



Paper 7/1 – finance and investment background

For information

1. Purpose

1.1 This paper provides Commissioners with background information on the role of finance and investment in delivering action on climate change along with some key relevant Scottish Government initiatives.

2. Background

1.2 The paper briefly outlines some key concepts in relation to green finance in addition to action being taken by Scottish Government in private finance, public finance, infrastructure investment and planning that will support the transition to a net-zero economy.



1. Introduction

1.1 Transitioning the Scottish economy to net-zero emissions will require significant investment across the economy. Scotland's ambitious commitment to achieve net zero emissions by 2045 presents considerable opportunities for mobilising investment in the transition and in driving innovation and building economic competitiveness. Attracting investment in the transition now and in future is key to Scotland's ability to meet its ambitious targets.

1.2 **The public sector acting alone cannot deploy the required financial firepower to transition the economy in a just fashion.** The International Energy Agency estimated that public and private investment totalling more than \$13.5 trillion would be required in the energy sector alone by 2030 to meet Paris agreement targets. In 2019, the Committee on Climate Change estimated the annual cost of the transition to be 1-2% of GDP a year up to 2050 for the UK as a whole.

1.3 **As well as the investment needed in 'green' projects for the transition, it is also crucial that the financial system shifts is prepared for the net-zero economy by accounting for climate-related risk as part of its day-to-day business.** Private finance is critical for funding the transition to net zero, but it could also undermine the transition by channelling funds to carbon intensive sectors. A failure to fully account for risks associated with climate change leaves the financial system open to climate-related shocks, which could undermine financial stability and economic security – what Mark Carney, former Governor of the Bank of England, refers to as 'transition risks'.

Generating Investment

1.4 **In general, we assume that private sector investors will assess projects primarily on their expected return on investment.** This metric will account for the potential financial payoffs of a project, weighted by the likelihood of it succeeding (i.e. it accounts for risk).

1.5 Investments are made by financial institutions purchasing assets. Most commonly, these fit into two classes:

- 1) Equity – the investor purchases a share of the company and has a claim over future profits and dividends. If the company succeeds then there is no limit to the investor's upside, but if it fails then the investment could end up worth nothing. Firms can choose to reinvest profits from previous projects in new ones – which function in the same manner as equity investments as their shareholders will have a proportional claim on the new project's profits.
- 2) Debt (or fixed income) – the investor purchases a bond or other debt instrument that entitles them to fixed repayment at a later date. Sometimes this will include smaller payments before the repayment date (coupon payments). Generally debt is sold for a lower price than the borrower agrees to repay to the lender, and the difference between these values determines the rate of interest. Fixed income lenders should receive the same repayment no matter how successful the company is, and should the company fail they will be repaid out of whatever assets remain ahead of equity investors.

1.6 **In theory, investors choose a portfolio of assets that maximise their overall expected return on investment (ROI).** This may not mean investing solely in high-expected return assets, as investors will want to diversify their portfolios to insure against being over exposed to particular kinds of risk. Regulators may also require them to hold specific types of assets that are less risky and/or easy to sell quickly.

Greening Investment

1.7 **Historically, green projects have faced challenges in justifying private investment purely on their own merits.** Green investments have been used to hedge investors' climate change risk (e.g. owning stock in fossil fuel extractors can be partially hedged by also owning stock in renewable energy generators) but in general the expected ROI has been lower than in 'standard' investments. This could be for a number of reasons, including the new (and therefore risky) nature of the technology, scalability, ability to monitor the climate impact of an investment, uncertainty over future policy regimes and regulations, and uncertainty

over revenue value. These risks mean that investors will demand a higher rate of return in order to finance projects or companies, in effect raising the cost of financing these projects and meaning slower deployment and market growth.

1.8 However, as markets have matured in recent decades, these risks (and the associated premium demanded) have decreased. For example, improvements in the reliability and output of solar and wind energy generation has reduced the perceived risk and reduced financing costs for these projects.

1.9 There has also been a significant growth in ‘Environmental, Social and Governance’ or ESG investing. The Global Sustainable Investment Alliance estimated that sustainable investments reached \$30.7 trillion in 2018 - with nearly half of this in Europe – up from \$22.8 trillion in 2016. Pressure from activists and the public for high-profile funds and institutions to divest from carbon-intensive companies has opened up capital for alternative investments, while greater awareness of climate risk and the increased ambition of institutions’ pledges to achieve net-zero emissions has meant a re-evaluation of the returns on offer from green investments.

1.10 There is a growing range of consumer finance products to support the transition to net zero. For instance, some lenders provide ‘green mortgages,’ which offer reduced interest rates for home buyers looking to purchase energy efficient homes, or for home owners making efficiency improvements. The lender will usually issue a ‘green bond’ to finance these products, with sustainability-focused investors their key market.

1.11 There is still a significant role for the public sector to play. Public investors in general require much lower financial returns so long as policy criteria are met, and so can invest in projects that are riskier or harder to monetise than private sector counterparts, provided there is a suitable policy objective. Governments can also make market interventions to make green activities more attractive, such as subsidies for switching to renewable energy, installing insulation in buildings, or encouraging electric vehicle use. The public sector is also an important coordinator, matching projects with suitable investors and reducing search costs for both.

1.12 A key mechanism to finance green investments is ‘blended finance’ – where public and private investors pool capital to invest in a project or company. These mechanisms are generally most appropriate where the project serves some public policy objective, and the expected return on investment is positive, but not high enough for the private sector to finance it alone. Public investors often take more junior equity or subordinated debt to absorb default risk for the private partner, or provide guarantees of payment for delivered outcomes. While central governments do use blended finance to fund projects, it is also commonly used by local authorities and arm’s length institutions such as national investment banks, who will often have more commercial expertise in assessing projects.

1.13 The Scottish Government faces limitations in using some of these tools. For instance, under the current fiscal framework strict limits are imposed on capital and resource borrowing, and choices over direct debt and equity financing of companies and projects are constrained by state aid regulations.

Greening the Financial System

1.14 There are significant financial risks associated with climate change. Damage to property and livelihoods from extreme weather events, flooding, and other impacts of climate change will have significant implications for people’s economic security. If not properly accounted for, they will also have significant impacts on the financial institutions including insurance providers, pension funds, and asset owners.

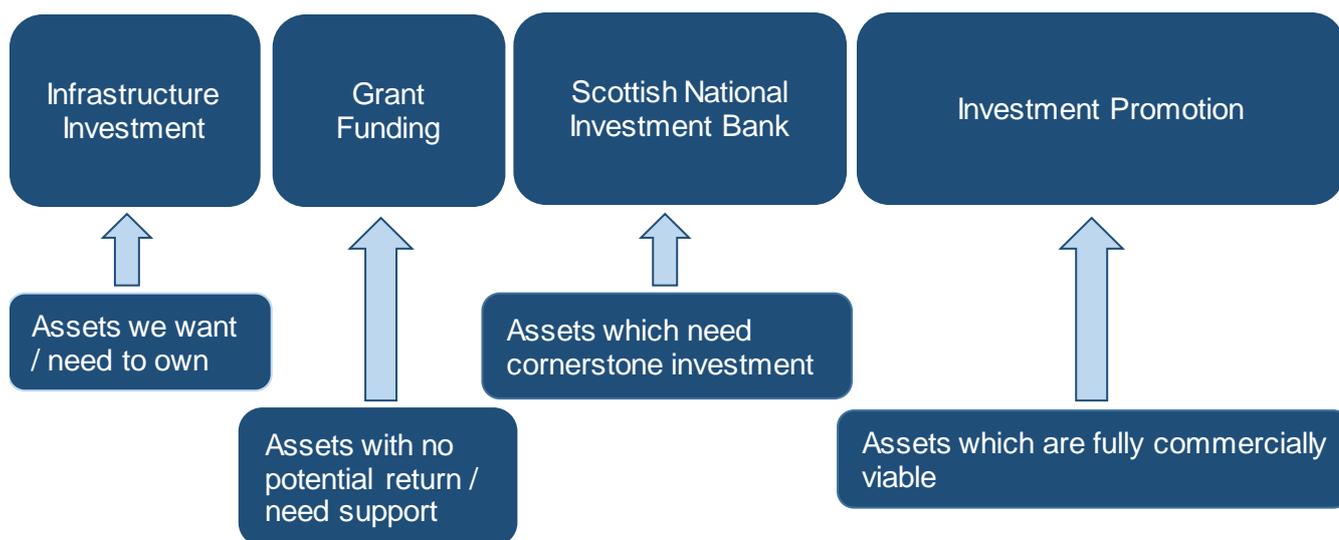
1.15 The process of transitioning to a lower carbon economy also entails financial risks. Extensive policy, legal, market and technological changes are likely to require significant changes to business models, creating financial and reputational risks that some organisations will struggle to deal with. These changes may also create ‘stranded assets’ - for example proven oil reserves that can no longer be exploited, but which had been booked as an asset – which will have to be devalued or written down.

1.16 **There is a major global push for further greening the financial system.** Launching the COP 26 Green Investment Theme in February, Mark Carney argued that "every financial decision should take climate change into account." The overall objectives centre on embedding climate into the financial service sector's risk management, reporting, and returns.

1.17 The principal responsibility for financial related disclosures and risk management sit with the UK-wide regulators. These include the PRA, the FCA, the Financial Reporting Council and the Pensions Regulator.

1.18 The Scottish Government has a number of programmes underway aiming to mobilise and direct the necessary public and private finance required to deliver a just transition to net-zero emissions. The Programme for Government 2019-20 set out the ambition for a Green New Deal for Scotland which would include a more strategic approach to mobilising investment into a just transition to net-zero as part of strategic transition planning that captures the opportunities of the transition and mitigates the risks. A summary of some of the main programmes so far is included below.

Figure 1 – Overview of finance interventions



2. Private finance

Green Investment Portfolio

2.1 The 2019 Programme for Government included a commitment to "Identify and bring to market a Green Investment Portfolio of £3 billion of investable projects over the next three years". This will include projects involving renewables, waste, circular economy and property, and will actively look to expand the investment market into other sectors that have strong green credentials.

2.2 There are currently a limited pool of capital investors active in Scotland. The Green Investment Portfolio aims to address this issue of by raising the profile of Scottish projects on the international stage, creating a higher levels of investment. Potential projects for the Portfolio are assessed on their 'green credentials' and contribution to the transition to net-zero as well as their project definition, revenue and return and clarity around elements like land ownership and planning.

2.3 In developing this Portfolio the Scottish Government are responding to the latest advances in green finance. The EU has recently developed and published a 'taxonomy' of what will be considered green



investment,¹ while central banks are pushing for investment houses to report the proportion of their investments held in green and brown investment. The Green Investment Portfolio will align with these emerging principles, and will also strive for consistency between measures of success for this portfolio with the National Performance Framework.

2.4 The Green Investment Portfolio is being developed with partners including Scottish Enterprise, Scottish National Investment Bank, Scottish Futures Trust, Highlands and Islands Enterprise and UK Government Department for International Trade and Investment. Scottish Development International is leading on operationalising the portfolio. The first phase of the portfolio was due to be brought to market in Q1 2020 but has been postponed following the corona virus.

Offsetting/Carbon Market Mechanisms

2.5 There is growing interest in Scotland around 'carbon offsetting' as a market based mechanism to mobilise private finance towards natural assets and reduce carbon emissions. For clarity, carbon offsetting is defined as action to compensate for greenhouse gas emissions released by making an equivalent greenhouse gas emissions saving – e.g. by creating natural carbon sinks by planting trees or restoring peatland)..

2.6 Offsetting and the use of established carbon market mechanisms (such as the Woodland Carbon Code and Peatland Code in the UK) are one way of mobilising private finance towards much needed investment in natural assets such as forestry and peatland restoration. There is clear evidence within the business community, of a tangible commercial interest in using domestic and international offsets to accelerate transition to net-zero through robust, government-backed or endorsed schemes, and demonstrate a commitment to reducing environmental impact.

2.7 However, to ensure that offsetting is done in addition to emissions *reductions*, the following set of principles have been established to guide the use of offsetting for projects under SG or agencies' control (e.g. on public land or funded by public grants):

- The SG and its agencies should seek to increase the availability of verified offset available to purchase in Scotland by responsible purchasers in order to deliver additional forestry and peatland restoration, that accelerates Scotland progress towards the net zero targets.
- Any offset projects on publicly owned land, available for sale in Scotland will continue to be verified to the highest available standard: currently the Woodland Carbon Code and Peatland Code, or any future standard of equivalent or higher environmental credibility.
- Offsetting is not a replacement for emissions reductions, and should always be purchased **in addition to** action to *reduce* emissions as close to zero as possible at the time of purchase and as part of targets and transition plans aligned with the Paris Agreement.
- By 2045, offset will only be supported for industries that have reached the absolute limit of their feasible emissions reduction, and have to offset any residual emissions to achieve net zero.
- In the interim, availability of offsetting agreements should be prioritised towards companies or organisations where there is clear evidence that they are already taking extensive and far-reaching action to reduce emissions, but wish to go beyond what is currently expected of them.

2.8 The Scottish Government and its agencies are continuing to develop best practice approaches to deliver these principles including how to assess business emission reduction plans robustly and prioritisation of which companies or organisations we will negotiate offsetting agreements with, in line with developing science.

3. Public finance

Scottish National Investment Bank

¹ https://ec.europa.eu/info/publications/sustainable-finance-teg-taxonomy_en



3.1 Scottish Government has committed £2 billion over 10 years to capitalise the Scottish National Investment Bank. This will make a material difference to the supply of capital to the Scottish economy; through the provision of patient and growth capital for businesses, the Bank has the potential to transform and grow Scotland's economy, becoming a cornerstone institution in Scotland's financial landscape.

3.2 Financial returns from investment in riskier innovative activities are not always assured and it usually takes time before they can materialise. Thus, achieving smart, innovation-led growth requires not just any type of finance, but long-term patient strategic finance.

3.3 Early stage public investment helps to create and shape new markets, nurturing new landscapes which the private sector can develop further. In countries that have achieved smart, innovation-led growth, the state has often supplied the patient strategic finance that the private sector was unwilling to provide.² Co-investment will also be an important component of the Bank's approach, and 'crowding-in' private finance will help increase the overall impact of investments.

3.4 The Bank will take a mission oriented approach to developing its investment strategy. The Scottish Government will identify missions to direct the Bank's activities which will focus on addressing significant challenges facing Scotland. The legislation establishing the Bank requires Ministers to consult Parliament when setting or changing missions.³ The Bank's principal mission will be to support Scotland's just transition to net-zero carbon emissions by 2045.

3.5 Willie Watt, former CEO of Martin Currie, has been appointed as the first Chair of the Bank, and Eilidh Mactaggart appointed as the Bank's CEO. Appointments to the rest of the Board and of senior Directors will be made in mid-2020.

3.6 While the current health and economic emergency will have an impact on the establishment of the Bank, a functioning Bank will have a critical part to play in supporting economic recovery as soon as the immediate emergency is over. Efforts are therefore being made to do everything possible to maintain momentum of the Bank's programme and build an institution with the right values, vision, and purpose to be up and running in the second half of 2020.

4. Public funding

4.1 The Scottish Budget in 2020-21 responds to the global climate emergency and accelerates Scotland's transition to a net-zero economy - announcing low carbon capital investment of around £1.8 billion in 2020-21, an additional £500 million compared with 2019-20. Looking beyond 2020-21, the Budget confirmed a forward commitment to make available a new additional £2 billion of capital investment over the next parliamentary term for measures to support the delivery of the Climate Change Plan.

Infrastructure Investment

4.2 The Scottish Government publishes regular Infrastructure Investment Plans to set strategic vision for public investment in infrastructure. The most recent Plan was published in 2015. These Plans are monitored annually.⁴

4.3 In 2018, the Scottish Government announced a new National Infrastructure Mission to increase annual investment in infrastructure by 1% of 2017 Scottish GDP by 2025-26. The economic rationale for the National Infrastructure Mission was supported by a paper produced by Scottish Government analysts⁵,

² <https://www.ucl.ac.uk/bartlett/public-purpose/publications/2019/mar/mission-oriented-framework-scottish-national-investment-bank>

³ A consultation on missions for the Bank is planned to take place in the coming months.

⁴ <https://www.gov.scot/policies/government-finance/infrastructure-investment/>

⁵ <https://www.gov.scot/publications/exploring-economic-rationale-infrastructure-investment/>



which sets out the important role that infrastructure investment plays in improving the productive capacity of the economy and delivering long run economic benefits. This analysis draws heavily on OECD research.

4.4 To support delivery of the National Infrastructure Mission, in 2019 the Scottish Government established the independent Infrastructure Commission for Scotland to provide advice on the vision, ambition and priorities for infrastructure in Scotland. The Infrastructure Commission produced its first report – A Blueprint for Scotland – on 20th January 2020, which calls on the Scottish Government to tackle the dual challenges of a climate emergency and creating an inclusive growth economy. The Commission is preparing a second report this year on the delivery of infrastructure.

4.5 Future Infrastructure Investment Plans will be accompanied by an assessment of how they are expected to contribute to meeting emissions reduction targets - a requirement set by the Climate Change (Emissions Reduction) Act 2019. The Scottish Government has commissioned new research (via ClimateXChange) to explore alternative methodologies to feed into the carbon assessment of the next Infrastructure Investment Plan.

4.6 The next IIP will take a coherent, strategic collaborative and outcomes-focused approach that responds to the recommendations of the Infrastructure Commission. Given developments in relation to Coronavirus outbreak, the timing of the publication of the next IIP under review. Infrastructure projects already underway will be subject to significant adjustment in the light of COVID-19, although it is too early to be certain what the full impact will be.

Green Growth Accelerator

4.7 Green Growth Accelerator (GGA) was announced at Programme for Government 2019 to unlock additional resource for emissions-reducing investment, and therein transform Scotland's cities and regions and support Scotland's transition to an inclusive net-zero emissions economy

4.8 GGA builds on the existing Growth Accelerator model, a revenue finance model wherein a local authority commits to deliver defined, measurable outcomes that are enabled or underpinned by investment in infrastructure.⁶ Where these outcomes are met the Scottish Government will make regular revenue payments for a set period (typically 25 years) reflecting the value of the outcomes achieved. The local authority has discretion over how it funds the infrastructure investment (e.g. through capital grant, borrowing or receipts).

4.9 The GGA model recognises the important role local authorities must play in responding to the climate emergency and that we need them to deploy key levers at their disposal, including: control of significant capital budgets and other resources; ownership of local land and assets; ownership of local planning and regulatory frameworks; and the power to convene and provide local leadership. The GGA model is designed to incentivise local authorities to use these levers in concert with other public sector partners to drive transformative change.

4.10 At Scottish Budget 2020-21, the Scottish Government committed to a multi-year delivery of £200m investment in low carbon and emissions reducing infrastructure to be unlocked through the GGA model. The Scottish Government is working with COSLA to identify the strategic investments to be delivered through GGA.

5. Planning framework

National Planning Framework 4

5.1 There is hardly a place or building in Scotland which won't need some form of intervention to facilitate Scotland's achievement of net-zero emissions. Each place in Scotland will need its own solution to all of the challenges faced to achieve net-zero emissions.

⁶ <https://www.scottishfuturestrust.org.uk/page/growth-accelerator>



5.2 We know there are correlations between communities experiencing deprivation and their heightened vulnerability to the impacts of climate change. The planning system and National Planning Framework 4 offer the opportunity to consider how investment in place can improve places and take Scotland to a net-zero future in the public interest.

5.3 National Planning Framework 4⁷ will be a spatial plan for Scotland's long-term development. It will incorporate a spatial analysis of opportunities for change – i.e. where change could and should happen, as well as a supporting framework of policies which can be used day to day by planning authorities locally in decision making on planning applications submitted to them. Planning authorities will be able to use the approach to identify the types of development and change they want to see happen in their areas in more detail in their own Local Development Plans.

5.4 Whilst it is too early to say what the detailed content of National Planning Framework 4 will be, the early engagement between January and March this year has focused on five key questions, responses to which will help form the evidence base for the policy:

- 1) What development do we need to address climate change?
- 2) How can planning best support our quality of life, health and wellbeing in the future?
- 3) What does planning need to do to enable development & investment in our economy to benefit everyone?
- 4) How can planning improve, protect and strengthen the special character of our places?
- 5) What infrastructure do we need to plan and build to realise our long term aspirations?

Place-making

5.5 The Place Standard tool is a practical step in instigating place-based working which can be used by Planning for community engagement and to instigate collaborative discussion. The tool translates complex health and place-making relationships into a simple set of 14 questions about place. It allows participants to identify strengths and weaknesses and begin to develop and prioritise actions that will improve places and the lives of the people that use them

5.6 A new version of the Place Standard tool will be launched later in 2020 informed by extensive engagement with stakeholders and communities including those with a particular interest in climate change adaptation and mitigation. By integrating enhanced prompts relating to place-based climate change adaptation, mitigation and sustainability within the relevant tool themes, the contribution of the Place Standard tool to addressing climate change will be further strengthened.

⁷ National Planning Framework 4 will be the next iteration of national spatial planning in Scotland, with National Planning Framework 3 currently in force. National Planning Framework 3 and Scottish Planning Policy in its current form are available from www.gov.scot.