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Summary

The current high energy prices and inflationary environment throughout Europe and the local electricity security-of-supply risks in Ireland have resulted in political interventions in the energy markets. Every political intervention naturally has an effect on individual customers, investors and firms and at a macro level on the marketplace. It is generally accepted that the transition to net-zero requires government policy and support as well as private capital. Accordingly, the interventions have prompted questioning and concerns regarding what this means for the **commitment to energy transition** and the **collaboration with private markets**. The focus of this paper is to assess this from the perspective of the investment climate and what it means for the energy transition in Ireland.

To answer this, we review the **character** of the main interventions by placing them in the recent historical context and considering the surrounding circumstances. We conclude that the commitment to move away from fossil fuels has in fact been **reinforced** and, likewise, the commitment to the energy transition to net-zero strengthened. This therefore continues to require an even deeper involvement of private markets. In Ireland, the momentum behind the transition is strong and investor confidence is positive.

Key Takeaways



Intervention Understandable – Energy prices have risen sharply and are now higher than at any time in living memory. This has led to inflationary effects and hardship for individuals, households and firms. This is taking place in the dreadful circumstances of a war on the continent. In this light, political intervention is understandable – if not inevitable.



Singular Interventions – At EU level, the interventions to relieve price pressure are characterised as 'emergency' and 'temporary' and responsive to 'exceptional circumstances', where Russia is 'weaponizing gas'. Although interventions are by their nature imperfect and bring unintended consequences, there is a clear intent that they are bounded, i.e. limited and proportional. Importantly, the effect on investors, markets and the public-private collaboration was given thoughtful consideration. Finally, a long-term review of the electricity markets has been announced so that the interventions are therefore not isolated or once-off.



Tackle Root Cause – Accelerate the Transition – The increase in the cost of, and dependence on, fossil fuels originating from Russia is the root cause of the turmoil in commodity markets. Accordingly, this has led to a renewed consensus to move away from fossil fuels (i.e. to tackle the root cause) or, put another way, to accelerate the energy transition. The commitment to the energy transition has been reinforced.



Enhanced Public-Private Partnership – The energy transition has been set up to engender a deep collaboration between a wide range of public and private bodies and, specifically for these purposes, between government and private financial markets. The transition has always been understood to be complex, lengthy and uncertain. Naturally, the transition also has attendant political risk which, as we are now observing, has materialised. Notwithstanding, the acceleration of the transition now requires an even deeper level of public-private partnership.



Security-of-Supply Imperative – Ireland has an additional concern about security-of-supply, which is an essential public good; given the gravity of the situation, intervention (Temporary Emergency Generation programme) is justified. Similarly, the authorities have repeatedly made clear that they are acting in an 'emergency' and in a 'temporary' manner, that the new facilities will not be available in the markets in the normal course and that a full review is also underway. This enables the security risk to be managed in the short term and to continue with the programme of climate action already set to progress the transition. The government has made significant progress on the policy framework, and the political and official momentum behind the transition is strong. This now needs a corresponding strong response from the private sector and investors to succeed.



Invest Now – The transition needs to attract investment of €60-100 billion by 2030. The pace and success of this will in large measure depend on the ingenuity of individual firms. This is not the time to hold back; rather, it is the time to accelerate the pace and bring projects and developments to the market. Investment is particularly required in infrastructure, renewables, storage, hydrogen and renewable gas.

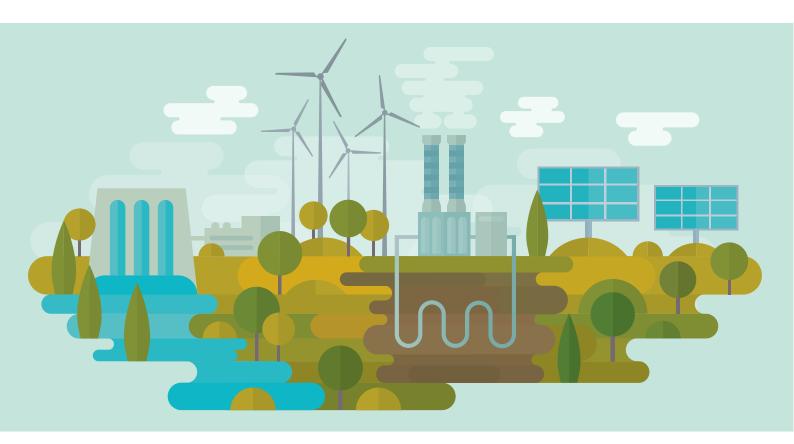
Introduction

The energy transition is intrinsically political; in essence, it is a response by politicians at all levels – local, national, EU, international – to citizens' concerns about their environment. The transition is **uncertain, complex, transformative and lengthy** and set to last until mid-Century.

The transition has been organised as a collaboration between government and the private sector and includes extensive roles for markets, private investors and state-owned enterprise (SOEs). All liberalised markets are complex state regulatory constructions and naturally must evolve. The investor concern is always whether changes might take place for purely political reasons, i.e. political risk.

On the market side, the success of the transition depends on the mobilisation of an enormous amount of capital¹, which naturally requires a favourable investment climate (i.e. a stable predictable policy framework) and the imagination and courage of entrepreneurs. Therefore, this must co-exist with political risk.

Political intervention has now taken place due to soaring prices and security-of-supply concerns – hardly a day goes by without media coverage of regulatory statements, communications or interventions. This paper takes a broad view and asks what this means for the transition itself and the associated investment climate.



¹ The International Energy Agency estimates US\$4 trillion per year to 2030; in Ireland, it is estimated that €60-100 billion is needed to 2030.

EU Level Interventions

At the outset, it is worth recalling that in addition to the reasons associated with the energy transition, there has been a long-standing collective EU desire to move away from fossil fuels, which brought geopolitical risk and balance-of-payment issues. For decades, a substantial proportion of the EU's gas requirements originated from the USSR, now Russia, and oil originated from OPEC countries.

It is also worth noting that even before current events, many commentators had criticised the market structure and mechanisms. These mechanisms are based on 'marginal cost pricing', said to be more suited to the old-style structure of thermal power plants; in contrast, modern systems have high zero marginal cost renewable proportions that have changed the intrinsic character.

This backdrop puts in context what is happening in the present day. In 2021, as the pandemic ended and economies started to grow, demand for gas (particularly Liquified Natural Gas (LNG) in the Far East) rose rapidly and so too did gas and electricity prices in Europe. The Russian-Ukrainian War began in February 2022 and the price of natural gas has since increased to between six times and ten times historical norms. The rise in gas prices led to higher electricity and oil prices, market volatility, inflation and hardship for customers and business.

800

700

600

500

400

300

200

100

0

Jan-18 May-18 Sep-18 Jan-19 May-19 Sep-19 Jan-20 May-20 Sep-20 Jan-21 May-21 Sep-21 Jan-22 May-22 Sep-22

Figure 1 - Evolution of daily average day-ahead electricity prices in select EU Member State

Source: European Network of Transmission System Operators for Electricity

Ireland Germany Spain

At first, various member states undertook individual interventions, and some voiced criticism of the functioning of the power markets – notably the link between gas and electricity prices. This level of individual member state action prompted the Commission to publish a Communication on Energy Prices (referred to as a 'toolbox') to deal with the "exceptional situation and its impacts". Furthermore, European regulator ACER undertook a technical study, namely ACER's Final Assessment of the EU Wholesale Electricity in which incremental improvements to the market were recommended.

As the conflict worsened, 'political heat' built with progressive sanction packages and the European Council made the 'Versailles Declaration' outlining a move away from Russian fossil fuels and the banning of Russian coal and oil. Mild interventions continued, such as filling gas storage (ironically adding demand and increasing prices even further) and solidarity mechanisms such as seeking to reduce winter gas demand. Further afield, the G7 put in place measures to cap the oil price, and there are currently growing calls to do likewise with the gas price.

More seriously, these soaring prices led to criticism of some firms' profits, i.e. those not using natural gas (e.g., renewables generators, nuclear etc.), with calls for windfall taxes and caps on revenues. In tandem, firms were going out of business, being nationalised, experiencing large margin calls and raising prices to an extraordinary extent. A Regulation on *Emergency Intervention to Address High Energy Prices* has recently been approved addressing revenue caps and demand reduction and seeking a solidarity contribution from oil and gas companies.

Throughout this period, the apolitical Commission was active and fully involved and also brought forward two significant initiatives:

- In May 2022, <u>REPowerEU</u> outlined a plan to reduce dependence on Russian fossil fuels by "fast forwarding the clean transition". (See page 7 for further detail).
- In the State-of-the-Union speech in September 2022, the Commission called for a "deep and comprehensive reform of the electricity market to decouple the dominant influence of gas".



The Strengthened Commitment to the Transition – The Green Deal and REPowerEU



The EU and its member states have an enviable record on leading the transition and tackling the challenges of climate change and biodiversity loss. This commitment has been long lasting and enduring, stretching back over 30 years.

This commitment takes multiple forms, including political support and, importantly, an extensive policy and legislative framework. A notable early example was the *Europe 2020 Strategy* set out in 2008; this was the first framework to set various targets for emissions reductions, renewable energy and carbon pricing to mention a few.

The target setting for 2030 and beyond took place in the context of intensifying international negotiations, including events such as the Paris Agreement (2015) and the Glasgow Climate Pact (2021). This was all well marked out by EU policy and legislation, notably the Clean Energy Package (proposed 2016) and, following a change in the College of Commissioners, the European Green Deal; and Fit-for-55 package – primarily addressing net-zero targets by 2050 and 2030 respectively. The European Green Deal is a striking compendium of policy in terms of its scale, scope and coverage and is far too extensive to cover here.

During the pandemic, a narrative of 'build back better' also emerged, which meant, among other things, not reverting to fossil fuels and accelerating the green transition.

The latest flagship package, *REPowerEU*, is responsive to issues arising from the conflict in Ukraine and has strengthened the impetus for the transition. There are short-term and medium-term actions to increase the renewable targets, promoting energy savings and accelerating hydrogen, solar, biomethane and storage.

Short Term

- Common purchases of gas
- New energy partnerships
- Rapid roll-out of solar and wind energy projects combined with renewable hydrogen deployment
- Increased production of biomethane
- Approval of hydrogen projects
- An EU Save Energy Communication
- Filling gas storage coordination demand reduction plans

Medium Term

- New national REPowerEU Plans supporting investment of €300 billion
- Boosting industrial decarbonisation
- Faster permitting of renewables
- Investments in an integrated and adapted gas and electricity infrastructure network
- Increased energy savings by 2030
- Increased renewables
- New proposals on access to critical raw materials
- Measures on energy efficiency in transport
- Hydrogen accelerator
- A modern regulatory framework for hydrogen

Discussion

Political intervention is taking place in the market and some of the rhetoric is troublesome. The interventions are addressing an outcome (i.e. electricity prices), whereas the cause is the cost and availability of natural gas. This would be a non-issue if (or when) the transition away from fossil fuels was complete. **Therefore, there is widespread agreement that the deployment of domestic renewables, i.e. the transition, is in fact the solution and should be accelerated.**

This has also reinforced the commitment to the transition to net-zero. This is well expressed in the G7 leaders' communiqué:

"while taking immediate action to secure energy supply and stop the increases in energy prices driven by extraordinary market conditions, we will not compromise our climate and biodiversity goals including the energy transition nor on our commitments to phase out our dependency on Russian energy, including by phasing out or banning the import of Russian coal and oil".

There has undoubtedly been disappointment in certain quarters with the imposition of a revenue cap and attendant issues. There is much to play for in the implementation, which will have both systemic effects and effects on individual firms. On the other hand, it is important to note that the Commission states:

"the level of the cap is designed to preserve the profitability of the operators and avoid hindering the investment in renewable energy".

Importantly, a comprehensive review of the markets has been announced by the Commission. The terms-of-reference for this review are awaited² and we will cover these in further editions. The circumstances (i.e. war) and extraordinary prices are good justification and explain well what we are experiencing.

The commitment to the transition has been deepened. This is particularly evident in the *REPowerEU* communication. Before the current events, the EU was a leader in the transition and the *European Green Deal* a remarkable package of legislation and policy to make the EU legally commit to net-zero. The scale, scope and coverage of policy are impressive (*Fit-for-55* alone has 13 legislative instruments). *REPowerEU* has increased this ambition even further, including raising targets for renewable energy and energy savings, and states:

"REPowerEU is about rapidly reducing our dependence on Russian fossil fuels by fast forwarding the clean transition and joining forces to achieve a more resilient energy system and a true Energy Union".

Overall, the interventions are understandable and are being carried out in a thoughtful and considered way. It is now up to each member state to implement these measures.

Irish Level Interventions

In addition to negotiating EU policy, transposing and implementing legislation and being guided in its interventions in the markets as discussed previously, Ireland has a further security-of-supply issue that is bringing about local intervention.

Ireland's energy planners have traditionally been concerned with a sector characterised by small scale, high import dependence and peripherality – resulting in long supply chains. This is now utterly transforming as the production technologies are small scale (e.g. individual solar or wind farms or storage installations) and the resource (offshore wind or solar) is indigenous. This will bring about domestic production and energy independence (and perhaps exports) and address the balance-of-payments (estimated at €1 million per hour).

Moreover, in the last number of years, the political saliency of climate change has increased significantly. For example, we now have:

- A statutory target to meet net-zero by 2050 and two editions of a progressive and startlingly ambitious *Climate Action Plan*;
- a revamped and consolidated Department of the Environment, Climate and Communications, sharing a Minister with the Department of Transport, and a Climate Change Advisory Council;
- an energy agency (Sustainable Energy Authority of Ireland (SEAI)) and an independent specialised sector regulator (the Commission for the Regulation of Utilities (CRU));
- a well-managed carbon tax regime that is developing a consistent progressive record in the annual budgetary cycles.

Preceding this we had a successful *Climate Change Citizens'* Assembly and now an *Oireachtas Committee* of the same name. These are just a few examples of the many ways that climate change is being embedded in the business of government and is core in *Project Ireland 2040* and the *National Development Plan*.

The turmoil in the energy markets discussed above has of course affected Ireland given the gas markets are interconnected, but our sources of gas have not changed³. The governmet has made several interventions – notably VAT reduction on gas and electricity, excise tax cuts on petrol and diesel and electricity rebates. The average annual household electricity bill has been estimated for Budget 2023 at €4,000 (up from €1,900) and a €600 household contribution has been announced. This contrasts with the UK government's proposal to cap electricity rates or the massive €200 billion German intervention (including new LNG) with its possible effect on the internal market.

³ Irish gas comes mainly from Great Britain through interconnecting pipelines to Scotland (domestic production at Kinsale has ceased and Corrib continues). The UK sources its gas in the North Sea from Norway, and LNG will have some Russian dependence given that the markets are interconnected

Energy Security and Security of Electricity Supplies

For various reasons, the replacement or renewal of fossil fuel power plants and the deployment of renewables have been uneven, and a security-of-supply issue has now arisen. The purpose of this paper is not to ask how this has occurred but rather to examine the political and policy response.

In mid-2021 an unacceptable electricity security-of-supply risk for winter 2021/2022 was identified and a legal basis for intervention established. This took the form of procurement by EirGrid of 'temporary' emergency generation. Ultimately, no additional plant was procured for that winter. A 200MW gap was identified at that time.

Following this, the CRU published a Security of Supply Information Note that subsequently received government approval. The government also published a Policy Statement on Security of Electricity Supply and agreed to an additional 450MW tranche of 'temporary' emergency generation. The programme of procurement is repeatedly described as 'temporary' and 'emergency', with the facilities not available to the market in normal conditions.

There are currently programmes of procurement underway by EirGrid, but it appears unlikely to deliver additional capacity for this winter 2022/23. The latest *Generation Capacity Statement* sets out the situation for Ireland, Northern Ireland and the all-island system under a variety of scenarios. An interesting and informative *Winter Outlook Report* has also been published by the *UK National Grid*, showing that there is a risk of security of electricity supplies in Great Britain under certain scenarios. This is relevant as Ireland is highly dependent on the UK for gas supplies. In addition, proposals were advanced by the CRU on data centre connections and network tariffs.

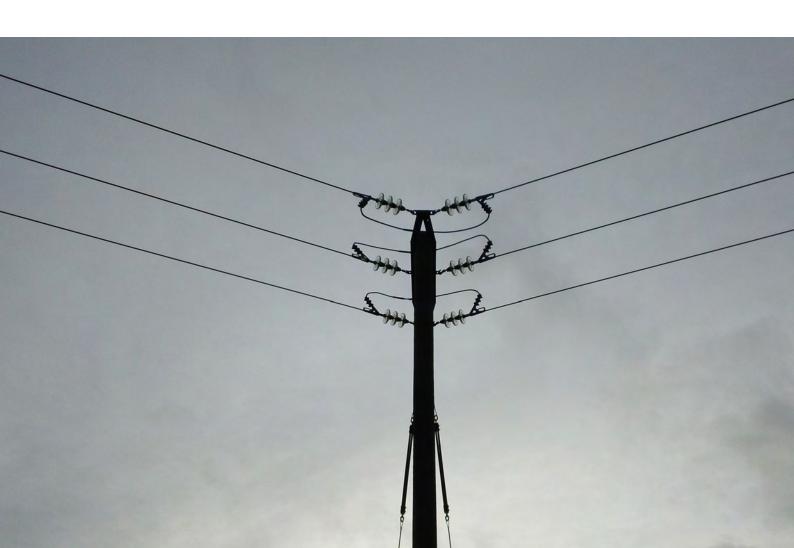
The Government has also launched a consultation on the wider issue of security-of-supply that includes a technical paper prepared by consultants. Of importance in this consultation is that options that included enduring fossil fuel infrastructure have been eliminated.

Discussion

Energy security and electricity security are public goods and when at risk to this extent, a political intervention is inevitable. The intervention in the electricity system has been transparent and repeatedly described as 'temporary' and 'emergency'; the resulting facilities will 'not be available to the market' and procurement is by open competition. Moreover, the official planning permits have been time limited.

In relation to the wider security of supply review, the gas import dependence is indeed troublesome and perhaps more so now in light of what has happened to the Nord Stream pipelines. In the review, it is notable that enduring fossil fuel infrastructure (e.g. a permanent LNG facility) has been screened out.

All this clearly indicates a strong commitment to the energy transition (a means of moving away from fossil fuels) and an escape from the current problems as well as the traditional one of import dependence. In conclusion, all this points to an exceptional bounded intervention and continued high support for the energy transition and the role of markets.



Impact on the Transition in Ireland

Overall, the political commitment to the transition has been strengthened – this will need a continuing strong partnership between the government and the private sector. The net effect of the interventions could be to (a) **cushion customers** from the extraordinary prices and (b) **maintain security-of-supplies.** This will promote and retain continuing customer (who are also voters) support for the transition.

With this outcome in mind, it is worth recalling the shape of the transition to 2050 as we know it, with the greater detail available to 2030 in the *National Energy and Climate Plan*. The transition is **uncertain** and could evolve in many different ways, but we know it is set to end by 2050 when emissions are net-zero.

The transition comprises the following elements:

- Energy efficiency and conservation measures will be made possible by public communication and education campaigns, behavioural change, upgrades to the performance of buildings and houses all supported by private and public money. To this end, the SEAI has education and grant programmes in place.
- Growth (perhaps a **doubling**) of the electricity sector, including electrification of heat and transport and greening it earlier than 2050 by way of integration of renewables (**wind, solar** and **geothermal**), enabled by storage technologies including **hydrogen**. To this end, the ESB announced that it will be net-zero by 2040, and *EirGrid* has provided a roadmap for renewable integration to 2030.
- Building, refurbishing and making the grids **decentralised**, **smarter and digitised**. This includes well-developed DS3 commerce and, with the *National Network*, *Local Connections Programme*, engaging and harnessing **community support** and **citizen engagement** to participate in the transition as 'prosumers' with ever smarter homes, microgeneration, devices and apps.
- Businesses and firms are increasingly embracing the transition for good sense commercial reasons but are being impelled by the 'social licence', adopting Environmental and Social Governance practices, and embedding these in their governance, reporting and disclosure.
- All this is conjoined and integrated with a transformed gas grid, including a transition to hydrogen, renewable gas and sustainable production of biomass, biofuels and bioliquids.

Importantly, the interventions on security-of-supply will allow time to carry out the immediate and important next steps on the intermediate journey to 2030, including:

- carrying out the actions in the Climate Action Plan and the CRU programme on security-of-supply;
- modernising and making fit-for-purpose the planning and permitting regime, a review and work that is already underway by the *Department of Housing, Local Government* and Heritage and promised to conclude by year-end;
- establishing a division of the High Court to deal with planning and environmental issues and likewise a dedicated resourced environmental unit in An Bord Pleanála;
- setting up a Marine Area Regulatory Authority pursuant to the revamped marine spatial planning with the National Marine Planning Framework and the Maritime Planning Act (2021);
- concluding other work, including the production of a Hydrogen Strategy; and
- reviewing issues related to appeals (Judicial Reviews) of planning decisions.

In conclusion, notwithstanding recent political interventions, government commitment is strengthened, and its actions represent a significant contribution. The momentum is strong but also requires continuing effort on the private sector side. Practically, the transition will involve between €60 and €100 billion of investment by 2030.



Appendices

Appendix A: The Geopolitics and the Pipes

Historically, the EU has been a major importer of gas, oil and coal from Russia – a relationship that became fraught in the upheaval following the end of the USSR and is laden with geopolitical risk.

The most important gas pipelines in Europe



Source: European Network of Transmission System Operators for Gas

To address this risk and given the declining domestic production of gas, notably in the Dutch Groningen field and the UK Continental Shelf, the EU strategy was to diversify supplies and supply routes. This took the form of (a) increasing LNG capacity; (b) sourcing more pipeline gas from North Africa (mainly Algeria) and Norway; and (c) creating a 'Southern Gas Corridor' and a 'Northern Gas Corridor' (Nord Stream 1 and 2). There were other notable policy and regulatory responses to increase the resilience and flexibility of the vast network of pipelines.

The 'Southern Gas Corridor' was a project to transport gas from the Caspian Sea (Azerbaijan, Armenia, Georgia) and/or Iran and/or Iraq via Turkey and other countries in Southeast Europe to as far north as Austria. A leading project conceived in 2002 was named Nabucco, and it faced intense competition from alternative pipeline proposals by Russia. This all played out over a decade or more. As an aside, this whole region brought its own geopolitical issues; for example, Iran is under sanction; Iraq/Syria has been in armed conflict; Turkey had an attempted coup; Georgia was invaded by Russia and Armenia; and Azerbaijan was in renewed armed conflict.

Eventually, Nabucco did not proceed, and Caspian gas is now being delivered to Europe by a series of individual connected pipes to Italy (i.e. a single route and not a 'corridor'). Russia also succeeded in building a pipe known as TurkStream to Turkey, thereby offering limited supplies to Southeast Europe.

Within Europe, a new Polish-Norwegian pipe, known as the Baltic Pipe, has been placed in service and discussions continue on the Midi-Catalonia Pipe, which could export gas from the LNG-endowed Iberian Peninsula to France and Germany.

Appendix B: The European Gas and Electricity Market – The Internal Energy Market

The European single market opened in 1993 but at that time did not include either the electricity or gas sectors. There were valid technical obstacles, particularly the nascent concept of commoditised electricity trading that was not well developed or understood at that time. For the purpose of this discussion, it is pertinent to note that these sectors were regarded as politically significant insofar as price rises at electric or gas meters or petrol pumps were instantly transmitted to doorsteps. **Accordingly, this sector was initially retained in national competence.**

Nevertheless, the development of the internal energy market began to take place with the *Transit Directive (1990)* followed by a series of market-related individual directives in 1996 and 2001 and then a 'package' in 2009 on common carriage, market opening and institution creation. A remarkable series of subordinate legislation setting out the technical rules, known as **Network Codes/Guidelines**, was enacted and new European institutions became operational. This process was lengthy, and all this corpus of legislation was contested before final settlements.

Over the course of time, the individual markets in the member states became integrated and included the newly acceded countries and those of the adjacent/overlapping *European Economic Area*, the *European Free Trade Area* and the *Southeast Energy Community*.

Today, we have a remarkable series of interconnected and organised cascading markets – including capacity markets, forwards, futures, day-ahead, intraday and balancing. These markets are ever evolving to become more closely integrated and expanded. **They are the primary vehicle for sending efficient signals for investment and operation of the system.**

Throughout this period the proportion of renewables increased, and many valid questions have been asked as to whether the system, rules and procedures need to be updated. **However, from an investor perspective, it is inevitable that these liberalised markets will endure.**

Warning: Forecasts are not a reliable indicator of future performance.

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Davy Decarbonization Corporate Finance

Davy recognises the importance of decarbonization in the fight to protect our environment. We also know that it will take a lot of innovation and investment to achieve the ambitious targets set by Governments across Europe and the world. That is why we have set up our Decarbonization Team to help existing and new businesses develop and fund decarbonization strategies and solutions.

Our expertise includes:

- Fundraising for public and private companies across the capital structure
- Mergers and acquisitions
- Strategic advice
- Sector expertise

The team's focus is on the decarbonization of five core sectors:

- Power Generation and associated supply chains
- Commercial & Industrial processes
- Transport
- Built Environment
- Agriculture

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