable and conventional technologies to ensure security of supply in the long-term;
- Ensure greater security of supply over the 2012-2022 transition period when LCPD opted-out, IED opted-out and old nuclear plant disconnect, and new renewable, CCS and nuclear plant are expected to connect; and
- Ensure that backup generation is provided by the most efficient and the most cost effective plant via capacity tendering.

Overall, a more competitive and effective market should ensure that the most efficient and least cost route to securing capacity is taken, which in turn should prove more cost effective for consumers.

## Chapter 6: Timing

**Question 12: Do you agree with our assessment of the timing for important investment decisions?**

**Question 13: Do you believe that early actions should be considered?**

There are a number of issues to contemplate when considering these questions:

- Investment decisions for plant connecting around 2015 will be made in the next 18 months;
- Developers invest prior to application (e.g. feasibility studies, plant design, etc); policy measures considered by Project Discovery may have a profound effect on the outcome of such work or even the types of technology being considered;
- The low margins that opted-out LCPD plant are currently experiencing may force mothballing and closure decisions to take place sooner than originally expected; and
- The impact of the IED and the UK's generation requirement post-2020 requires thought now, particularly where investment is required in unproven technologies.

Investment signals that will influence the direction of energy infrastructure over the next decade must be clear now; on this basis, Drax believes that action is required now. Failure to act early enough may lead to a scenario that would be detrimental to UK low carbon investment targets, such as: (a) investment does not go ahead due to a lack of direction / clarity on energy policy and a lack of clear investment

signals, or (b) investment goes ahead, but the type of investment made further exacerbates security of supply concerns.

Decision timescales vary considerably between technologies, particularly where technologies are not yet proven or have higher planning or environmental regulation hurdles to clear. Early action will ensure that a greater subset of technologies will be available to help achieve given policy targets. Technologies such as CCS will require large investments in test projects and feasibility studies into new plant or retrofit investments. The later policy decisions are made, the less likely such technologies will provide a useful contribution to given policy targets.

As mentioned earlier in this response, Drax agrees that there is a need for stable market arrangements and greater certainty of regulatory risk; however, the stability of the regime is meaningless if it is not fit for purpose. As such, early action should be considered, including a Competition Commission investigation into the way in which parties interact with the traded wholesale electricity market and the effects of such interactions on market liquidity and price signals.

***Question 14: Do you think that the issues are such that policy measures should be considered as a package or should they be considered on a case by case basis?***

Each of the policy measures contained within the policy packages should be considered on its own merits, as opposed to only being considered as part of a larger package. However, in order to ensure that the direction of policy is clear to investors, the process of determining potential reform should be holistic in nature; introducing reform in a piecemeal fashion will undermine confidence in the market and leave investors open to greater regulatory risk.