

Investment in the future energy system



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September 2017

Energy UK's state of investment review

1. Executive summary

The UK energy sector is undergoing a rapid transformation into a more digital, flexible and innovative system, and is facing a huge investment challenge focussed around decarbonisation. The power industry is looking to move towards increasing levels of low carbon generation, which must be done at the lowest cost to consumers, whilst still maintaining security of supply. The latest official Government figures¹ have put the value of investment needed at approximately £180bn by 2030, across new generating capacity and network infrastructure: others have estimated significantly higher values².

The Government has established an effective framework under the Electricity Market Reform (EMR) package that drives this investment through competitive auctions to deliver security of supply (Capacity Market) and low carbon generation (Contracts for Difference). Competitive pressures are delivering cost savings for consumers, and the recent results from the second round Contracts for Difference (CFD) auction highlight this: with offshore wind achieving a 50% reduction on the strike price for the 2022/23 delivery year compared to the previous auction.³

Throughout summer 2017, Energy UK conducted 27 interviews and held a roundtable discussion with investors and industry to understand their view of current power policy, and any concerns towards future investment within the power industry and wider energy sector markets. There are a number of ongoing concerns that were deemed to be impacting the development and operational stage of power projects in particular.

There is currently poor visibility beyond 2020/21 over power policy, with no cost control framework to replace the expiring Levy Control Framework (LCF). With limited policy in terms of CFD auction dates, there was concern that the development pipeline is becoming a less attractive place to invest in for projects due for final investment decision (FID) beyond 2020. No guarantee of a route to market is creating unnecessary risk in the early stages of development, which is potentially causing increased cost of capital for certain projects.

Long term confidence and understanding of policy is built up over time but sudden intervention by Government can dampen this much quicker. A number of recent policy changes within the energy sector were highlighted as a key area of concern for investors and industry, and a significant cause of reduced confidence among developers and wider industry stakeholders.

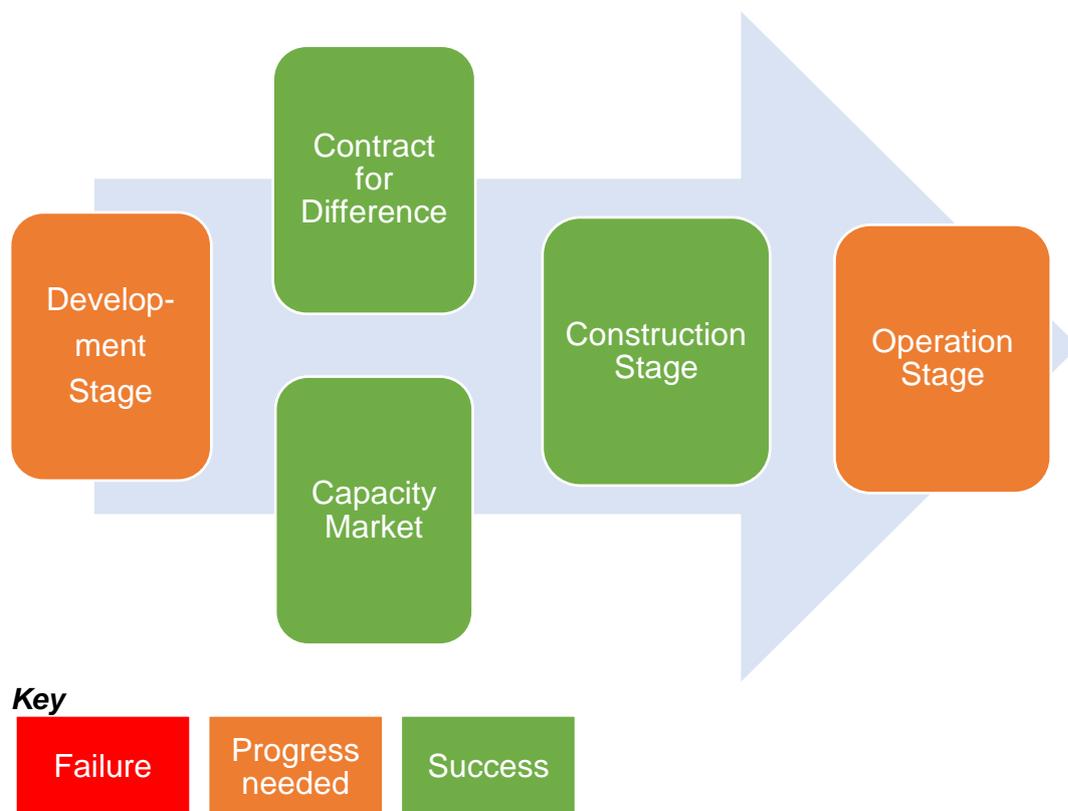
The following is an illustrative representation of how investors see the current environment for power generation projects.

¹ For further information, see National Audit Office, Nuclear Power in the UK, June 2016

² Barclays Bank have recently put this figure at £210bn

³ BEIS, CfD second round auction results, EUK analysis.

Figure 1 – Illustration of current investment environment for power generation projects



This report represents an overview of how Government can build on the success to date of the CFD and Capacity Market (CM) frameworks to ensure that we bring forward investment at the lowest cost to customers.

Throughout summer 2017 Energy UK interviewed 27 companies across both the energy and finance sectors to better understand the impact of policy on investment within the sector and what this means for the future project pipeline, and cost of raising finance. The engagement Energy UK had across industry and finance included the following organisation types:

- | | |
|--|--|
| <p>Industry</p> <ul style="list-style-type: none"> ▪ Vertically integrated energy companies ▪ Independent generators ▪ Supply chain stakeholders ▪ Regulated asset owners | <p>Finance</p> <ul style="list-style-type: none"> ▪ Banks ▪ Capital management ▪ Private equity ▪ Institutional investors |
|--|--|

Energy UK hoped to gain a better understanding of what investors look for in a project, barriers preventing them undertaking planned investment, any concerns they have within the power industry regarding future investments, and how they think policy could better manage risk and uncertainty in the industry. This provided Energy UK with greater insight into how Government could support greater investment within the sector, in terms of both existing technologies as well as new areas of innovation, leading up to and post-Brexit.

Energy UK is of the view that if the Government was to adopt the key recommendations in this report, it would help the UK energy sector continue to deliver the investment that is needed in a way that is at the lowest cost to consumers. An illustration of these is presented below:

Figure 2 – Summary of key concerns and recommendations

Key Concerns	• Energy UK Recommendation
<p>Recent policy changes and the opaqueness of their implementation, as well as limited frameworks beyond 2020 means the development of power projects is becoming increasingly risky for those projects due for Final Investment Decision (FID) post-2020.</p>	<ul style="list-style-type: none">• Clarity on a cost control mechanism to replace the LCF is needed urgently, including a commitment towards future CFD allocation rounds so that developers and supply chain investors have the confidence to prepare future investments beyond today's pipeline.
<p>For companies with revenues focussed around generation asset ownership, the finance market is currently no longer willing to provide finance to them when they rely solely on a merchant model.</p>	<ul style="list-style-type: none">• Regulation and policy should provide clear signals for investors looking to finance emerging energy technologies that offer economic value, with a framework that enables those projects to form a viable business case. Regulation should, therefore, provide visibility for investors to ensure they can understand potential revenue streams and enjoy some degree of certainty.
<p>Interviewees within the retail industry expressed that the supply market's level of competition and political pressure is making it an increasingly difficult area to operate in and raise comparatively low-cost finance.</p>	<ul style="list-style-type: none">• Government should deliver an annual energy statement, setting out forthcoming energy policy and the costs and benefits of those policies to domestic and non-domestic energy customers. This would help to rebuild the trust between Government, industry and customers and set out a clear vision for investors who will be vital in delivering an energy system fit for the future.
<p>A lack of overall strategy in certain energy policy areas and limited dialogue between policy makers, energy industry, and the finance sector is resulting in unnecessary risk and is an increasing concern among investors and industry.</p>	<ul style="list-style-type: none">• Energy UK will host a series of events, including an annual roundtable with the investor community, industry and Government to discuss topical issues around financing and investment of projects within the energy sector.

2. Context

The UK's power industry currently faces the challenge of achieving widespread decarbonisation, whilst simultaneously ensuring security of supply. This must be done at the lowest cost to customers. Substantial investment is needed to deliver this, with latest official Government figures suggesting a value of approximately £180bn: others have estimated this significantly higher. Consequently, the move towards decarbonisation has led to Government playing an increasingly important role in attracting investment in the power industry, through policy and regulation. It is clear the actions and messaging of Government, both now and in the future, are important to the health of the industry, specifically in regards to investor confidence and financial risk.

The UK power industry is seeing greater levels of intermittent renewable technologies on the system. Investment in low carbon sources in order to meet the UK's carbon budgets, alongside investment in more flexible plant and technologies such as battery storage and Demand Side Response (DSR), will be required to support these intermittent generation assets. How much will be dependent on a number of interdependent factors such as the uptake of electric vehicles and potential options for decarbonising heat.

Whilst interview responses mainly focussed on investment in generation power plant, it was also recognised that equal importance must be placed on investment in new energy services, as well as wider industries such as heat and transport. Further detail is presented in *Annex item 1*, with an insight into the structure of a typical power project finance structure and the criteria investors consider when making investment decisions.

Energy UK has consistently emphasised to Government the benefits of a clear and stable policy framework with a long-term focus. This report and the interviews carried out by Energy UK seek to bring these messages from industry and investors together to form a coordinated response, and to determine whether finance professionals have views which echo those of industry.

3. Delivering through the Electricity Market Reform package

The EMR package introduced by Government in 2013 recognised that the energy market was not set up to deliver large capital-intensive power infrastructure projects because of significant up-front financing requirements associated with capital intensive projects, and the increasing volatility in the wholesale market.

The package provided a market in which both existing and new build generation plant compete to provide greater and more certain revenue visibility to investors. The result has been a highly liquid and competitive debt market for the financing of projects that have been allocated a contract through competitively auctioned CM agreements or CFDs. This has led to a lower cost of capital after a CFD or CM contract has been secured, and for the refinancing of projects at later stage.

The CM auction held in 2016 cleared with a price of £22.50kW/year which was far below many expectations and, when combined with a year-ahead T-1 auction, will ensure security of supply throughout winter 2020/21.

More recently, on 11 September 2017, Government announced the results for the second CFD allocation round. Eleven new energy projects totalling 3.3GW of capacity were successful in the latest competitive auction for 'less established' renewable technologies. The prices of £74.75/MWh (for projects delivery in 2021/22) and £57.50/MWh (for projects delivering in 2022/23) for less established technologies (including offshore wind) represent significant savings: with the cost of new projects starting to generate electricity from 2022-23 now delivering a 50% lower strike price than the first auction held in 2015. These results exceeded forecasts and have already exceeded the 2020 price target for offshore wind⁴, helping support the transition to a market no longer dependent on price support.

It is clear that competition is driving innovation and exerting cost pressures that are delivering cost savings for customers. This success has been made possible by Government setting out budgets, frameworks and timings to 2020 in advance.

⁴ January 2017, Cost Reduction Monitoring Framework, ORE Catapult

This report represents an overview of how the Government can build on the success of the CFD and CM frameworks to ensure that we continue to bring forward investment at the lowest cost to consumers.

4. Summary of interview findings

Industry and finance professionals throughout the interview process expressed the success the industry has made towards bringing forward low carbon investment, which ultimately led to the power industry achieving 47% low carbon generation in 2016.

Interviewees agreed that the EMR package had been very successful in that it offered the revenue visibility needed for investors to provide sufficient, low cost finance, and market access for low carbon technologies. This has been through support to projects that have received a CM agreement or CFD, and up until now, this has supported a robust and competitive development pipeline and a competitive market for debt provision to these projects.

Interviewees did, however, express a number of concerns which are having an impact on investor confidence within the energy sector. These concerns particularly focussed on early development and operational stages of power projects, but also touched on wider energy infrastructure projects where there is limited regulation and policy such as storage, DSR and smart technologies.

Of those we spoke to, there was concern among energy investors and industry participants that with – currently - limited predictability and visibility of power policy beyond 2020/21 and recent opaqueness in policy changes, there may be issues in future delivery of investment projects beyond the current pipeline.

Investors and developers alike require longevity and predictability within policy in order to have confidence that the investments they are preparing today, are supported by a policy framework that will be there for many years, with no significant changes that either undermine or threaten their investment. In relation to this, Energy UK does not support any retrospective changes in policy.

The market is currently providing insufficient capital to projects that rely solely on a merchant model due to the low, volatile wholesale price. Some kind of contractual arrangement, through either the CM or a CFD (or similar), is needed in order to raise low cost finance, as well as a commitment to a long-term carbon price trajectory. Going forward, there will be an important role for innovative approaches around regulation and policy towards incentivising investment in new technologies.

The issues of instability, unpredictability and the lack of a long-term framework are particularly noticeable at the development and operational stage of a project. Power projects take a significant number of years to go from planning to FID, and developers are making decisions now with little assurance around the power policy post 2020/21. Two examples that have been highlighted in particular, are the absence of a forward-looking financial framework on low carbon support from Government following the expiration of the LCF in the early 2020s, and the unknown trajectory of the Carbon Price Floor (CPF). This uncertainty is dampening investor confidence in early development projects which will likely feed into the future pipeline post 2020. Projects that are going ahead have a greater risk premium attached to them, which is ultimately left to the customer to pay. The potential result, as expressed by industry and finance, was a less mature and robust future development pipeline that would lead to less competition in future CM or CFD auctions, and thus result in prices that could otherwise have been lower. Lack of visibility has meant supply chains are unable and unwilling to make the commitments they might otherwise have made.

Energy UK has always maintained its position that policy stability, coupled with a long term strategy and framework, will deliver innovation, investment and security of supply. It will be able to do this at least cost to consumers by having the foresight to be able to make the most efficient investments from top level investment in technology, all the way down to the supply chain. Underpinning this, and increasingly important, is attracting the least cost capital in a low risk environment. The importance this sector plays, the contribution it makes to the productivity of other important UK sectors and the living standards for households, means that energy should not be influenced by the political cycle. By providing a more strategic, and predictable environment, particularly for

developers, the energy sector will be able to decarbonise and achieve its long-term objectives at the least cost.

5. Concerns and recommendations

This report has so far presented an outlook on what the energy sector's future needs might be in terms of investment, with a specific focus on the power industry. Whilst recognising the difficulty in predicting what this future might look like, many in the industry expect levels of investment in low carbon generating assets to increase, with the scale of the investment, and the technology mix, still to be determined. It can be concluded that whichever scenario the energy sector finds itself in, investment will be required in order to meet the Government's decarbonisation objectives, and the right framework is needed to attract finance at the least cost. As we transition towards a low carbon economy the Government will have a crucial role to play in providing support and investment signals to key players in the market.

The interviews conducted by Energy UK highlighted the following key concerns from industry and finance, with feedback in terms of recommendations to address these.

5.1 Development projects

Key concern:

Recent policy changes and the opaqueness of their implementation, as well as limited frameworks beyond 2020 means the development of power projects is becoming increasingly risky for those projects due for Final Investment Decision (FID) post-2020.

Interviewees from both industry and finance expressed that, to date, the EMR framework has provided the signals needed to invest in the development pipeline, although confidence was significantly impacted following Pot 1 technology being denied access to CFD. The concern is that, with limited policy clarity beyond 2020/21 over CFD auction dates, the development pipeline is becoming a less attractive place to invest in for projects due for FID beyond 2020⁵.

Developers need to see some form of commitment from Government for low carbon generation support beyond 2020, and whilst the Climate Change 2008 Act goes some way towards this, it does not provide the route to market needed to raise sufficient, low risk, finance for projects. Investors need reassurance that the policy they are investing alongside today is not subject to retrospective changes, when the project reaches a position of FID. If there is no visible policy commitment in place, there is no guarantee of a route to market, which creates unnecessary risk in the early stages of development.

The result of this is likely to be a less competitive development pipeline post-2020, supported by a supply chain that, due to poor policy visibility beyond 2020, has not been able to make optimal financial commitments. Increased risk at this stage will not necessarily result in less finance being available, but what capital is available may be at a higher cost.

A number of additional causes of a weaker future development pipeline were also expressed throughout the interviews. These are some of the examples:

Policy area	What changed	Year of change
CFD allocation Pots	2015 Conservative manifesto removed support for onshore wind which resulted in funding for Pot 1 auctions being withdrawn, meaning technologies such as solar and onshore wind were no longer legible for Government support.	2015
Carbon Capture and	The UK Government cancelled its £1bn competition for CCS technology just six months before it was due to be	2015

⁵ Further details discussed in Energy UK's detailed position paper: The Future of the Levy Control Framework

Storage (CCS)	awarded. Dampens confidence within CCS investment considerably, and across the industry.	
Renewables Obligation Certificate (ROC)	Closure of ROC for new Wind and Solar PV projects in 2015 and 2016 respectively (at short notice and earlier than previously announced)	2015/16
Feed in Tariff	The review of the FIT resulted in significant reductions to tariffs without a transition period.	2015

These changes were significantly damaging to particular technologies - such as onshore wind, solar and CCS – and has negatively impacted confidence among industry and investors. The lack of transparency in decision making and limited engagement with investors removed some level of trust towards energy policy. Government should consider wider industry implications when making significant policy decisions, as well as placing greater focus on the impacts on investor confidence.

Energy UK does not support any retrospective changes to policy, which would otherwise adversely affect confidence in all stages of project development. Policy decisions should be made with a high level of transparency so that the investors making large financial commitments at the development stage can make informed decisions and not be deterred by Government policy actions.

Energy UK recommendation:

1. Clarity on a cost control mechanism to replace the LCF is needed urgently, including a commitment towards future CFD allocation rounds so that developers and supply chain investors have the confidence to prepare future investments beyond today's pipeline.

5.2 Merchant revenue

Key concern:

For companies with revenues focussed around generation asset ownership, the finance market is currently no longer willing to provide finance to them when they rely solely on a merchant model.

As a result of the increasing level of intervention in the energy sector, the ability to raise finance has been placed on the requirement for a contracted revenue model, such as a CFD or CM contract. Merchant models alone, specifically revenue streams focussed on ancillary services and wholesale hedging, are no longer strategies that can raise significant levels of external debt within operation stages: investors currently look for longer revenue streams such as the CM or CFD. National Grid's reform of the GB ancillary services market will also be important in providing greater certainty of revenue for future products.

Energy UK is of the view that as energy innovation takes place, future financing models will need to be considered. It is important, therefore, that the right regulation and policy is in place, with an overall strategy to direct and offer some degree of certainty and visibility over potential revenue streams for investors. This will allow the market to better support both short term contracting and merchant revenue financing models for new technologies on the system.

Energy UK recommendation:

2. Regulation and policy should provide clear signals for investors looking to finance emerging energy technologies that offer economic value, with a framework that enables those projects to form a viable business case. Regulation should, therefore, provide visibility for investors to ensure they can understand potential revenue streams and enjoy some degree of certainty.

5.3 Impact of retail market issues on investment

Key concern:

Interviewees within the retail industry expressed that the supply market's level of competition and political pressure is making it an increasingly difficult area to operate in and raise comparatively low-cost finance.

Interviewees shared the concern that political pressure on the retail market is being viewed by investors as creating additional risk, particularly for capital provision to early stage development projects within generation assets, as well as throughout project operation.

It was noted throughout discussions that investors abroad do not necessarily understand the complexity of the UK's energy system, its regulatory requirements or how policy interacts with it. The level of capital mobility in the international finance market means that overseas investors view the UK energy market as a much less attractive place for investment when the political messaging is negative.

This could result in less capital being made available to retail suppliers looking to invest in development projects, and the capital that is available could be increasingly expensive.

The Government should recognise that negative energy policy messaging dampens investment and industry confidence, with potential impacts on cost of capital directly. This also impacts the ability of these companies to invest in new services, generation assets or other technologies which are needed to transition to a low carbon economy.

Energy UK recommendation:

3. Government should deliver an annual energy statement, setting out forthcoming energy policy and the costs and benefits of those policies to domestic and non-domestic energy customers. This would help to rebuild the trust between Government, industry and customers and set out a clear vision for investors who will be vital in delivering an energy system fit for the future.

5.4 Energy strategy

Key concern:

A lack of overall strategy in certain energy policy areas and limited dialogue between policy makers, energy industry, and the finance sector is resulting in unnecessary risk and is an increasing concern among investors and industry.

To provide longevity and consistency in investment decisions, dialogue needs to be established that gives confidence in the policy development process and a mutual recognition of the objectives of key stakeholders. A discussion, and understanding of policy direction that extends well into the 2020s, where arguably, the majority of investment will need to be made if we are to secure a low carbon electricity system, is vital. The energy industry and the finance sector believe that an understanding of long term ambitions and strategy would help to provide clarity and allow investment decisions to be made in the full knowledge of those risks.

For example, interviewees expressed that the delayed publication of the Clean Growth Plan suggests a lack of coherent strategy towards power and heat in particular, and illustrates a lack of agreement and certainty about what is needed in terms of policy. Progress through innovation and local engagement, with an overarching strategy should be set out by Government to offer visibility to investors and developers within heat solutions.

Energy UK appreciates the energy industry is going through constant change, with a number of new technologies and solutions likely to enter and disrupt the market. This requires policy and regulation to be flexible, but for there to still be visibility of direction and strategy on the end goal. Energy UK, with industry and investor support, will host regular events, including an annual roundtable with key industry and finance professionals alongside Government to provide a forum for constructive discussion and to ensure policy is transparent.

Energy UK recommendation:

4. Energy UK will host a series of events, including an annual roundtable with the investor community, industry and Government to discuss topical issues around financing and investment of projects within the energy sector.

Annex

Item 1 – Further information on investment decisions

1.1 Investment criteria

The investment need within the power and wider energy sector is clear from the outset. Based on the interviews conducted by Energy UK, the following points are key criteria that a potential investor will consider when deciding to make a particular commitment towards financing a project. The following is not an exhaustive list, but to keep within the objectives of the report, Energy UK has picked out those which are most relevant to this piece of work. The varying nature of an energy project and the diverse range of investors in the market mean that investment criteria can be a very open and subjective topic. In this sense, Energy UK has chosen key criteria that should factor in each investment and investor decision. Generally, the major investment decision is at the point of FID, when investment in construction is required and accounts for the majority of the capital requirements of the project. There are also investment or divestment decisions at other stages of a project life-cycle (e.g. investment at the early stage to develop a project to the point of FID, or equity dilution / refinancing once a project is operational). Here, focus will be on the main criteria leading up to project FID.

1.1.1 Project rationale

Interviewees expressed the need to place emphasis on overall project rationale and whether there is a clear market and social long-term need. Social support for a project might exist but there may be no market support for it, or if there is, it might be clearly infeasible to pursue. Investors will want to have a clear understanding of the technology costs and performance whilst interpreting the rationale for the project.

1.1.2 Stable policy and regulatory framework over lifetime of project

Policy stability in the energy sector is having an increasingly significant influence on the measure of cost of capital because of the role the Government plays within the sector. Investors will look at present and past policy to determine where to invest, and whether they see current policies as long-term solutions and therefore in place for significant time, or as short term solutions with constantly changing conditions. Investors make decisions over long time scales, especially those providing debt at the later stage of project development. They therefore look for policy that takes a long-term focus and commitment, which is both predictable in its direction and clear on what it supports – a low likelihood of policy change built into their lending rates will result in a lower cost of capital for the project.

Complexity of regulation is also a key factor when making investment decisions and something consistently expressed by interviewees from both industry and finance. If the processes are complex and confusing, a higher cost of capital is often associated with the project because it is less familiar to the investor, it will introduce unnecessary risk, and will require them to seek their own expert guidance, which comes at a cost. As investors become increasingly familiar with a piece of regulation or policy, the risk attached to it falls and so does the cost of capital.

1.1.3 Understood revenue streams

The revenue streams most commonly used in the power generation sector can be categorised as merchant or contracted.

The merchant route sees market driven processes delivering revenue for projects. This can include revenue directly gained through the wholesale market or Balancing Market (BM). Contractual relationships can be established through Power Purchase Agreements (PPAs) to provide a more stable return for the power produced which is beneficial when raising finance. However, a PPA may only provide a route to market rather than any revenue certainty. For debt financiers to lend to a project, the PPA would need to provide some contractual certainty to the level of revenue to be received – either through having a floor electricity price or a collar mechanism. Overall, the merchant route has significantly more risk and without another form of revenue support it would be difficult to

reach FID. Long term price certainly through markets can build up over time but intervention from the Government can destroy the perceived value much quicker than it takes to build it.

The contracted route would see revenue guaranteed by a contract with either Government or the System Operator (SO) backing the value for the length of the contract. This is the case for the CFD, CM and several ancillary services. This is seen as a much more robust revenue stream and is therefore much easier to raise finance against. The level of debt that it is possible to raise for a project is usually linked to the level of firmly contracted revenue streams. For example the CFD and CM auctions can provide contractual revenue streams and gearing levels in the range 60-80 are often achieved. Debt providers typically base the sizing of a debt package on the total Capacity Payment contract amount – Fixed Project Costs. In terms of lending against Merchant revenues their appetite is minimal.

1.1.4 Economic and finance feasibility

All the above feed into an assessment of the economic feasibility of a project. The economic decision of a firm to invest will depend upon the project having returns which exceed the cost of development, construction and operations which are all discounted at the cost of capital.

In addition, the firm will have choices of how to finance a project and will want to test the attractiveness of different financing options covering a range of measures including affordability, levels of financial exposure, risk appetite and alternative use of capital. Providers of capital to firms or projects will look for returns on their equity or debt contributions which are commensurate with the risks taken on by the firms they invest in. Equity returns requirements are higher than that for debt and equity providers are more willing to take on higher risks than debt providers. The weighted average cost of capital (WACC) is the overall cost of capital for a firm which is dictated by return expectations of equity and debt providers along with relative proportions of debt and equity (gearing). In general, more risky project/firms will attract a lower proportion of debt and (depending on the level of risk) higher equity return expectations. The risk a project faces - and consequently, the economic and financial returns required at different stages - varies through the life-cycle.

Taxation: We note that tax can have a significant financial effect on project economics. As this is a complex area, we do not consider it in detail here.

1.2 Investment decision

A firm's ultimate decision to invest will be largely influenced by whether their expected returns exceed a target hurdle rate, and not necessarily their cost of capital. If the margin the project is offering is lower than the hurdle rate, then the rational investor will not go ahead with the investment.

Hurdle rates take into account areas of risk for investors when making investment decisions such as: current and future policy, market health, project risk, future revenue volatility, carbon pricing and wholesale price expectations.

1.3 Energy finance models

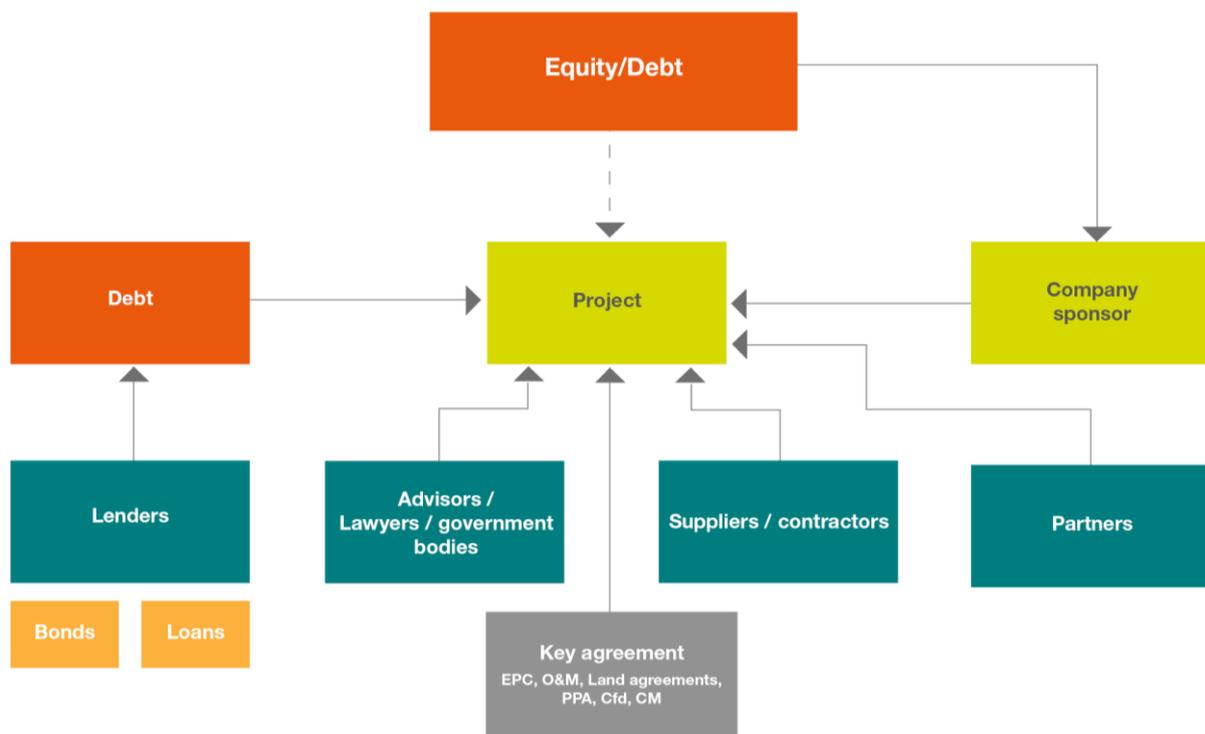
Energy is a capital-intensive sector. Individual projects often cost tens of millions of pounds, and can reach into the billions for very large ones. Because of this, the cost of capital is an extremely important concept to manage and whilst a number of factors input into the cost of capital, risk, and specifically, policy risk in the energy sector, even an additional average cost of capital of 100 basis points can carry significant additional cost.

The cost of capital has two elements, debt and equity, with equity being the more expensive form of financing because it carries extra risk and is paid off after debt. Equity is raised through the issue of shares in the company (or via Shareholder Loans from the developer /owner into the Project Company). Debt is a form of loan or bond, and will be paid back through a pre-agreed contract that states the level of interest paid on top of the initial debt level. Debt and interest is paid throughout the life of the project. Raising finance through a combination of these two routes provides a project or a company with a weighted average cost of capital figure (WACC).

There are typically two main routes to finance projects:

- **Project finance** is the raising of capital based on the future flows of cash generated from a specific project with no or limited recourse to the Equity providers. It is often a complex process with a number of stakeholders and detailed contracts. To successfully raise Project Finance, a Project will need to demonstrate robust cash flows (including a stable revenue stream) even in downside scenarios, satisfactory development, construction and operating experience, an appropriate contracting strategy for key areas such as construction and operation.
- **Corporate finance** relies on the balance sheet of the corporation looking to invest in a project. Corporate financing is often cheaper than project financing because there is diversification of specific project risk across a portfolio of projects and activities, and fewer stakeholders and contractual arrangements involved. However, the Corporate Financing model may not be available to a number of the New Entrant IPP players in the market whom will represent an increasing portion of the future investment requirements in GB energy in the future.

Figure 3: Illustrative overview of the key financial and commercial components of a power generation project



A project may be fully owned by the sponsor. Other options are Joint Ventures or a Special Purpose Vehicle (SPV) which has an independent board and directors. The latter of these is common within the energy sector because of the large amount of capital that is needed to be raised against a specific project. Specific focus will be placed on this through the remainder of this section when referring to a company, or SPV specifically.

The SPV is responsible for the development, construction and operation of the project as well as ensuring all regulatory requirements are met and the correct contracts are in place. This is often a favourable route to financing because if anything was to go wrong with the project, the project sponsor, or those involved in equity financing have limited liability to debt providers under a non-recourse or limited recourse agreement – the SPV will be controlled by the equity owners, which are those companies or organisations who have a specific interest in the project. The project will have a sponsor which manages the project and oversees all administration requirements; the sponsor will often have an equity stake in the SPV in order to align its interests with that of the lenders to the project.