

ESBI Investments, 3rd Floor, Regent's Place, 338 Euston Road, London NW1 3BT, England.
Tel: +44 (0) 207 544 8631 Fax: +44 (0) 207 544 8580 Web: www.esbi.ie

Gas Generation Call for Evidence,
Area 4E,
3 Whitehall Place,
London
SW1A 2AW

28 June 2012

Gas generation call for evidence on the role of gas in the electricity market

ESBI welcomes the opportunity to respond to DECC's call for evidence on the role of gas in the electricity market. As an owner and operate of one of the most efficient gas generation fleets in Europe, and with UK generation investments central to our corporate growth strategy within the forthcoming All-Islands electricity market, we welcome the focus and policy certainty the Gas Strategy paper seeks to bring to the UK gas sector. Gas power developments: use proven technology; have lower construction risk; are relatively quick to build; are less carbon intensive than other conventional generation; and their efficient, flexible operational characteristics mean they should have a significant role to play in the UK energy mix.

This response provides a brief overview of ESBI, followed by a summary of our views on the general issues raised in DECC's call for evidence. We then provide responses to the specific questions within the consultation.

ESB International

ESB International (ESBI) is a wholly owned subsidiary of ESB, Ireland's premier power utility. With increases in physical interconnection, in particular the commissioning of the East-West interconnector later this year, coupled with the further development of the regional market, our operations in Ireland will become increasingly linked with the GB market. In the All-Islands Market context, we will be a medium sized player and increased GB gas generation investment is core to our corporate growth strategy as the All-islands becomes our home market. To this end, ESBI is responsible for the identification and development of power generation investment opportunities in the All Islands energy market.

ESBI Investments is a trading name of ESB International Investments Limited.

Directors: John McSweeney, Suzanne Ward, Paul Tobin, John Redmond.
Registered Office: Stephen Court, 18-21 St. Stephen's Green, Dublin 2, Ireland.
Registered in Ireland No. 137736



ESBI has been a developer and operator of independent Combined Cycle Gas Turbine (CCGT) generation projects in the GB market for almost 20 years. To date we have invested approximately £1 billion in UK generation assets. We own, operate and trade Corby power station; developed the 850MW plant at Marchwood which was commissioned late in 2009; and own and operate the 406MW Coolkeeragh plant in Northern Ireland.

We are also developing further large-scale CCGT projects at other locations across GB and have plans to develop around 3000MW over the next decade. We are at an advanced stage with our latest 860MW development at Carrington and expect to take the final investment decision in the coming weeks. Our intention is to begin construction later this year with the plant becoming operational early in 2015.

We have recently begun the early-stage public stakeholder consultation process for our latest 1500MW project at Knottingley, West Yorkshire. We hope to submit our plans to the Planning Inspectorate early in 2013, with a target operational date of 2018.

In addition to increasing our conventional generation fleet, we continue to grow our position in the UK wind market with an operational and development portfolio of around 165MW. This includes the 24MW West Durham Wind Farm in Northern England; the 20MW Hunters Hill and 15MW Crockagarron projects in Northern Ireland. Additionally, we recently completed commissioning of England's largest onshore wind farm, at 66MW, at Fullbrook in Devon and we have started construction of our 42MW Mynydd y Betws Wind Farm in South Wales. We are also active in the ocean energy sector.

Summary of views

ESBI, as an active current investor in GB gas generation, is concerned that the plethora of energy policy initiatives, reforms and reviews (e.g. e.g. EMR, Ofgem Liquidity Initiative, Ofgem's RMR, Low Carbon Economy targets, Electricity Systems Paper, Security of Supply etc.) being undertaken by government and regulatory authorities in the UK is creating fundamental uncertainty and risk for market participants. The Gas Strategy provides an opportunity to better link the various policies and initiatives, recognising the impacts they have for gas generation. The underlying aim of the Gas Strategy should be to provide a consistent and cohesive set of policies across the legislative, government and regulatory authorities.



Future role of gas

Government has expressed the view that the current electricity market arrangements will not deliver its energy policy objectives of security of supply, decarbonisation and affordability. The carbon reduction targets are stretching and will require unprecedented levels of investment from industry participants, which Government anticipates will not be forthcoming under the current market framework. As such, it has proposed a suite of changes through Electricity Market Reform (EMR) that it believes will facilitate the delivery of its goals.

The UK move towards a lower carbon electricity system will bring significant challenges from a system security perspective, namely a potential capacity and a flexibility gap. We strongly believe that gas generation will be able to offer effective solutions to both.

It has been estimated that between 23-39GWs of existing installed capacity is to close by 2023. 11GW of existing plant is expected to close before the end of 2015 due to the Large Combustion Plant Directive (LCPD). Up to a further 15GW of existing coal generation and 2GW of existing gas generation may also close under the Industrial Emissions Directive (IED). The existing nuclear fleet is old and scheduled for decommissioning and coal is continuing to come under pressure due to EMR measures such as the Carbon Price Support and the Emissions Performance Standards.

The future generation mix will include significant amounts of intermittent wind and inflexible base load nuclear creating a system flexibility gap that may pose system stability and operational challenges. The operational characteristics of gas generation will allow it to support and mitigate the system flexibility gap. Moreover, gas generation has the potential to run at base load and can provide an efficient solution to bridge any capacity gap that may emerge should there be a delay in new lower carbon plant coming on stream.

Carbon Capture and Storage (CCS) technology is not yet proven in power generation and we are of the view that it will not provide a robust and enduring carbon abatement solution for some time. In the transition period until CCS is technologically and commercially proven, gas-fired generation offers a more efficient and lower emitting generation solution than other fossil fuels.

Barriers to Investment

Whilst barriers to investment do exist in the UK gas generation market and ESBI will further discuss our views on this, we would like to positively acknowledge Government's recognition of the key role that gas will play in the future generation mix. We are also supportive of a number of positive developments that we hope will contribute to a more attractive investment climate. ESBI welcomes the recent EMR "minded-to" statement on the treatment of projects being developed in the transition period between now and the implementation of the capacity payment mechanism such that effectively there is no "first mover disadvantage" that would cause a delay in the final investment decisions of such projects. We note Ofgem's recognition of the problems around wholesale market liquidity and we welcome the fact that they are now considering a number of initiatives including market auctions to improve liquidity. Furthermore, ESBI acknowledges the clarity that the proposed form of EPS, including "grandfathering rights", brings to existing sites and those projects that obtain consent prior to 2015.

Financial/macro-economic

It has been estimated that achieving the UK's low carbon energy objectives will require an investment of up to £200billion in the energy sector. The UK energy sector must compete against other infrastructure sectors and markets to secure the investment. The impact of the global economic downturn, the Euro currency crisis, the lack of liquidity in the banking sector and the resultant turmoil in financial markets must not be underestimated in assessing the availability of funding and the reduced appetite that banks generally have for lending at this time. Uncertainty in other European markets has the potential to further impact UK investment signals as noted in the link between the German nuclear policy decision and RWE/Eon's exit from the Horizon nuclear project. We have noticed a distinct lack of appetite for UK merchant power projects amongst lenders. It is very much a "lenders market" with merchant risk being pushed back on investors and lenders requiring margins at higher levels compared to previous similar projects. The push back on merchant risk and the higher margins have negative economic implications for projects and the ability of investors to make the final investment decisions.

Markets

The competitive market has delivered many benefits for consumers since its introduction in 1990. However, we believe that the current wholesale market structure offers inherent advantages to vertically integrated players. As an independent owner and operator of GB generation assets, we are acutely aware of the negative impacts that the current lack of market liquidity brings. Whilst there has been some

welcome improvement in levels of liquidity in the prompt markets, there has been no change to the lack of liquidity along the forward curve. Such liquidity is critical in providing robust price discovery and the subsequent investment signals for delivery of the generation required to meet Government's goals.

Despite Ofgem's high-level proposals for improving wholesale market liquidity and Government's progress with EMR, significant regulatory and policy uncertainty remains. This includes the lack of clarity on how markets are to be integrated as European directives move the industry towards regional energy markets within the implementation timeframe of EMR. As investors, we seek clarity on these areas so as to best understand the risks and that policy makers ensure risks are allocated to those who are best placed to manage them.

Planning

The Planning and Localism Acts have sought to streamline the planning process for major infrastructure, such as power stations. However, we note that it remains a lengthy procedure with many aspects remaining untested. The new process requires significantly more upfront studies and public consultation in the pre-application stage meaning that early development costs have greatly escalated with no guarantee of obtaining planning consent. A gas-fired power project has not yet gone through the new process and the absence of any precedents is requiring developers to take significant legal opinion to help guide them.

CCS remains another challenge for investors as currently a credible solution is required both to obtain consent and to future-proof the proposed development. An investor needs to include a feasible carbon capture solution for any power development planning application. This requires investors to make assumptions around CCS and its application to their particular project as the technology is not yet proven.

Environmental legislation / Obligations

ESBI welcomes the principle of the Emissions Performance Standard (EPS) in EMR as a regulatory backstop to halt the development of the most polluting forms of thermal generation, particularly unabated coal generation. We further welcome the clarity that the proposed form of EPS brings to existing sites and projects that will obtain consent prior to 2015, with regards the EPS that will be applied to the life of those projects. The proposal provides certainty that a plant will only be subject to the emissions limit in the EPS



at the time the plant received planning consent. Conversely, any uncertainty on EPS levels post 2015 and the any provisions to revisit proposals to "grandfather" the EPS could create investment risk by having the potential to significantly undermine investment decisions, harming the GB market's attractiveness as a place to build new generation plant.

As previously mentioned, a significant amount of existing installed capacity is to close in GB by 2023 due to environmental legislation such as the LCPD and IED. This should create appropriate investment opportunities for newer, more efficient generation. Any suggestion of a relaxation of environmental obligations, opts outs or wavering of Government's resolve to discourage old inefficient high emitting plant to remain on the system would seriously undermine the confidence of investors on the scale of opportunities in the GB market.

Areas that Gas Strategy Should Address

Gas security of supply

ESBI believes the gas strategy should consider the broader issue of gas security of supply in addition to specifically focusing on gas generation. We would welcome improved gas security of supply but we would strongly advocate that the apportionment of costs associated with any such improvement needs to be carefully considered as society as a whole will benefit, not just generators. As such we would not welcome measures being mandated solely only on gas generators without recognising the wider societal benefits improved security of supply would bring. The current market has shown that it will not deliver significant margins over and above normal demand levels; therefore some form of intervention is required. We would seek for Ofgem to expedite its investigations and proposals on what further interventions should be introduced to improve levels of gas security.

Liquidity

As stated previously, wholesale market liquidity is critical to the successful delivery of the main policies within EMR and therefore to the achievement of Government's energy policy goals. We would urge for Ofgem's proposals on measures to improve liquidity to be accelerated. Despite examining this issue for about 3 years, Ofgem has yet to introduce any effective measures to improve market liquidity. We note that they are proposing a number of initiatives but we note, and remain concerned with, the lack of a



definitive timeline for delivery that is explicitly aligned with implementation of EMR. There needs to be more focus on improving liquidity to benefit independent generators rather than the current focus on suppliers. We strongly believe that a competitive and transparent generation market can deliver significant benefits for consumers and this should be better recognised in the work Ofgem is undertaking. The measures introduced by Ofgem must result in robust forward prices that independent generation can rely on to provide effective investment signals, within investment timescales. To this end, the Gas Strategy should include measures or explicit timings that Ofgem and industry must work to, to deliver these improvements.

Impacts of EMR

There remains significant detail to be developed on key aspects of EMR, in particular around the Capacity Market and Feed-in Tariff. We await detail but these policies will undoubtedly impact gas generation investment significantly, either directly through support mechanisms or through changes to future wholesale prices. The Gas Strategy should ensure that where the various EMR policies interact with each other and on the market, the signals do not detriment gas generation. Where unintended consequences are identified, the Gas Strategy should seek to address them.

ESBI is of the view that it would be useful if the strategy considers in more detail the impacts of the introduction of the carbon price support (CPS) mechanism for gas generation. The CPS will have fundamental impacts for the conventional generation market. We are of the view that these impacts were not robustly tested during the implementation of the enabling legislation and that additional analysis should be done to better understand the effects it will have on investment signals for new and existing gas-fired generation. Areas that should be addressed include:

- Impacts on gas prices
- Impacts of the 2 year carbon price setting period on investment and plant closure decisions, in particular with regards commitments under the capacity payment mechanism
- Future price trajectories

Responses to specific questions

Below are ESBI's responses to the specific questions raised in DECC's call for evidence.

a) What are the main strengths and weaknesses of gas generation in helping deliver a secure, affordable route to decarbonisation through to 2020 and then by 2050?

Gas power developments have a number of characteristics will ensure they will have a significant role to play in the transition to a lower carbon generation mix:

- use proven technology
- have lower construction risk than other technologies
- are relatively quick to build
- are not as carbon intensive as other unabated fossils fuels
- are their efficient, flexible operational.

Gas generation should act as bridging technology and fuel as the system moves towards a lower carbon mix, particularly as it can provide base load generation if there is a delay in the commissioning of new low or zero carbon generation. Another significant strength is its ability to meet the system flexibility gap that will emerge as the generation mix evolves to include significantly more intermittent wind and inflexible base load nuclear.

Carbon Capture and Storage (CCS) technology is not yet proven in power generation and we are of the view that it will not provide a robust and enduring solution carbon abatement solution for some time. In the transition period until CCS is technologically and commercially proven, gas-fired generation offers a more efficient and lower emitting generation solution than other fossil fuels.

b) What role can gas fired generation play in the future and what level of gas generation capacity is desirable?

Gas can (i) act as a bridging fuel to provide base load generation capacity as the system moves towards a lower carbon portfolio and (ii) its flexible characteristics will have a role to play in system security given the increased amounts of intermittent wind and inflexible nuclear that will be on the system in the future.

c) What are the key factors driving the economics of investing in new gas-fired power generation



and how are these factors likely to change?

Key factors affecting investment decisions include:

- the forecasted spark spreads over the lifetime of the investment
- the projected revenue (energy payments, capacity payments and ancillary services/balancing market payments)
- forecast capital and O&M costs
- political and regulatory risk.

A recovery of spark spreads will be required to encourage investment as current levels are not particularly attractive. An analysis of the impact of EMR on market prices, particularly the introduction of the CPM on the revenue stream of a gas generation project and the impact of the CPM on the balancing/ancillary services market will be key to investment decisions. Capital costs have been depressed in more recent times however these could increase with improving market conditions and increased new build. Wholesale market liquidity is currently poor so it will be necessary for generators to assess the likelihood of Ofgem's proposals in delivering the required levels of long-term liquidity, improving the competitive outlook for the market and providing an effective route to market.

d) What barriers do investors face in building new gas generation plants in the UK? What are the key regulatory uncertainties that may prevent debt and equity investors making a final investment decision in gas generation and supply infrastructure?

The key barriers to investment are regulatory and policy uncertainty. Investors seek a stable market against which they can assess investment opportunities and have comfort that the returns they assume are stable and robust in to the future. The number of areas currently under reform is significant and all affect fundamental aspects of investment decisions. EMR and the Gas Strategy are just two in a wide range of reviews and reforms currently underway, including:

- Gas security of supply
- Review and reform of electricity cash-out
- Review and reform of gas cash-out
- Project TransmiT reform of transmission charging



- Introduction of the European target market
- Reform of distribution network charging

The Gas Strategy must recognise the uncertainty it adds and should provide its findings and proposals at the earliest opportunity to ensure it does not add to the problem it is seeking to address.

e) Are there any other policy issues that need to be addressed beyond the Government's proposals for the capacity mechanism and the EPS?

As stated in our response above, we are of the view that there are a number of areas that we believe the Gas Strategy should address:

- Gas security of supply
- Impacts of the EMR proposals when brought together
- Wholesale market liquidity

f) Given a continuing role for gas and the potential for increased volatility in gas demand, to what extent is gas supply and related infrastructure a barrier to investment in gas fired generation? What impact will unconventional gas have on the case for investing in gas generation and the supporting infrastructure?

The global market for gas means that the UK enjoys a diverse mix of gas supplies, most of which will be plentiful for many years. The significant import capacity we have means the UK meets all international standards for security of supply. As a major user of gas, we are content that this diversity of supply will support our investments. However, if Ofgem or Government wishes to ensure further security of supply by, for example, increasing the amount of indigenous gas storage, we strongly believe the costs of this should be spread across all users of gas and not just on gas-fired generation.

We note the developments in area of unconventional gas but are of the view that it remains a nascent technology and has significant barriers to cross before it becomes viable. If this stage is reached, however, it could have a significant impact as part of the diverse supply mix in dampening price and improving security of supply beyond the long periods already assumed. As such, we do not believe it is currently a consideration in the investment decisions for most gas generation projects.



International
ESBI Energy Innovation

Should you wish to discuss any of the views raised in this response further, please do not hesitate to contact me.

Yours sincerely,

ESBI

By e-mail