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Infrastructure
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Authority

Infrastructure Business Case: International Guidance

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and Projects
Authority



HM Treasury

This second edition replaces the original July 2020 edition and includes best practice materials on decarbonisation, climate change, and green finance.

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There are Annexes to this Guidance in separate companion documents which contain:

- A tailored Case Study (standalone document)
- Templates for:
 - A – Scoping and Assurance and Approval Document
 - B – Early Business Case (EBC Template)
 - C – Intermediate Business Case (IBC Template)
 - D – Full Business Case (FBC Template)
 - E – Single Stage Business Case – Low Value
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 - Appendix I: Workshop – Strategic Needs
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- Training materials (background and links)

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01

Introduction

1.1 Purpose of this Guidance

This Guidance offers a proven methodology and framework for thinking about the development, approval, procurement, and delivery of infrastructure project proposals.

It will give confidence to those tasked to produce business cases, as well as to those who approve them, and those who want to invest in them, that projects are well researched, evidenced-based, and are good investment opportunities. It will provide a safeguard to ministers and officials that a project is properly considered from all angles and will reduce the risk of unexpected problems delaying and disrupting the progress of the project as it is prepared for the market.

It is suitable for all types of infrastructure projects, whether economic (such as transport or telecommunications), environmental (such as power or waste management), or social (such as education, health or housing); and can be applied proportionately to smaller sub-national projects as well as to bigger national projects.

It can be used by any country around the world irrespective of its legal or governmental system (civil or common law). This is because the questions that a properly developed project proposal asks are the same the world over – though the solutions it drives out may be different. It is hoped that countries embarking on the development of infrastructure will find this to be a valuable tool, and may wish to adopt the model, or adapt their own versions of this Guidance, as a matter of public policy.

1.2 The role of infrastructure

Infrastructure is essential to the prosperity and wellbeing of a country and its citizens. Transport links enable travel and movement of goods, energy systems power homes and businesses, and digital connections allow communications. Infrastructure supplies clean water, manages waste, and provides shelter. Yet, in many places, there is a gap between the quality or condition of existing infrastructure and the standard needed to enable people to lead secure lives, with poor and marginalised communities particularly affected. Governments need robust information, advice, and direction to invest wisely on behalf of their people and countries. Financiers want to invest in infrastructure but find it difficult to commit effort and funds without clear and robust proposals.

Planning and delivering strategically important, high quality and investable infrastructure projects requires clear, proportionate and well-structured business cases.

1.3 The importance of the infrastructure project business case

Every infrastructure project should have a 'business case' or proposal to explain why it is needed and how it can be taken forward. This guidance provides a methodology – the 'Five Case Model' – to achieve this, and to help governments develop, approve and present projects successfully to the market.

The business case is a strategic tool for scoping, planning, and implementing projects, and an aid to effective decision-making. The Five Case Model (5CM) provides a framework for developing standardised and comprehensive business cases.

The purpose of business cases is defined by the UK's Treasury as:

"a management tool developed over time as a living document as the project develops. [It] keeps together and summarises the results of all the necessary research and analysis needed to support decision-making in a transparent way."

Projects will only achieve their objectives and deliver benefits to society if they have been robustly scoped and realistically planned from the outset, and if the associated risks are identified and managed appropriately. The business case provides a framework for this, set around three basic questions:

- where are we now?
- where do we want to get to?
- how are we going to get there?

It also provides:

- a structured format to allow an organisation to develop standardised proposals and explain and justify any particular project or programme;
- a tool to enable an approving body to decide whether or not to allow a project or programme to go forward;
- an overall process for the scoping and planning of government investments; and
- an evidence-based audit trail to assist transparent decision-making.

This framework helps develop the business case over the life of the project. It provides a record of the project development process. In its final form, it becomes the key document of record for the proposal.

1.4 The Five Case Model (5CM)

The 5CM is used to develop business cases using a framework of five dimensions, and provides decision-makers and stakeholders with a process for structured thinking and planning, giving confidence that the project:

- ❑ Provides a strategic fit in the broad context of the national and local infrastructure systems, and is aligned with high-level strategic aims. This dimension confirms the strategic need for the investment and resulting services. This is the 'strategic case' section of the project business case.
- ❑ Will maximise public value to society through the selection of the optimal combination of components, products and related activities. This dimension focuses on options appraisal and the identification of the preferred option. This is the 'economic case' section of the project business case.
- ❑ Is commercially viable and attractive to the supply side and can be practically delivered by the market. This dimension focuses on the development and procurement of the potential 'Deal'. This is the 'commercial case' section of the project business case.
- ❑ Is affordable and is fundable over time. This dimension focuses on the whole-life costs of the proposed deal. This is the 'financial case' section of the project business case.
- ❑ Can be delivered successfully by the organisation and its partners, and that the required resources, capacity and capability for managing and delivering the project are in place or can be developed. This dimension focuses on the implementation arrangements for the proposal. This is the 'management case' section of the project business case.

The 5CM methodology is gaining worldwide recognition as it:

- ❑ reflects the 'G20 Principles for the Infrastructure Project Preparation Phase' (the 'G20 Principles'); these require infrastructure business cases to be written and assessed against: project rationale, options appraisal, commercial viability, long-term affordability and deliverability;¹
- ❑ supports the G20's recognition of the importance of "Inclusive and Interconnected Development" in advancing sustainable development goals;²
- ❑ supports the G20 Principles for Quality Infrastructure Investment (QII), by addressing the six principles throughout the development of the business case, and focussing on sustainability and maximising the positive impacts of infrastructure investment³ (see Schedule 5 for more on G20 QII Principles);
- ❑ supports the United Nations Sustainable Development Goals, in particular:
 - social sustainability:** good infrastructure design, planning and delivery contributes to inclusive economic growth, supporting essential service delivery, increasing productivity and enabling citizens to access better jobs and more profitable markets; and

¹ G20 Finance Ministers and Central Bank Governors endorsed these key principles at the Buenos Aires summit, July 2018. MDBs have also endorsed these principles, for further details see Schedule 5 – G20 Principles.

² As agreed at the G20 Hangzhou summit in 2016 and the 2018 G20 Buenos Aires Summit's 'G20 Leaders' declaration on building consensus for fair and sustainable development'.

³ https://www.mof.go.jp/english/policy/international_policy/convention/g20/annex6_1.pdf

environmental sustainability: with rapid environmental change, decision-makers must ensure infrastructure is both resilient to climate change and natural disasters, and accounts for the minimisation and adaptation of environmental and climate impacts by utilising best practices, latest technologies and sustainable materials.

A Spanish version of the Guidance, specially adapted for use in Colombia, is available⁴ and a Bahasa Indonesia version, adapted with supplementary material for use in Indonesia, is also available.⁵

1.5 Policies, Portfolios, Programmes, and Projects

The business case approach can be used to plan all levels of infrastructure development as described below, although this Guidance is specifically designed for project level business cases:

- ❑ Policies – for the long-term development of infrastructure. The 5CM, especially the Options Framework⁶, offers a tool to support policy and strategy development.
- ❑ Portfolios – for the strategic planning of programmes and projects.
- ❑ Programmes – for the delivery of inter-related projects. Programme business cases outline the overall strategy and budget for a group of inter-related projects.
- ❑ Projects – to deliver the outputs and investments required to meet strategic aims and implement policies.

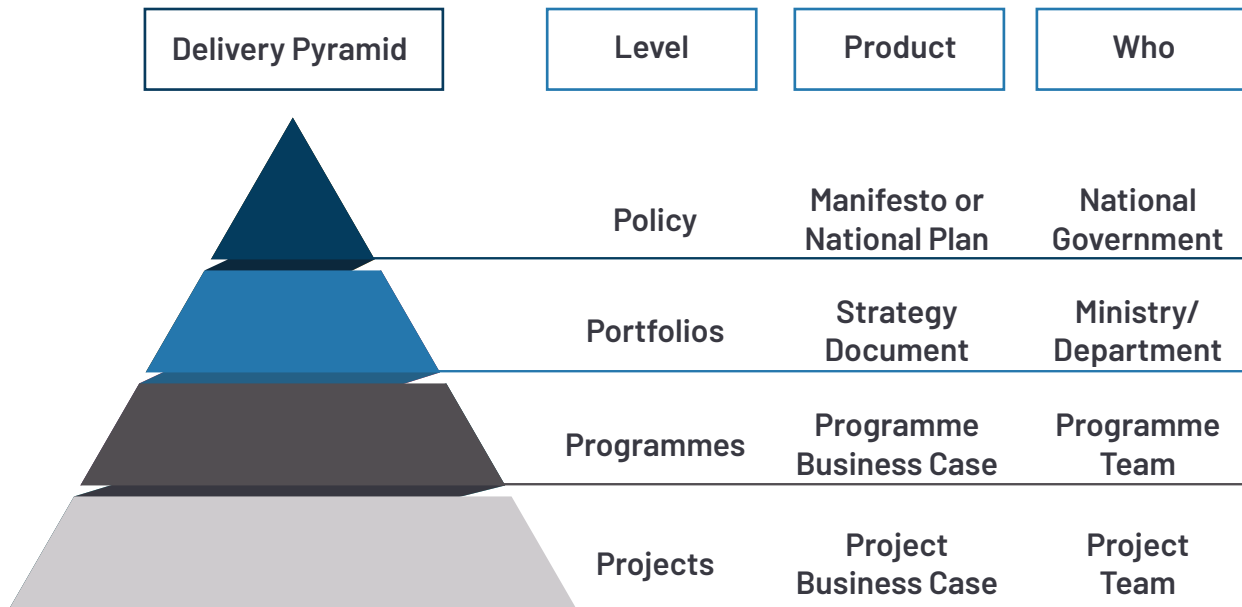
The ‘Delivery Pyramid’ below shows the hierarchy of Policy, Portfolios, Programmes, and Projects. At the lowest level, individual projects need to demonstrate how they align to wider strategic aims. Projects and programmes are the mechanisms for delivering the higher-level strategies. Programmes then fit within a departmental portfolio, and portfolios are designed to deliver the strategic policy objectives of a departmental or national plan. The plans should be created from top to bottom to ensure overall consistency and fit. Building from bottom to top risks compiling unrelated projects into a mismatched programme. Where there is a series of related projects, a programme plan should therefore be created before the individual project business cases.

⁴ <https://www.dnp.gov.co/programas/participacion-privada-en-proyectos-de-infraestructura/asociaciones-publico-privadas/Paginas/documentos-app.aspx>

⁵ For Bahasa Indonesian translations please contact the IPA (International Team).

⁶ Described in the Detailed Guidance (Early Business Case – Economic Case).

Diagram 1 – The Delivery Pyramid



1.6 How to use this Guidance

This Guidance sets out the process for developing the business case for infrastructure projects in three stages:

- The Early Business Case (EBC) is the scoping stage of the process;
- The Intermediate Business Case (IBC) is the planning stage of the process leading to procurement; and
- The Full Business Case (FBC) is the delivery stage of the process where the procurement leads to contracting.

There are assurance points throughout the process, approval points at the end of each stage, and the business case is continuously revisited and updated throughout the process to ensure the data and analysis remains valid and accurate. This is further expanded in Chapter 2 on the detailed 5CM methodology.

This guidance should be used to:

- understand the process for developing a business case;
- understand the use of the Five Case Model as the methodology for developing infrastructure project business cases;
- understand how to plan the project assurance and approval process;
- refer to the specified actions (as outlined in the detailed guidance chapter, and business case development process-chart);
- use the templates included in the annexes (adapted as appropriate);
- identify appropriate stakeholders to contribute to the thinking and analysis;

- plan and host workshops to gather and test information as the business case is developed;
- scope the various technical studies and analysis required;
- understand treatment of financial and non-financial data; and
- identify the skills and resources required to develop the business case, and the supporting governance framework including defining roles and responsibilities.

1.7 Guidance structure

The Guidance is structured as follows:

- Introduction – describes the context of the Infrastructure Business Case;
- Overview of the Five Case Model – describes the methodology for developing business cases, and the associated assurance and approval framework;
- Infrastructure Projects Business Case – broader context – provides an overview of a range of considerations relevant to the development of infrastructure proposals, with particular focus on environmental, social, and governance (ESG) factors;
- Detailed Guidance – which consists of step-by-step actions and instructions for developing a business case, and applying assurance and approvals processes;
- A series of development workshops for key stakeholders to help build the case;
- A Case Study – which is a best practice example business case for a transport project, which complements the guidance;
- Templates – which are provided to support business case development through every stage; and
- A Glossary is provided at Schedule 1.

1.8 Audience for this Guidance

Countries adopting the 5CM methodology can be confident they are applying best practice in line with the expectations of the international community, including the Multilateral Development Banks.

The Guidance chapters are arranged to provide relevant information to different stakeholders:

- Elected representatives, senior managers, and policy makers – will be interested in Chapters 1 and 2, which provide a high-level overview of the importance of business cases, the 5CM methodology, and the strategic context of infrastructure projects. They will also find Chapter 3 helpful for understanding the potential for the 5CM to address sustainability and climate issues, and how project business cases may increase access to climate finance for developing infrastructure.

- Practitioners and officials – responsible for scoping, planning and implementing projects, as well as those responsible for assurance and approval functions, will be interested in the full document. The Detailed Guidance in Chapter 4 can be used throughout the business case development process, along with the complimentary tools referenced, and the accompanying annexes and Case Study along with templates and supporting materials.

Who should use this Guidance?	Why?
Officials and civil servants, programme and project practitioners in central and local government ministries and agencies	In order to write a business case for a project, or to understand why or how a project is being undertaken. To ensure that national environmental, social and governance (ESG) policies are reflected in infrastructure planning.
Private sector advisers and practitioners	In order to support the development of public sector infrastructure business cases, and to ensure ESG policies are incorporated.
Elected representatives	In order to understand why any project is being done, or should be done, and to help make an approval decision.
Auditors, assurance, and approval agencies	To understand and facilitate review, assurance, and approval processes, or to audit a project.
Financial institutions	To inform their credit assessment and investment decisions, and to see how their procurement and sustainability criteria have been implemented.

1.9 Training

Details of accredited training courses on this infrastructure guidance are available on the following link:

<https://apmg-international.com/>

1.10 Acknowledgements

This International Guidance on the development of Business Cases for Infrastructure Projects has been produced by the Infrastructure and Projects Authority (IPA).⁷ It is based on the UK and International Business Case guidance produced by the UK government.

⁷ <https://www.gov.uk/government/organisations/infrastructure-and-projects-authority>

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- the United Kingdom's Foreign Commonwealth and Development Office, and Environment Agency;
- the governments of Brazil, Colombia, Indonesia, Mexico, Peru, Brazil, South Africa, Vietnam, the Cayman Islands and the States of Guernsey;⁸
- the World Bank; and
- the HM Treasury and Welsh Government-sponsored Better Business Case Standards Board, with special thanks to Joe Flanagan,

who have provided source materials and invaluable assistance in the development of this Guidance and its adaptation for international use.

⁸ HM Treasury, Green Book: <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>



02

The Five Case Model



This methodology is based on best practice developed and used for many years in the United Kingdom, where it is known as ‘the Five Case Model’ (5CM). It is part of a family of ‘Better Business Case’ guidance that may be found on [GOV.UK](https://www.gov.uk), the UK government’s website⁹. The methodology is mandatory in the UK for the development of every type of major government policy, programme and project, whether infrastructure or not. There is programme and project level guidance for the UK, as well as international versions.¹⁰

This Guidance document, however, is designed specifically for infrastructure projects and for international use. As countries recover from the global pandemic, there is a growing consensus around the need for investment in sustainable and resilient infrastructure.¹¹ This updated edition of the Guidance responds to this need through an increased focus on environmental and social factors, including decarbonisation, climate change resilience, and green finance.

2.1 Overview of the 5CM methodology

Business cases developed using the 5CM methodology look at a project from five key dimensions: Strategic, Economic, Commercial, Financial and Management. Each of these interrelated dimensions provide a ‘Case’.

- The Strategic Case describes why the project is necessary. It provides the rationale for the project, and the strategic fit with wider policy and strategies, and aligns the project with national infrastructure plans and national and local infrastructure systems.

It sets the project’s scope and boundaries, and describes clear project objectives and the outputs required to deliver those objectives.

The Strategic Case considers environmental and social risks and opportunities and the project’s alignment with national and global goals, including commitments under the Paris Agreement on Climate Change and the 2030 UN Agenda for Sustainable Development.

⁹ HM Treasury, Green Book: <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>

¹⁰ HM Treasury, Green Book, International Guidance: <https://www.gov.uk/government/publications/the-green-book-international-guidance>

¹¹ See for example the UK Government’s ‘Ten Point Plan for a Green Industrial Revolution’. <https://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution>

- The Economic Case determines how the project will deliver the economic, social, and environmental objectives, while achieving the most value for money for society, or 'public value', from the investment.

It demonstrates that a wide range of options for developing the project has been considered, the longlist, which is later refined to a shortlist, and eventually a 'preferred option' is identified using cost-benefit analysis. The analysis includes financial and non-financial benefits and risks, and considers the sustainability of different options against environmental, social, and governance criteria.

With a PPP (public-private partnership) project, the Economic Case considers the cost of using private finance compared to using public capital (the 'Public Sector Comparator').

- The Commercial Case demonstrates that the project is commercially viable. It sets out the proposed contractual structure, the procurement strategy, and the allocation of risks and responsibilities to those parties that can manage them most effectively.
- The Financial Case demonstrates that capital investment and operating costs are affordable from public and/or private resources, and that sufficient allowance has been made for risk management, monitoring and unexpected events. It considers possible sources of finance, suitability of the project for green or climate financing, and affordability of options. This includes any expected income which the government may generate from the project.
- The Management Case describes the project delivery team and demonstrates it has the right skills and experience, appropriate governance, and a realistic project delivery plan. It should include plans for stakeholder engagement, risk management, benefits realisation, and monitoring and reporting.

The individual Cases are inter-connected. When a change is made to one Case, the others should be reviewed and their content updated as required. Environmental and social issues are considered within all dimensions of the 5CM.

2.2 The business case development process

Under this methodology, business cases are developed through the three stages described below. The process includes input from a range of specialists and experts to evolve and test thinking, logic, and analysis, and to ensure there is sufficient opportunity to review and update the findings and recommendations ahead of decision points (see diagram 2). The 5CM methodology therefore offers both a framework for thinking and a tool to plan, develop and deliver sustainable projects.

□ **Early Business Case: scoping stage**

Strategic Case: provides the rationale for the project, evidences the strategic fit, defines the project objectives using SMART criteria, and outlines the potential scope for the project.

Economic Case: appraises a wide range of possible option choices – the longlist – and then applies the options filter to refine these to a shortlist. Provides high level estimates of costs and benefits for the shortlisted options including optimism bias, based on any applicable feasibility studies, and identifies a ‘Preferred Approach’.

Commercial Case: gives initial thought to the potential commercial and procurement arrangements for the preferred approach.

Financial Case: provides indicative whole-life costs (capital plus operating costs) for the preferred approach and considers potential funding and financing options.

Management Case: gives initial thought to delivery arrangements, and the capacity and capability resources required for the preferred approach.

Assurance reviews are done during the early stage, and approval is sought from the relevant authority to proceed to the next stage.

□ **Intermediate Business Case: detailed planning stage**

Strategic Case: revisits the project rationale, strategic fit, and objectives, and updates the potential scope accordingly.

Economic Case: revisits the longlist of project options, subjects the shortlisted options to detailed cost benefit analysis (CBA) using best estimates for costs and benefits, including risk values from Environmental Social Impact Assessments (ESIA) and technical studies. Identifies the **Preferred Option** (the option that is likely to offer optimal economic, social and environmental value in relation to its costs, including risk – ‘public value’).

Commercial Case: sets out the service requirements and outputs for the procurement, including potential arrangements for the allocation of risk between the contracting parties. Provides analysis of the associated charging arrangements and contractual arrangements for the potential deal between the public sector and supply side partners. Engages the market to understand the likely response from suppliers, and any procurement risks. Drafts the procurement plan, and engages with any potential funding or project partners, for example Multilateral Development Banks (MDBs)/Development Finance Institutions (DFIs).

Financial Case: provides best estimates of the whole-life costs (capital plus operating costs, including project contingency) for the preferred option, and describes how the project will be funded and financed in practice. Confirms the sources of funding and finance, and tests affordability of the project.

Management Case: details the expected project management arrangements, including governance, roles and responsibilities, project implementation approach and required resources, and the assurance and evaluation plans. Finalises the project implementation planning for: stakeholder engagement, change management, benefits realisation, and risk management.

Assurance reviews are undertaken during the intermediate stage, and approval is sought from the relevant authority to proceed with procurement for the project.

□ Full Business Case: delivery stage

Strategic Case: confirms the project rationale, strategic fit, objectives, and the agreed scope.

Economic Case: confirms the wide range of possible option choices (longlist) and reviews the shortlist with the inclusion of supplier bids for the preferred option, together with associated whole-life costs. A recommended supplier is identified based on the offer that is likely provide the most advantageous economic, social and environmental value in relation to its costs, including the transfer of risk.

Commercial Case: documents the procurement process. Sets out the agreed service requirements and outputs for the procurement, including negotiated arrangements for the allocation of risk between the parties. It describes the agreed charging arrangements and contractual arrangements for the deal between the public sector and appointed supplier(s).

Financial Case: provides agreed contract costs together with associated public sector costs and describes how the whole-life costs (capital plus operating costs, including project contingency) will be funded and financed, as agreed and expected.

Management Case: details the agreed project management arrangements, including governance, roles and responsibilities, the project implementation approach and required resources including for benefits realisation, and the assurance and evaluation plans.

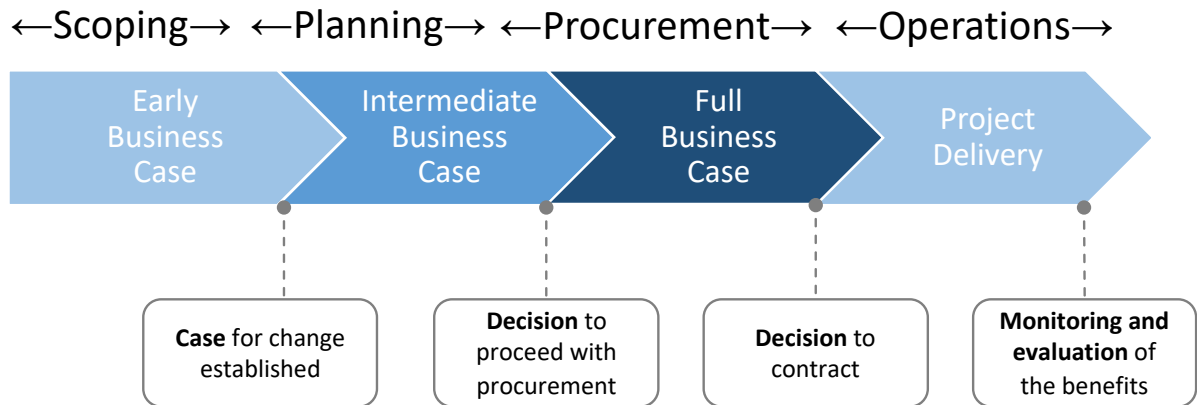
Assurance reviews are undertaken during the development of the Full Business Case, and approval is sought to contract for the project.

At each stage of business case development, each component case is revisited to check the conclusions and decisions in light of new information and analysis which becomes available as the project develops. The business case is, therefore, a living document which evolves over time.

There is an approval point at the end of each stage, and a corresponding decision to either progress with the next phase of development, or to revisit the analysis and update the business case accordingly. Each stage is further described in Chapter 4 – Detailed Guidance.

Diagram 2 below shows how the business case development stages fit with each other and align with the key activities in the process.

Diagram 2 – Stages of a project’s business case development



Different governments have different systems and capabilities, and large-scale changes to regulatory government planning, approval, and assurance may take time. It should, however, be possible for a country to start adoption of the 5CM methodology, at least at an administrative level at first, in order to secure the main benefits that this approach offers.

Further information and guidance on business cases is available on the UK government's website.¹²

Business case workshops

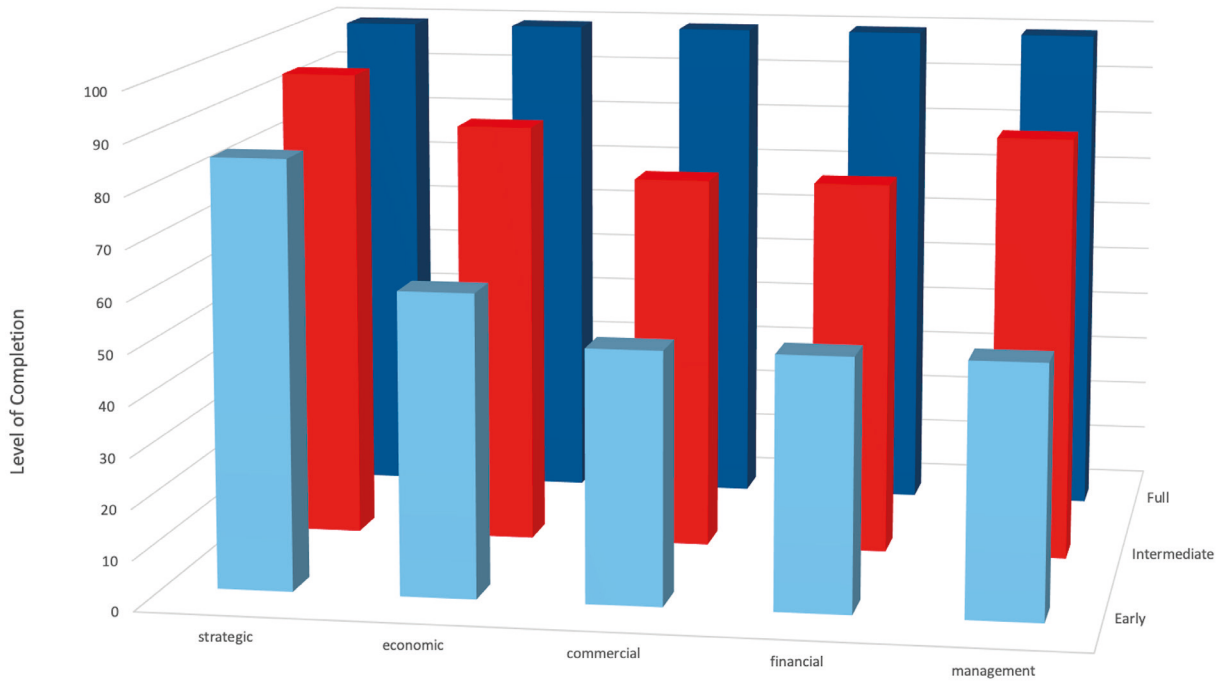
Workshops to develop thinking and support decision-making are fundamental to the business case development methodology. Business cases should therefore be developed through a series of workshops : Strategic Needs, Options Development, Preferred Options, Commercial Strategy, Successful Delivery. These are focused meetings involving the project team, key stakeholders, members of the senior management team and other personnel with the required business, technical and user expertise. Everyone involved in the workshop should help develop the actions; this will engage key stakeholders early on, ensuring that they help shape the project and are better informed and engaged for the later review and approval points. This should create broadly-based support for the project and counter any tendency for the business case to be developed in isolation by the team or delegated to a consultant. Schedule 2 provides specific guidance on how to hold the key workshops in the business case development process.

Maturity of the cases through the stages

The component cases of the business case evolve at different rates through the business case stages. Diagram 3 below shows typical maturity levels for the cases at each development stage.

¹² This link will take you to the website of HM Treasury: <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government> – where you will find the 'Green Book', the Treasury's technical guidance on how to appraise and evaluate any types of policies, projects and programmes, and associated guidance and documentation. Please be aware the documents are designed for the UK environment, whereas this Guidance is designed specifically for infrastructure projects and for international use.

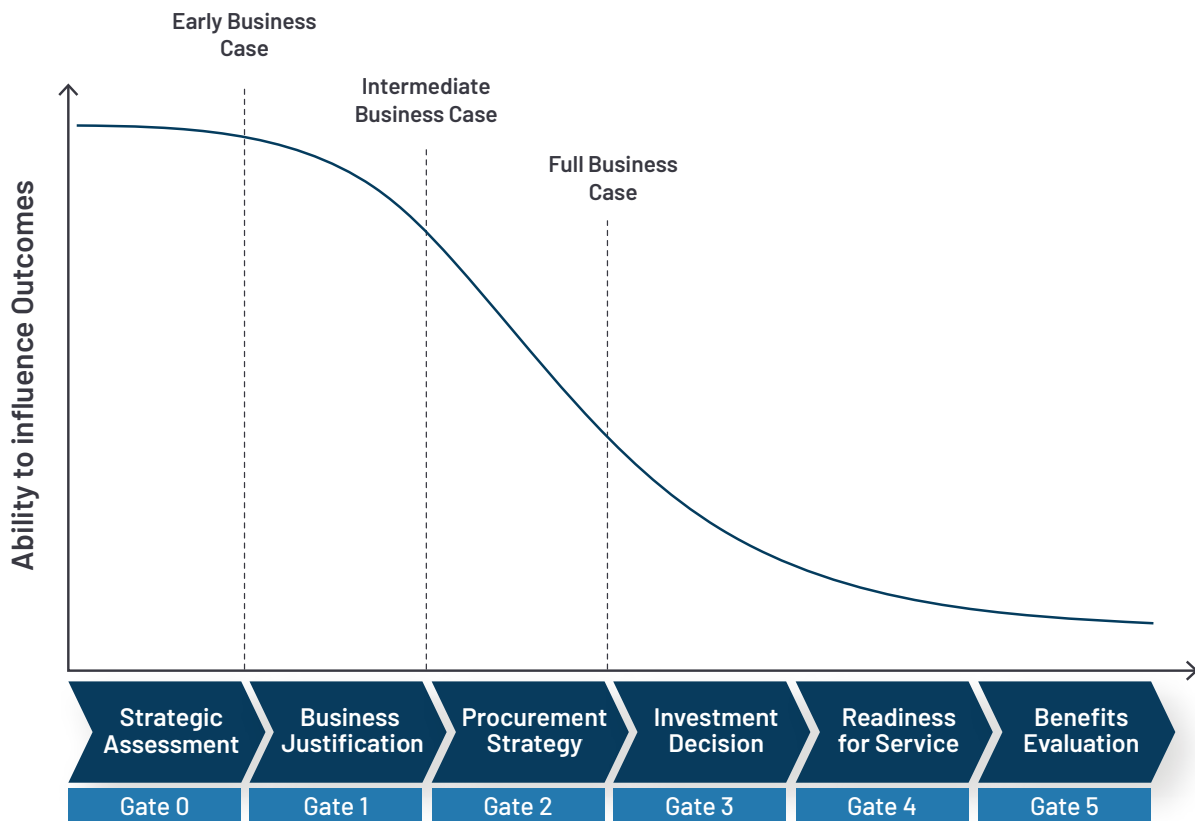
Diagram 3 – Level of completion of Early, Intermediate and Full Business Cases



Business case evolution and influence

Projects need to be well-developed and credible to gain government approval and to attract the interest of lenders and suppliers. Diagram 4 below illustrates how the ability to affect a project is highest at the start and decreases significantly over time. It also references the approval 'Gates' for project business cases, which is expanded on later in this chapter. This demonstrates the critical importance of spending time establishing and agreeing basic principles at the outset, when change is still possible. Environmental and sustainability risks and opportunities in particular should be considered early on to avoid problems later.

Diagram 4 – The importance of early stage thinking



International experience indicates that using the 5CM approach typically leads to:

- a more transparent system for infrastructure planning and development;
- better quality projects;
- fewer failed and stalled projects;
- more and better bidders and bids;
- lower transaction costs and quicker delivery times;
- easier investment decisions for lenders, with greater transparency of environmental and social considerations;
- improved understanding of risk and delivery confidence across projects and programmes; and
- improved visibility and coordination across organisations throughout business case development, resulting in better decision-making for governments.

These all help incentivise private sector investment, reduce waste in public expenditure, and maximise the economic and social benefits from infrastructure investment.

Alternative business case stages

Some countries use only two business case stages, sometimes known as pre-feasibility and feasibility (broadly comparable to the Early and Intermediate stages) and may not undertake the third confirmatory Full Business Case stage. The 5CM guidance can be used in a two-stage process, but advises using all three stages, as the procurement process may only produce bids where the project's strategic aims are not properly met, or which are not commercially, financially or economically attractive. A Full Business Case stage gives the government an opportunity to confirm that the project remains affordable and attractive, and to reconsider the business case if it does not. Whichever approach is adopted, it should be remembered that the business case is actually a single living document, based on a five case/dimension structure, which grows and develops over time, recording the journey of the project over the course of its life. Accordingly, the document will go through many different versions.

For some smaller projects, however a single-stage 'Business Case Justification' document can be used¹³. This, however, is not suitable for a project involving significant expenditure.

2.3 Assurance and Approval framework for 5CM Business Cases

The Five Case Model enables direct and consistent comparison of a range of proposals and offers a framework for review and approval of projects.

For larger projects, approval processes are normally multi-layered, with initial scrutiny and approval by the sponsor ministry, followed by central spending review and approval by, for example, a finance ministry or treasury¹⁴. For example, the sponsoring body that would initially review the business case for a new hospital may be the Ministry of Health, followed by central scrutiny and approval by the Ministry of Finance.

There is a distinction to be made between 'assurance' and 'approval': assurance can be seen as an aid to the project team, to help them gauge how well developed the business case is, and approval as a pass/fail process imposed by a supervisory authority – as explained below.

'Assurance' is the system of reviews and checks given to a project, designed to assure its sponsor. This will help a ministry to decide whether it should put forward a project for central approval. An 'assurer' (sometimes known as an 'appraiser') is a person or body who reviews and tests a business case in order to make recommendations as to whether the project is in a condition to proceed. An assurance review can happen at any time throughout development of the business case, but will always happen before a business case is submitted for approval.

¹³ An example single-stage 'Business Case Justification' template is provided in Annex 2 – Templates.

¹⁴ In some small countries, the final approval can sometimes fall to their congress or parliamentary assembly. This can introduce an element of political uncertainty to the process.

The best appraisers provide 'constructive challenge' to a project. In the UK, assurance for major central government projects is done by the Infrastructure and Projects Authority.

'Approval' is a pass/fail test as to whether the project should proceed, or budget should be released to it. In the UK, central spending approval is controlled by the UK Treasury.

Both processes are needed. Best decision-making results from each of (a) the assuring body, (b) the approving body, and (c) the body that is writing the business case, being independent. Where there is no such separation of powers a 'conspiracy of optimism' tends to arise, with projects moving swiftly through the system without adequate challenge, only to struggle later when they reach market.

Assurers and approvers are expected to report formally their comments and the conclusions of their review, for instance, using a 'traffic light' system:

- Green** – the project can proceed to the next stage;
- Yellow** – the project can proceed subject to specific conditions (which must be met at or prior to the next review point); and
- Red** – the project is either rejected or not allowed to proceed to the next stage without further re-scoping or analysis.

It is good practice for a project to agree a 'Scoping, Assurance and Approval Plan' with the 'approving authority' at the outset, mapping the project's journey through the assurance and approval process (see Annex 2¹⁵). This should be a progressive process, involving a number of stages and reviews, to ensure any issues are dealt with early and that there are no surprises at the point of final approval. The following steps are an example of the type of approach that could be agreed:

- At the Early Business Case stage, the approving authority may approve:
 - that there is a strategic need to develop a project;
 - that the shortlist of options identified represents a sensible response to the strategic need;
 - that a suitable 'preferred approach' has been identified from the shortlist of options; and
 - the commitment of resources to prepare the Intermediate Business Case.
- At the Intermediate Business Case stage, the approving authority may approve:
 - the 'preferred option' as the one which offers the best solution from an economic, social, environmental, and financial perspective; and
 - the commencement of procurement.

¹⁵ Annex 2 includes a combined table, and the UK also uses separate Scoping and Independent Assurance and Approvals Plans. Further information can be found in the UK's Assurance toolkit: <https://www.gov.uk/government/collections/infrastructure-and-projects-authority-assurance-review-toolkit> and for Treasury Approvals, including templates for Assurance plans: <https://www.gov.uk/government/publications/treasury-approvals-process-for-programmes-and-projects>

- At the Full Business Case stage, the approving authority may approve:
 - the results of the procurement process;
 - signature of a formal contract with the 'preferred bidder'; and
 - the release of government funding to deliver the project.

This process enables the approving authority to review and influence a project at critical points, and potentially to stop a project that assurers/approvers consider is not proceeding in the right direction. The business case approval process can be applied equally by local and national governments.

In UK practice, an Early Business Case goes through department-level assurance to pass a 'gateway' and then, for large or complex projects, goes to central government for 'approval'. This process repeats at each business case development stage and continues after a contract is awarded.

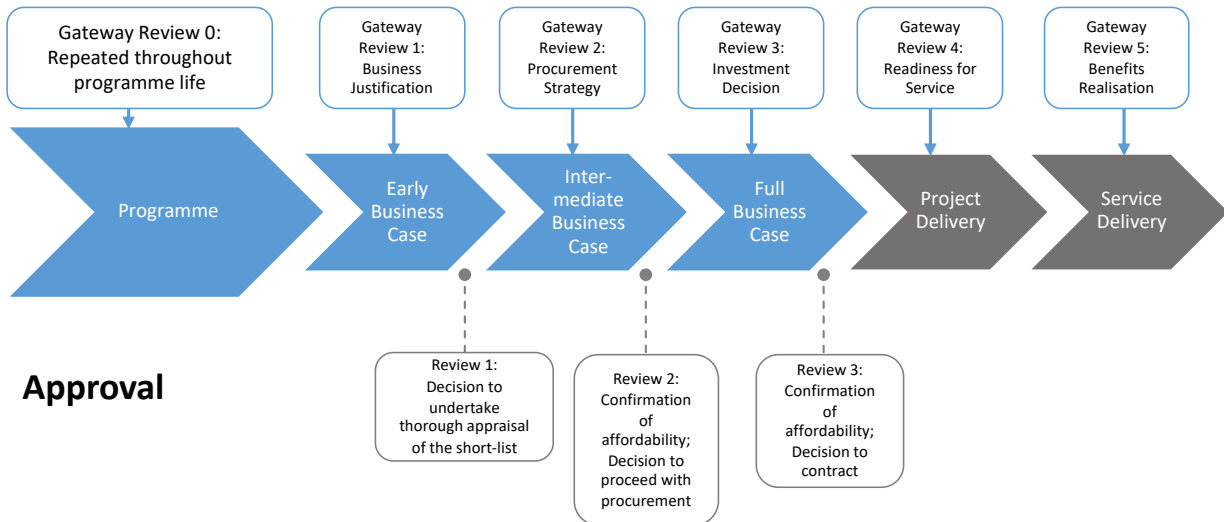
Highways England's Project Control Framework¹⁶ is an example of an applied stage-gate process. Diagram 5 below illustrates the steps of the UK assurance and approvals processes, showing how these approval gateways align to the business case development process stages.

The 'Gateway Review 0' relates to programme assurance activities, and the remaining gateway reviews relate to project assurance. A Project is sometimes a component of a larger programme of work that is made up of several projects, each with their own business case.

¹⁶ Highways England - Project Control Framework: https://assets.highwaysengland.co.uk/roads/road-projects/A46+Coventry+Junctions+Upgrade/Proofs+of+evidence/J.01+PROJECT+CONTROL+FRAMEWORK+HANDBOOK++V4-NOVEMBER+2018_.pdf

Diagram 5 – UK Assurance and Approval process

Assurance



It is important that the business case is not forgotten after contract signature. An important phase – often overlooked – relates to project implementation, following contract signature. The authority should then track the benefits of the project and assess its success. This should be the responsibility of the authority and should not be left to a third party or audit body. Project feedback should ensure the continuous improvement of any overall programme, capturing data to support future programmes and projects.



03

Infrastructure Projects – broader context

The infrastructure business case documents the thinking and analysis required to scope, plan, approve and implement projects. Projects are implemented as part of an infrastructure system (at the local, national, or even international level); this requires consideration of a range of factors and alignment with various processes. There is also a range of tools and frameworks that are used in the development of business cases, and this section provides more information on some of these.

3.1 Complementary tools and methodologies

The 5CM is complemented by a number of strategic planning tools and methodologies which enhance business case development and support successful delivery, including:

- **National (or regional / municipal) infrastructure planning guidance** – a national infrastructure plan is the foundation on which programmes and projects should be built. National Infrastructure Plans should not be a ‘wish list’ of projects, but a realistic strategy for the development of national infrastructure, based upon analysis of a country’s long-term development needs and a process of prioritisation. This should be sufficiently widely supported to enjoy some degree of permanence and span political terms. For local authorities or municipalities, the equivalent document will be a regional or municipal infrastructure plan. Detailed guidance is available from the OECD¹⁷, the World Bank¹⁸, the UK’s national infrastructure strategy and associated delivery plan and pipeline provide useful examples.¹⁹
- **Project Development Routemap (Routemap)²⁰** – Routemap is a support tool to help people responsible for delivering projects to understand the capabilities they need to set up for success and provides practical action plans to help achieve this. It is a structured and tested methodology that aligns with international best practice, and incorporates learning from other major projects and programmes.

¹⁷ See OECD Strategic Infrastructure Planning: International Best Practice at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/601897/Strategic_Infrastructure_FINAL_for_web_v2.pdf

¹⁸ World Bank Policy Research Working Paper 7674, Prioritizing Infrastructure Investment: <https://openknowledge.worldbank.org/bitstream/handle/10986/24511/PrioritizingInfrastructureInvestment.pdf?sequence=1&isAllowed=y>

¹⁹ UK National Infrastructure Strategy: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/938049/NIS_final_web_single_page.pdf.

See also the UK National Infrastructure Delivery Plan and Pipeline: <https://www.gov.uk/government/collections/national-infrastructure-plan>

²⁰ Project Development Routemap: <https://www.gov.uk/government/publications/project-development-routemap>

Projects that focus enough attention on the crucial early stages are much more likely to achieve their intended outcomes later on. The Infrastructure and Projects Authority developed Routemap (in collaboration with industry, academia and international governments) to ensure that best practice and learning about the most common causes of project failure and principles for project success are incorporated in projects from the outset. This will result in benefits ranging from selection of the most appropriate delivery model, to clearer governance arrangements, proper risk allocation and accelerated decision-making. The UK version of Routemap has been used by many of the UK's biggest, most complex, and high-profile projects since its first publication in 2014, and from 2020 is mandatory for major public projects in the UK.

The international Project Development Routemap has been applied to key infrastructure projects by international governments and multi-lateral development banks. It has been created to be used with this Guidance, and training on the Routemap is also available. This Guidance highlights where Routemap can be applied to support business case preparation, and provides more detail of the methodology in Schedule 6. The Routemap process can be applied to support the development of a business case:

- At the Early Business Case stage, where Routemap supports the high-level definition of the strategic need for the project. It helps users to consider the implications of key project decisions and test how achievable the project objectives are.
- At the Intermediate Business Case stage, where the Routemap supports the identification of the preferred option and planning for successful delivery. It focuses discussion on project implementation and can provide confidence that the project is ready to proceed to procurement.
- At the Full Business Case stage, to inform supplier engagement and the selection and contracting process.

Projects can also use it in a more targeted way, based on one or more of Routemap's best practice modules.

- **Public - Private Partnerships (PPPs)** – involve the private sector operating a project under a contractual relationship with a public sector authority. They are commonly used where projects are not fully financed by government and can take a number of forms, depending on the allocation of responsibilities for design, build, financing, operation, and maintenance. PPPs characteristically put private capital at long-term risk against successful project delivery to agreed standards, and can offer a mechanism to deliver wider benefits to society. PPP guidance is provided by the World Bank²¹ and InfraCompass²². The World Bank's CP3P²³ training on PPP complements this Guidance and the related training. It provides a strong understanding and theoretical underpinning over the entire PPP lifecycle.

²¹ Public-Private Partnership Tools: <https://www.worldbank.org/en/topic/publicprivatepartnerships/brief/ppp-tools>

²² Infracompass: <https://infracompass.github.org/>

²³ APMG PPP Certification Program: <https://ppp-certification.com/>

- **SOURCE** – is a project data preparation and management platform funded by the MDBs and implemented by the Sustainable Infrastructure Foundation²⁴. The tools help governments chart the progress of their projects, engage with MDBs where applicable, and prepare their projects for market.

Users answer a series of questions about the nature and level of development of their project, which can then be used as a management tool; technical content is available on the site that draws on the Five Case Model and other guidance as part of the process.

- **Theory of Change (ToC) and Results Framework (RF)** – commonly used in aid-funded projects and by MDBs, and increasingly more widely, this methodology is used to align, plan, and measure the contribution of projects towards meeting strategic high-level objectives. Beginning with the identification of a strategic problem, issue, or objective, the process is used to define the changes needed to address the problem, and the logical steps required to deliver the outcomes, outputs, processes and inputs to deliver the change.

If the project team chooses to use this approach, these tools may be developed in the Early Business Case - Strategic Case, and can operate at all levels of the infrastructure pyramid: project, programme, policy and strategy.

A working ToC and RF may be used throughout the asset life as a reference for benefits realisation, and to support business cases by describing the links between inputs/activities (design, construction, etc.), to outputs (the asset and its operation), to outcomes and benefits (the uses of the asset and effects on socio-economic and environmental conditions), to impacts (long-term macro effects). The ToC describes the linkages in a schematic diagram (including assumptions), and the RF is a table that adds detail at each level, including indicators and metrics that will be used for monitoring, reporting, evaluating, and lessons learned activities during project implementation and asset operation.^{25, 26} Projects will need to consider, and may wish to discuss with any relevant development partners, whether to apply this extra level of reporting and scrutiny to their project. Further information is available in Schedule 3.

- **Building Information Modelling (BIM)** – is defined as the use of a shared digital representation of a built asset to facilitate design, construction and operation processes to form a reliable basis for decisions. At its core, BIM is all about the use, creation, exchange and management of information in a digital format. BIM can, and often does involve the use of new technology for information management and 3D modelling.

²⁴ For more information on SOURCE, see: <https://public.sif-source.org/>

²⁵ <http://documents1.worldbank.org/curated/en/331541563854787772/pdf/Designing-a-Results-Framework-for-Achieving-Results-A-How-to-Guide.pdf>

²⁶ <https://www.oecd.org/dac/results-development/what-are-results.htm>

BIM is 'digital construction' – it brings technology and techniques, similar to those seen in the digitalisation of manufacturing, into the construction industry. For public infrastructure it helps to deliver better value for public money, de-risks project spending, and radically improves project and client whole-life outcomes.

In the UK, BIM contributed to a saving of 15–20% on public construction costs under the Government's Construction Strategy. Further information is available in Schedule 6.

3.2 Sustainable infrastructure and economic development

The 5CM should be used to incorporate sustainability principles into business cases so that the resulting infrastructure projects achieve a broad range of benefits and outcomes beyond the immediate services delivered by the assets. Sustainability issues are grouped into three areas:

- Environmental (including climate);
- Social (including shared prosperity and equity); and
- Governance (including strengthening institutions).

Collectively these are referred to in this Guidance as **ESG**.

Infrastructure is key to achieving sustainable development and shared prosperity on a global scale; this is recognised by the international community through the 2030 Agenda for Sustainable Development, the Addis Ababa Action Agenda and the Paris Agreement on climate change.²⁷

Sustainable infrastructure provides opportunities for inclusive economic growth, contributes to decarbonisation of the global economy, and the protection and enhancement of the environment and natural resources.

This Guidance demonstrates how to:

- include ESG criteria from the outset to frame the project objectives;
- consider sustainability issues at each stage of the business case development process;
- manage risks, enhance opportunities, and engage key stakeholders (including vulnerable groups) to ensure they have a voice in the design and implementation of local infrastructure; and
- optimise the sustainability of the project design.

More detailed information on sustainability, including the G20 Principles and the UN Sustainable Development Goals (SDGs) is included in Schedule 4 of this Guidance.

²⁷ <https://sdgs.un.org/2030agenda>, <https://sustainabledevelopment.un.org/index.php?page=view&type=400&nr=2051&menu=35> and <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>

For more information on best practice for inclusive infrastructure and social equity, the G20 Global Infrastructure Hub has developed framework for practitioners: <https://inclusiveinfra.gihub.org/>

3.3 Sustainable Development Goals (SDGs) and infrastructure projects

The United Nations Sustainable Development Goals (SDGs) were formed at the United Nations conference in Rio De Janerio in 2012. All 193 member states have adopted these 17 goals, many of whom now have country-specific metrics and policies in place. Different industrial sectors are adopting and aligning with the goals and their underlying targets and indicators. Local and national infrastructure projects have an essential role to play in supporting the achievement of the SDG's. It is important also to understand the significant role that infrastructure investment has to play in achieving the SDGs.

Standards, certifications, and metrics used to measure the sustainability of the built environment have been available since the early 1990's. The 5CM approach provides a framework to link those to the SDGs, recognising that detailed workshops are required to ensure practical approaches to alignment and measurement. By identifying relevant SDGs that are appropriate to the nature of an infrastructure project, with a corresponding set of targets and indicators that can realistically be measured, it is possible for all projects to capture and report these metrics as contributions towards achieving the goals.

The links between global goals, strategic investment objectives, and project outputs and outcomes are shown in the diagram below:

Diagram 6 – Sustainable Development Goals relationship to project outcomes



Various tools and guidance have been produced to help to identify and align project objectives with SDGs, including the following:

- The United Nations Economic Commission for Europe (UNECE) has developed a People-first PPP evaluation methodology for the SDGs. This helps governments evaluate and improve infrastructure projects by incorporating climate resilience and sustainability in project planning, and provides benchmark and indicators based on people-first criteria and the SDGs.²⁸
- Inter-American Development Bank (IDB). What is Sustainable Infrastructure? A Framework to Guide Sustainability Across the Project Cycle (2018).²⁹

Further information on SDGs is included in Schedules 4 and 5 of this Guidance.

²⁸ https://unece.org/sites/default/files/2020-12/ECE_CECI_WP_PPP_2020_03_Rev1-en.pdf

²⁹ https://publications.iadb.org/publications/english/document/What_is_Sustainable_Infrastructure__A_Framework_to_Guide_Sustainability_Across_the_Project_Cycle.pdf.

3.4 Sustainable finance

Countries need to attract finance from a variety of sources, including private investors, to address funding gaps for sustainable infrastructure development. Under the broad banner of 'sustainable finance', private investors seek investment-ready projects that contribute to sustainability-linked objectives and outcomes, in addition to investment returns. It is important that project business cases can clearly articulate sustainability credentials if they are to attract this type of finance.

The 5CM provides a clear framework to demonstrate how sustainability, decarbonisation, and climate mitigation and resilience objectives have been built into projects throughout the whole life cycle of the planned infrastructure.

Business cases need to align with established environmental, social, and governance (ESG) frameworks. ESG frameworks enable communication of a project's sustainability credentials in a way that is easy to understand for verification bodies and potential investors. More information on sustainable and green finance and ESG Frameworks is provided in the Financial Case sections of the Detailed Guidance and Schedule 10 of this Guidance.

Using the Five Case Model to define the sustainability of a project

An emerging lesson is that governments that are successful in accessing sustainable finance have done so through a rigorous alignment of the positive contribution of their projects to green, social and sustainable objectives, and a communication of their projects' relevance to sustainability in a way that is easy to understand for verification bodies and potential investors.

If governments are to access sustainable forms of finance at the earliest possible opportunity for their projects, they need to be able to articulate clearly the projected ESG sustainability and climate impacts of their projects from the outset. Addressing the business case development process, for programmes, portfolios and projects, is the ideal starting point.

The Five Case Model provides a clear framework to strategically consider and articulate ESG and climate sustainability as they relate to all aspects of a proposed project:

Business cases that can demonstrate project bankability and sustainability may simultaneously make the process of aligning to sustainable and climate change finance certification smoother, and also give potential investors more confidence to provide sustainable finance.

The Strategic Case can demonstrate clear alignment of a project with the Sustainable Development Goals, which will achieve broader outcomes, and helps potential investors to understand the project objectives. Projects can also articulate how they fit into international climate change commitments, like Nationally Determined Contributions (NDCs) under the COP21 Paris Agreement. Furthermore, a clear Theory of Change and Results Framework can be useful in articulating the intended objectives of a project and its contribution to sustainability outcomes.

The Economic Case is an opportunity to rigorously demonstrate, and where possible quantify, the environmental, climate and broader sustainability benefits of different project options. To access sustainable finance, climate bond certification schemes will usually require a demonstration of how a particular project will reduce greenhouse gas emissions. For example, for certain types of transport infrastructure (like terminals designed to reduce journey times) to be eligible for the Climate Bond Initiative, it needs to be demonstrated that such a project delivers “substantial GHG emissions savings on either a passenger/km or a tonne/km basis” compared to ‘Business as Usual’.

The Commercial Case is a good opportunity to outline how potential private sector suppliers will need to meet relevant ESG standards throughout the delivery of a project, and also outline ESG-specific key performance indicators (KPIs) that will be included in supplier contracts. The Commercial Case can also outline how tenders will be evaluated for demonstrated performance against ESG standards for the project, for example, the use of local and sustainable supply chains wherever possible.

In the Financial Case, authorities can map out options for accessing sustainable finance according to the characteristics of a project. At the intermediate business case stage, authorities can build a financial model which shows how accessing sustainable finance sources may affect the affordability of a project.

The Management Case is particularly important to outline how the sustainability and climate change benefits from a project will be realised and evaluated, through the use of environmental and social management plans, risk management plans, and benefits realisation plans.



04

Detailed guidance

The previous sections provide the context for the development of a business case following the Five Case Model (5CM) approach, and demonstrates how it should fit within an overall assurance and approval regime. Next, we set out the process of developing and writing a business case through three stages:

- the Early Business Case (EBC) is the scoping stage of the process;
- the Intermediate Business Case (IBC) is the planning stage of the process leading to procurement; and
- the Full Business Case (FBC) is the delivery stage of the process where the procurement leads to contracting.

These process stages are executed through the development of the 5CM cases:

- Strategic;
- Economic;
- Commercial;
- Financial; and
- Management.

Each of the five cases is developed in the EBC stage, and reviewed and updated at IBC, and FBC stages to ensure they are correct, valid, and reflect any changes that may impact the project.

Throughout this detailed guidance chapter the 5 Cases are colour coded to identify the Case that is being developed by the actions in each section.

5CM Business Case Actions

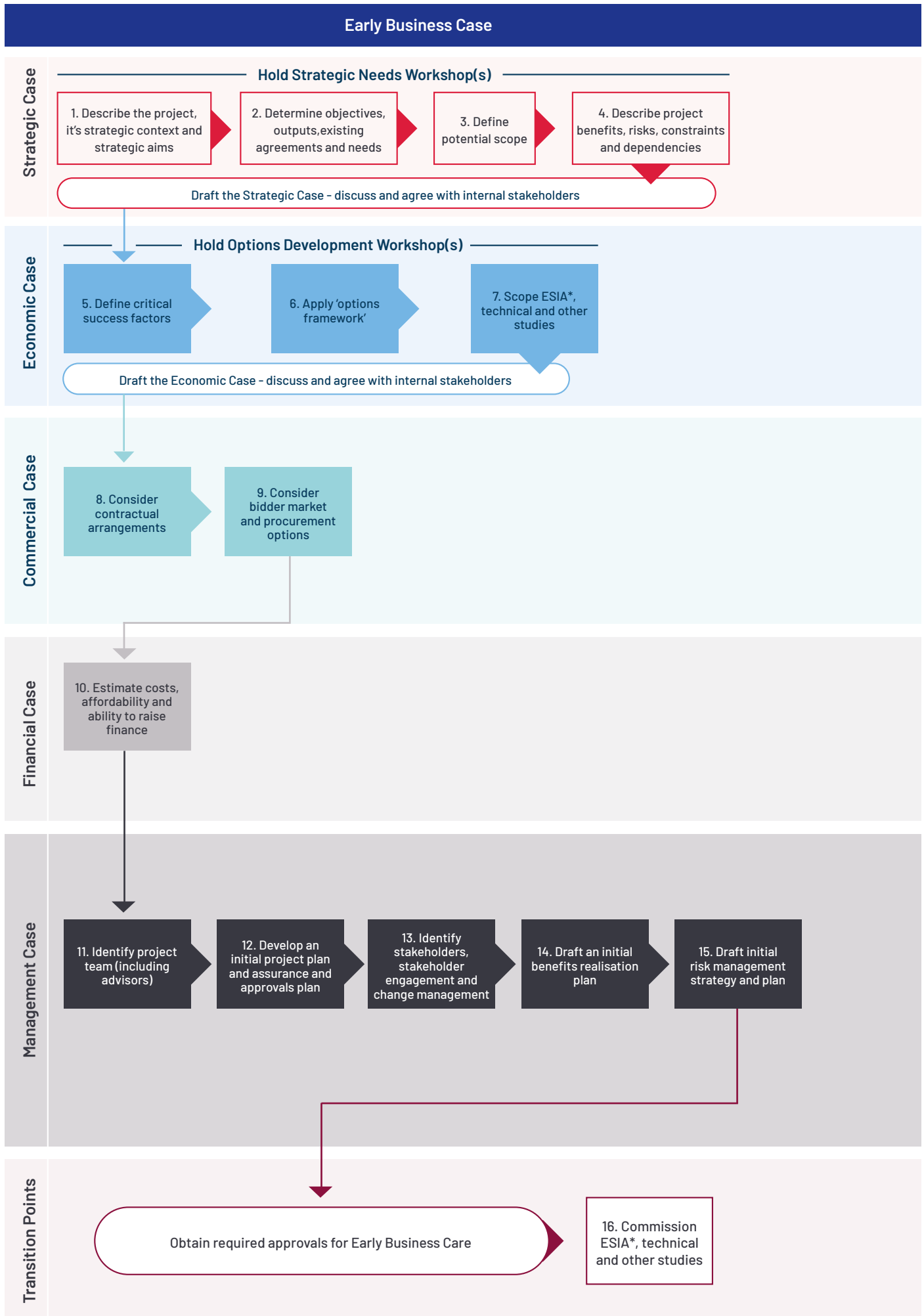
The following pages present a flowchart of the 45 'Actions' to be followed through the three stages of the business case development process, including the approval points. Each of these actions is reflected in the Case Study. References in this guide will take you to sections of the Case Study (Annex 1) that offer best practice examples. References will also take you to relevant templates to enable you to write the business case. Schedule 7 provides a more detailed summary of all the steps required under each action for each stage of the process, and can be used by way of a checklist for your business case.

Diagram 7 - Business Case Development Flowchart

Key:

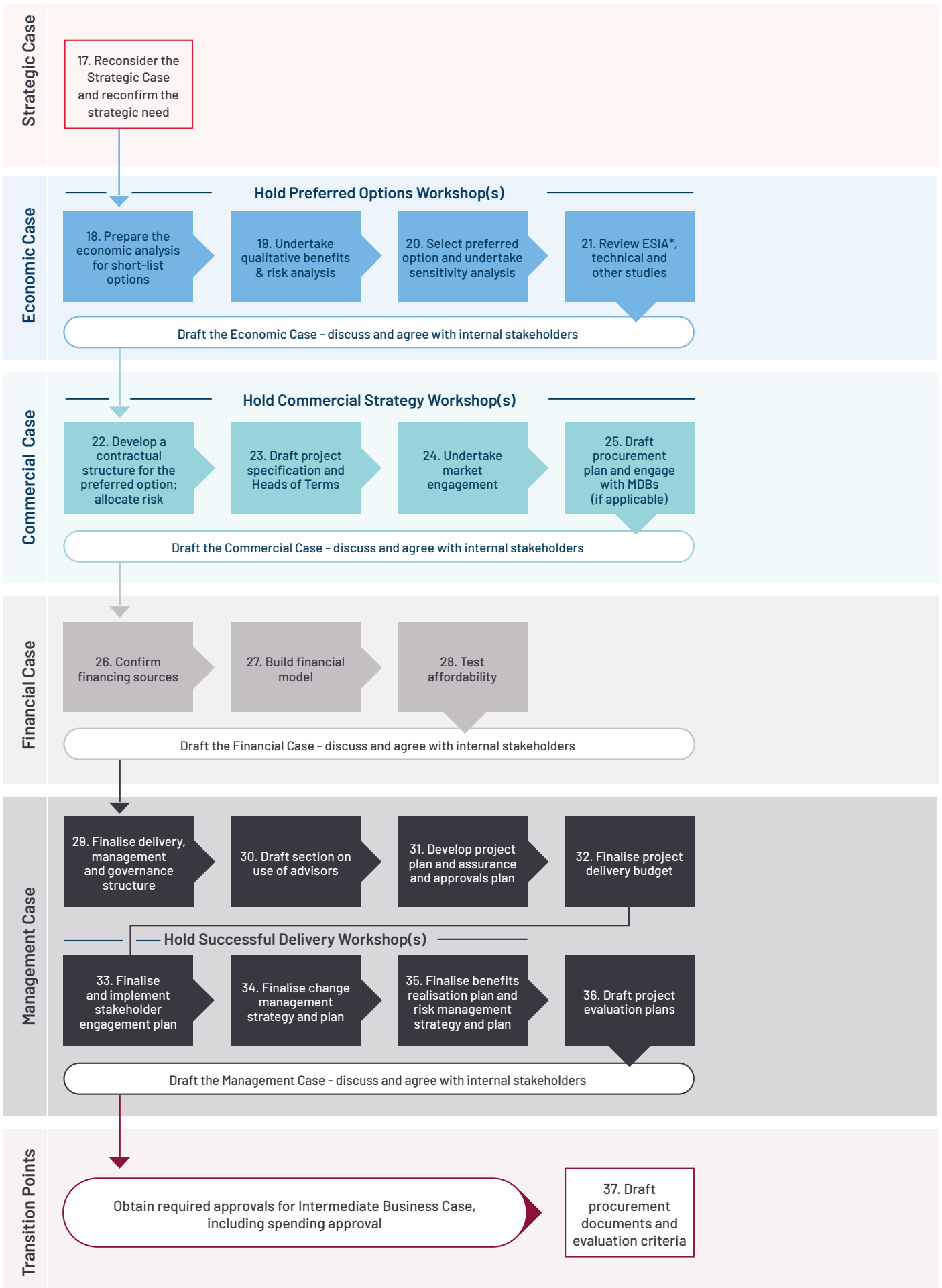
Actions

Approval & Assurance Points

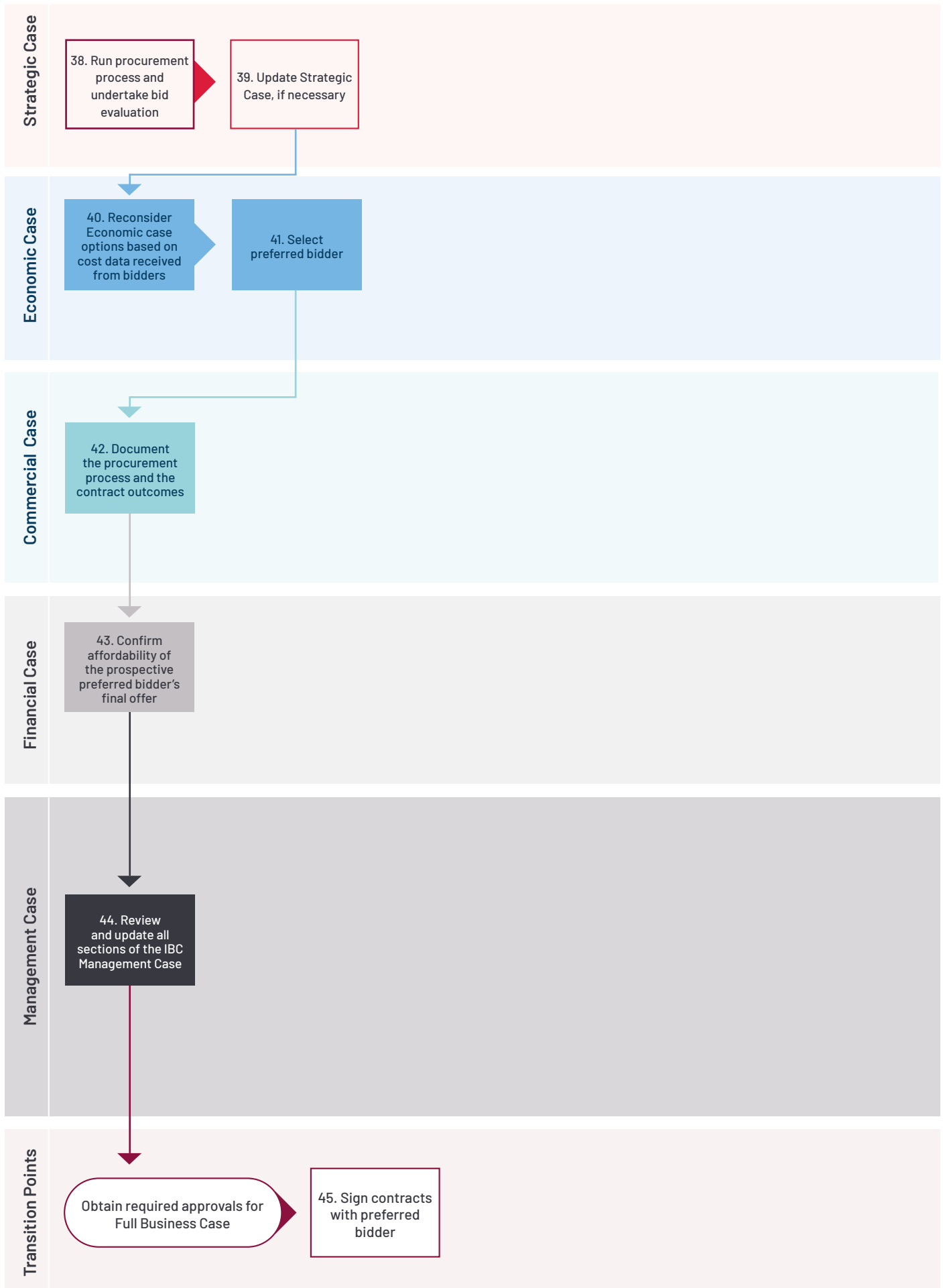


*ESIA Environmental Social Impact Assessment

Intermediate Business Case



Full Business Case



4.1 Early Business Case

The Early Business Case (EBC) focuses largely on the Strategic and Economic Cases and:

- establishes the 'strategic need' for the project and the fit with the authority's overall strategy, the national and local infrastructure systems, and other programmes and projects;
- produces and tests a wide range of options against a range of criteria and identifies a shortlist of realistic options; and
- identifies costs, benefits and risks, including economic, environmental and climate, and social sustainability, at a high level.

The Commercial, Financial and Management Cases are relatively less developed at this stage. However, there are important aspects of the delivery model, contracting, and financial factors that are included in the EBC, and it is important to think about how the development and procurement of the project will be managed internally, how it will be paid for, and to raise awareness of the project.

A template for the Early Business Case is set out in Annex 2 (Templates) and can be completed by following the 'Actions' set out in the flowchart and described here in detail.

Strategic Case

The Strategic Case in the Early Business Case plays a very important role, and therefore significant time and energy should be spent in developing it.

Its purpose is to:

- identify the “strategic aims” for a project, and “the strategic fit” within the context of the government’s wider strategic goals including ESG, climate, and contributions towards the SDGs;
- confirm that current infrastructure is inadequate;
- outline the project objectives, business needs, the outputs, and scope;
- identify at a high level the risks, including economic, ESG and climate risks, and the project dependencies and constraints; and
- identify the economic, ESG and climate benefits that a project might generate.

The EBC – Strategic Case should give the project board and executive/ programme board sufficient information to be able to:

- make a decision as to whether to invest resources in developing the project further; and
- give direction to the project team.

It is recommended that many of the actions described below are carried out through one or more **strategic needs workshop(s)**, with active participation of all interested parties from the authority and other government organisations, including senior decision-makers, and other stakeholders. Workshops should be led by impartial and independent facilitators trained in the 5CM. Workshops are an effective way of generating ideas, building understanding, consensus and commitment, and avoiding situations where resources are invested in developing a project that is cancelled at a late stage.

A high-level economic, environmental and social analysis should be planned to confirm that the full spectrum of impacts, risks, and opportunities (positive and negative) have been considered. These considerations apply to the life cycle of the project and asset, and also to the long-term strategic planning for the national and local infrastructure systems. A social analysis should determine the social context within which the project will be designed and delivered (for example, relevant legislation or policy, identification of service users, identification of vulnerable and/or marginalised groups, etc.). The project’s area of influence should be determined – this is not only the immediate footprint of the project and facilities, but also the surrounding land use and livelihood patterns of the communities neighbouring the project. Similarly, an

environmental risk screening should be scoped. This should identify potential negative impacts on surrounding biodiversity, contribution to climate change, or project design that does not follow best practice, for example, in regard to the sustainability of the production processes or materials used. Studies should also consider the integration of an asset into the infrastructure system and interactions with other sectors, both current and in relation to long-term strategic planning. The actual reports should be commissioned after approval of the Early Business Case. Please refer to Schedule 4 for further details.

At the Early Business Case stage, you should largely complete the Strategic Case. In the Intermediate and Full Business Cases, the Strategic Case will be updated and amended as necessary.

The Project Development Routemap includes a rationale module with more guidance and good practice examples for infrastructure projects.

The actions for completing the Strategic Case are set out below.

1. Describe the project, its strategic context and strategic aims



Who should work on this?

- The project director and manager
- Representatives from the authority and other stakeholders (please refer to **Action 18** for further detail on identifying and engaging relevant stakeholders)
- Environmental and social advisers, and strategic advisers

What should you do?

- i. Write a short and concise description of why the project is needed. Various tools can be used to support early thinking on this, and frame the problems that an infrastructure project will address.³⁰ It may be helpful to engage strategic advisers to facilitate these processes.

³⁰ Tools include Theory of Change (described further in Schedule 3), Root Cause Analysis, and Impact Pathway Mapping, amongst others.

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- ii. Describe the authority's strategy, and relevant wider government strategies, to show the context within which the business case is to be developed, including national infrastructure strategy, ministerial strategies, and regional development strategies.

Define the strategic aims that the business case supports which should align with the authority's strategic priorities and goals on economic, social, environmental, climate, cultural, geographical, or institutional issues, and contributions towards SDGs (see information in Chapter 3 and Schedule 4). Categories and examples of strategic priorities include:

Category	Examples
Economic	Job creation (for example, small- and medium-sized entities), and use of local suppliers for the project. Social mobility. Land use and ecosystem services. Opportunities to improve or rehabilitate the local environment.
Social	Diversity. Cohesion. Empowerment and inclusion of women and/or other disadvantaged groups. Health, wellbeing, and safeguarding of stakeholder groups during the whole life of the project and resulting infrastructure.
Environmental	Conservation/cultural heritage. Support and protect environmental resources that communities rely on for economic and social activities. Opportunities to enhance or restore environmental conditions, such as habitat, eco-systems, or reduced pollution sources. Agriculture. Circular economy opportunities in relation to infrastructure investment.
Climate	Organisational and national level greenhouse gas reduction activities. Low carbon technologies, carbon capture and storage, offsetting activities. Resilience considerations and requirements for infrastructure investment decisions.
Cultural	Preserving, protecting, and promoting heritage sites. Protecting indigenous populations and enhancing quality of life, including rights to manage natural resources. Promotion and conservation of traditional skills, practices and technologies.

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Category	Examples
Geographical	Regional development. Balancing investment between rural and urban populations. Providing remote communities with equitable access to infrastructure.
Institutional	Transparency/anti-corruption. Training/education. Regional development.

- iii. Show how the strategic aims promote sustainable development, such as: gender, inclusion, decarbonisation, climate mitigation and resilience, and alignment with international commitments such as the UN Sustainable Development Goals (SDGs) or Nationally Determined Contributions (NDCs).
- iv. Include a statement that, at a high level, summarises the possible environmental, climate, and social impacts, and the overall ambition of the project, including a statement determining the project's level of ambition with regard to the Gender and Inclusion Framework (Schedule 4).
- v. Describe how any existing programmes and projects may influence the project.

ESG focus 1 – Inclusive growth and infrastructure

Sustainable infrastructure should deliver long-term benefits to help build more resilient and inclusive economies and communities.

Inclusive growth refers to economic growth opportunities that are spread across society, and do not exacerbate inequalities and social exclusion. In the UK, it has been referred to as ‘levelling up’.

Inclusive infrastructure enhances social inclusivity, and ensures that no individual, community, or social group is left behind or prevented from benefiting from improved infrastructure.³¹

Well-functioning and efficient infrastructure can promote inclusiveness by expanding access to vital services and improving economic opportunities for all. It is often assumed that infrastructure investment will automatically trigger economic growth that will benefit the poorest, however if the needs of all people are not considered in the design and delivery of infrastructure, there is a risk that segments of society may be excluded or negatively affected.

The Asian Development Bank has cautioned that “there are instances where transport investments have failed to provide benefits for the poor, despite aggregate gains in productivity and income. At its worst, transport infrastructure appears to have exacerbated existing inequities as well as given rise to a number of negative externalities”³²

To ensure infrastructure projects are inclusive, all segments of society and a wide variety of communities need to be consulted on the impact of proposed infrastructure projects. This should take place when developing the Strategic Case, with key stakeholders consulted during the strategic workshops, followed by the environmental and social impact assessment (ESIA) in the Economic Case, and be revisited in the stakeholder engagement process in the Management Case. Universal design principles should be incorporated into the procurement specifications completed in the Commercial Case, and social equity audits should be considered as part of the monitoring and evaluation activities outlined in the Management Case.

There are several frameworks that can be used to consider inclusivity in your project. These include:

[UNECE People First Public-Private Partnerships Evaluation Methodology for the Sustainable Development Goals](#); [GI Hub Reference Tool on inclusive Infrastructure & Social Equity](#); and [SuRe Standard for Sustainable & Resilient Infrastructure](#).

³¹ GI Hub Reference Tool on inclusive Infrastructure and Social Equity

³² <https://www.adb.org/sites/default/files/publication/157260/adbi-rpb21.pdf>

What should the outcome be?

A brief report setting out:

- Why the project is needed.
- How the project fits within the wider strategic context.
- A set of strategic aims.

See Case Study section 1.3 for an example.

2. Determine objectives, outputs, existing arrangements and needs.



Who should work on this?

- The project director and manager;
- Project board; and
- Environmental and social advisers.

What should you do?

Agree objectives and outputs.

- i. Determine up to six high-level objectives which support the strategic aims established in **Action 1** and justify the spending of public funds.

Objectives should focus on the rationale for the project. They describe what the project intends to achieve, and provide the basis for post-project evaluation. They focus on the outcomes and benefits that the investment should deliver, rather than identifying potential solutions.

Objectives usually align with one of the following reasons for investment:

- economy (reducing cost);
- efficiency (improving productivity);
- effectiveness (improving service quality, and increasing resilience to environmental, climate change, social, and economic trends);
- compliance (satisfying statutory or lender requirements);
- replacement (replacing a service that is about to expire); and

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- advancement (mitigating environmental, climate, and social risks, realising environmental, climate, decarbonisation, and social benefits, including intergenerational equity and promoting achievement of the UN Sustainable Development Goals).
- ii. Describe an output for each objective.
- iii. Review the proposed objectives and outputs to see how they adhere to the SMART framework (**S**pecific, **M**easurable, **A**chievable, **R**ealistic, and **T**ime-bound).

The objectives will form part of the criteria for options evaluation in the Economic Case, and the outputs may form the basis of key performance indicators (KPIs) in the future contract negotiated with suppliers.

See Case Study – Table 6 – Project Objectives (Where you want to be) and SMART Outputs, for an example.

Identify relevant sustainable development goals (SDGs) the project will contribute towards.

- iv. Sustainable development goal selection:

Identifying SDGs that are appropriate for the infrastructure sector and the type of project makes it possible to record and report contributions towards achieving the goals.

Map the project objectives and outputs that most closely align to the SDGs. It is suggested that no more than five SDGs are selected, to keep the reporting requirements realistic and focused on key objectives. Once appropriate SDGs have been identified, the targets and indicators should be recorded for project monitoring and reporting activities. There are several tools and guidance to help achieve this.^{33, 34}

Describe the existing arrangements

- v. Describe the existing arrangements for delivering the service, including:
 - a. the existing infrastructure system, for the sector, and the interactions with other sectors;
 - b. the existing service – how it operates;
 - c. costs – what is the cost of providing this service, including running costs and maintenance costs;
 - d. the existing infrastructure – what is its condition; and
 - e. demand – what is the current demand.
 - f. Describe also, at a high level, the organisation that will be taking forward the proposal.

³³ Global Compact, United Nations. Reporting on SDGs. Making Global Goals Local Business. <https://www.unglobalcompact.org/sdgs>

³⁴ Inter-American Development Bank, IDB. What is Sustainable Infrastructure? A Framework to Guide Sustainability Across the Project Cycle. 2018. Available online: <https://publications.iadb.org/en/what-sustainable-infrastructure-framework-guide-sustainability-across-project-cycle>

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See Case Study Tables 8-10 as an example of how to present information on the existing service.

- vi. Describe how the existing arrangements impact upon:
 - a. women and/or other marginalised and/or vulnerable groups;
 - b. the environment and climate (for example, carbon emissions);
 - c. economic development and inclusion; and
 - d. the achievement of relevant UN Sustainable Development Goals.
- vii. If there is no existing service, identify and describe any available analysis of comparable services or 'Reference Projects', even if on a smaller scale. If not available, commission a feasibility study. If possible, describe how comparable services have improved conditions for women and other disadvantaged groups, addressed environmental and climate issues, and/or met UN Sustainable Development Goals.

See Case Study section 1.3 for an example of how to present Reference Projects.

Identify the gap between the existing arrangements and the project objectives

- viii. Now that you have established 'where you are', you need to describe 'where you want to be'. These are the service requirements.

The business needs are the changes and improvements required to close the gap between the existing arrangements and the project objectives, expressed as **problems** with the existing position and **opportunities** for change.

Produce a table that shows the 'gaps' between the existing arrangements and the service requirements.

Common problems with infrastructure assets and services include:

- a. poor service quality – the service does not meet the required standard, for example, is not accessible, reliable and affordable for users, or could be better than it is;
- b. lack of capacity – the existing infrastructure or systems cannot meet current or expected demand;
- c. poor infrastructure condition, accumulated maintenance problems, infrastructure not sufficiently resilient to changes in climate or environment, and/or safety issues;
- d. changing service requirements – a different type of service is now needed to meet changing demand; technology may be obsolete;
- e. failure to meet economic and social needs of users in an equitable way, to the disadvantage of women, persons of disability, poor, and/or other disadvantaged groups;

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- f. failure to meet environmental and greenhouse gas emission standards; and
- g. failure to positively contribute to national development objectives and commitments, and/or the UN Sustainable Development Goals.

See Case Study Table 11 – Business Needs – Problems, as an example of how to present this information.

- ix. Produce a table that identifies the opportunities which addressing the gaps to meet the service requirements could create.

See Case Study Table 12 – Business Needs – Opportunities, as an example of how to present this information.

- x. If there is no existing service or infrastructure, use the reference project(s) and/or feasibility study when describing the ‘Existing Arrangements’ as sources.
- xi. (Optional step which may be a requirement when working with MDBs)

If you choose, or are required to produce a Theory of Change (ToC) and Results Framework (RF), you should produce initial drafts at this stage building on the objectives and outputs.³⁵ SDG targets and indicators are incorporated into the RF. (See Chapter 3 and Schedule 3 for more detail.)

What should the outcome be?

- A list of SMART objectives and related outputs.
- A description of the existing arrangements.
- A description of how the existing arrangements perpetuate or fail to improve disadvantages affecting women and/or other marginalised and/or vulnerable groups, fail to reduce poverty, create or fail to address environmental and climate issues, and fail to contribute to national development goals and commitments, and/or UN Sustainable Development Goals.
- A description of the service requirements, and a table that shows the gaps between the existing arrangements and the service requirements.
- Identify the business needs, which are the improvements and changes that are required to close the gaps, and for the project to fulfil its objectives.
- (Optional) A project Theory of Change and early draft of accompanying Results Framework if required (See Schedule 3 for more details).
- Identification of further studies that may be needed.
- Completed tables as shown in the Case Study (Tables 11 and 12) demonstrating the ‘gap’, or ‘needs’.

³⁵ <https://www.oecd.org/dac/peer-reviews/WB%202012%20designing%20results%20framework.pdf>

3. Define potential scope



Who should work on this?

- The project director and manager

What should you do?

- The objective is to define, at a high level, an initial scope for the project that will be used to develop the wide range of options in **Action 6** (see Economic Case below). To develop the scope, you should think through the 'core', 'desirable' and 'optional' changes you want the project to achieve.

See Case Study section 1.4 for an example of this scoping exercise.

- From the initial scope begin to develop a high-level estimate of the potential project costs – this will be helpful in the analysis you will conduct in the Economic Case.

ESG Focus 2 – Infrastructure planning for climate change resilience and adaptation

Climate-resilient infrastructure is planned, designed, built, and operated in a way that anticipates, prepares for, and adapts to changing climate conditions.³⁶

SDG Goal 9 is to “build resilient infrastructure, promote sustainable industrialisation and foster innovation.”

Flexible or innovative approaches to climate-resilient infrastructure are sometimes more cost-effective than traditional approaches, and global studies have found that the benefits of investing in resilience outweigh the costs.

Designing infrastructure for climate resilience and adaptation, in anticipation of future changes in climatic conditions, can increase asset life (reducing the risk of the asset becoming prematurely obsolete or ‘stranded’), reduce the need for costly retrofitting, and reduce repair and maintenance costs. Some approaches to climate-resilient infrastructure, particularly nature-based solutions, can deliver an equivalent service to traditional approaches while also generating co-benefits such as amenity value, biodiversity conservation, and climate change mitigation.

Important considerations for climate change mitigation and adaptation in infrastructure design include: investment in low carbon technologies and construction materials, introducing energy efficiency solutions, integration of carbon capture and storage technologies, emissions offsetting activities, reducing demand for freshwater extraction and wastewater discharge, and upstream and downstream supply chain logistics considerations, for example, transportation of raw materials, and product distribution networks. These examples, amongst others, represent opportunities to reduce the carbon footprint of infrastructure.

Resilience is covered throughout the text of this Guidance. It should be central to:

- the Environmental and Social Impact Assessment (ESIA) in the Economic Case;
- included in ESG disclosures;
- considered in green finance options in the Financial Case (see Schedule 10 on sustainable finance);
- addressed through spatial planning frameworks and standards such as CEEQUAL; and

³⁶ <http://www.oecd.org/environment/cc/policy-perspectives-climate-resilient-infrastructure.pdf>

- considered in the allocation of risk in the Commercial Case, for example with regards to PPPs.

In 2020, the UK's National Infrastructure Commission published a report on Case Studies and Good Practice for Resilience.³⁷ The report supports a wider study on the resilience of the UK's economic infrastructure.³⁸

The UK's Green Book Supplementary Guidance on 'Accounting for climate Change' includes useful approaches for incorporating adaptation and resilience into project planning.³⁹

What should the outcome be?

- A high-level project scope, similar to the scope shown in Case Study Table 13 – Route Scope of the Case Study.
- Estimated project costs.

4. Describe project benefits, risks, opportunities, constraints and dependencies



Who should work on this?

- The project director and manager
- Environmental and social advisers

³⁷ <https://nic.org.uk/studies-reports/resilience/case-studies-and-good-practice-for-resilience/>

³⁸ <https://nic.org.uk/studies-reports/resilience/>

³⁹ <https://www.gov.uk/government/publications/green-book-supplementary-guidance-environment>

□ What should you do?

- i. The aim of this action is to identify, at a high level:
 - intended project benefits, both through the project development process (for example, construction jobs created) and through the project delivery (for example, long-term maintenance jobs), including the project's expected level of ambition according to the Gender & Inclusion Framework (Schedule 4). Any unintended benefits that emerge throughout the project and should also be identified and included as part of the project monitoring and reporting activities;
 - the high-level strategic risks which the government needs to acknowledge and find ways to manage/mitigate early, including environmental and social risks;
 - issues which may constrain development of the project and may therefore need to be addressed; and
 - factors on which the project may be dependent (for example, other government programmes, projects or policy changes).

Further detail on the UK's approach to benefits management for major projects is available online.⁴⁰

- ii. Identify benefits:
 - Benefits may fall into a number of categories such as social, economic, environmental and climate-related (for example, decarbonisation, resilience).
 - In addition, benefits can be categorised as direct and indirect benefits. Direct benefits are those that are received by the originating organisation and those directly involved in the operation and use of an asset and/or services, while indirect values fall to the wider society and economy.⁴¹ A similar characterisation can be done between direct and indirect costs.
 - The EBC should focus on the key benefits, or roughly the 20% of the benefits which are likely to provide 80% of the project's benefit value.

They can be:

- cash releasing – they will save money for the authority (for example, reductions in operating costs, or increased revenues);
- non cash releasing – they will save money through efficiency savings, and it is possible to monetise them; however, these savings do not specifically release cash and would not appear on a balance sheet (for example, redeployment of staff to another business unit);
- quantitative – they can be measured, but not easily quantified in monetary terms (for example, reductions in pollution; reductions in fares paid by users; increases in passenger numbers; reductions in travel time; increases in salaries and/or job participation for women and/or other excluded/disadvantaged groups); and/or

⁴⁰ <https://www.gov.uk/government/publications/guide-for-effective-benefits-management-in-major-projects>

⁴¹ Based on HM Treasury (2020) *The Green Book*, page 43.

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- qualitative – they can be observed, but not easily measured (for example, reported user satisfaction; reported improvements in quality of life; reported improvements in security for women and/or other disadvantaged groups).

See Case Study Table 14 – Summary of Benefits – for an example of how to categorise and present benefits.

Having identified the project's benefits, you should relate them back to the strategic aims and objectives developed in **Actions 1 and 2**.

See Case Study Table 15 – Linking Benefits to Strategic Priorities – for an example of how to present this information.

iii. Identify risks:

At the very early stages of developing the project, you will be able to identify the high-level risks which could occur at each stage of the project life cycle, and of which the project and executive boards need to be made aware. These include any environmental, climate, and social risks that could lead to adverse impacts and that could result in delays, increase costs, damage reputation and cause public distrust.

In the UK, a climate change risk assessment is used to identify current and future risks, and the level of vulnerability of a planned project (details are available in The Green Book⁴²). The International Finance Corporation (IFC) Performance Standards provide a comprehensive framework of the key risk areas that should be considered (for more information, see Schedule 4).

⁴² <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>

The table below gives an example:

Table 1 – High-level strategic risks

Stage	Examples
Project development	<ul style="list-style-type: none"> <li>❑ The government under-estimates the costs for which it will be liable. <li>❑ The government under-estimates the costs of the project. <li>❑ The government over-estimates the benefits the project will achieve. <li>❑ The government fails to engage with all stakeholders who will be impacted by the project, and this impacts on the government’s reputation. <li>❑ The government’s development of the business case fails to meet standards required by MDBs and/or commercial lenders/investors. <li>❑ The business case does not sufficiently consider future changes to regulations and operating environments, especially relating to climate change, greenhouse gas emissions and circular economy, creating a barrier to investment or the financial sustainability of the asset (that is, the risk of investing in stranded assets). <li>❑ Information supplied by the government to potential bidders is incorrect. <li>❑ The government fails to take opportunities to enhance benefits for women and/or other marginalised and/or vulnerable groups. <li>❑ The government fails to take opportunities to address environmental and climate change issues and gain the appropriate environmental licensing. <li>❑ Project development is interrupted by the electoral cycle.
Tendering	<ul style="list-style-type: none"> <li>❑ There is a lack of market interest in the project. <li>❑ The evaluation criteria developed to score bids do not align with the objectives of the project. <li>❑ Bidders do not accept the government’s proposed risk allocation. <li>❑ Bidders require government guarantees in order to participate.

Stage	Examples
Construction	<ul style="list-style-type: none"> <input type="checkbox"/> Cost overrun. <input type="checkbox"/> Time overrun. <input type="checkbox"/> Noise impacts/accidents/impact on local traders and communities. <input type="checkbox"/> Poor health, safety and conduct standards. <input type="checkbox"/> Environmental impacts, for example risk of pollution incidents. <input type="checkbox"/> Risks of sexual exploitation and abuse perpetrated by contractor staff (see Schedule 4 for more information). <input type="checkbox"/> Planning consents/licenses and permits/land acquisition issues. <input type="checkbox"/> Project perceived as having been designed/built wrongly. <input type="checkbox"/> Construction is disrupted by the electoral cycle.
Operation	<ul style="list-style-type: none"> <input type="checkbox"/> Assumed operating and maintenance costs prove to be incorrect. <input type="checkbox"/> There are changes in the market prices for key inputs, for example, energy. <input type="checkbox"/> The project is seen as failing to meet the needs of all stakeholders, including women and other marginalised/vulnerable groups. <input type="checkbox"/> Project creates health, safety and security risks for maintenance and operations staff/contractors. <input type="checkbox"/> The project is seen as causing environmental problems. <input type="checkbox"/> The asset is not resilient to changes in climate and the environment, leading to increased operating costs and threatening the viability of the project. <input type="checkbox"/> Operation is disrupted by the electoral cycle.
Economic	<ul style="list-style-type: none"> <input type="checkbox"/> There are changes in the national and/or international economic environment which impact on the project's finances (for example, inflation above or below assumed levels, changes to exchange rates which impact input costs).

You should identify these risks and propose how they might be mitigated.

See Case Study Table 16 for an example of how to present project risks.

iv. Identify constraints:

Constraints are external conditions within which the project must be delivered, and over which the project developers/owners will have little or no control. These may include legal, ethical, social, political, environmental and technical issues. You should identify and summarise these constraints.

See Case Study section 1.5 for an example of how to present project constraints.

v. Identify dependencies:

The success of any project will be dependent on a number of local, regional and national factors, for example, the direction of a regional transport strategy, which may be being developed at the same time as the project; national, regional or local government policy decisions; changes to legislation under consideration; or the development of other projects which may impact demand for the project. This includes the integration of the proposed project with the existing and future infrastructure system – for the sector, and interactions with other sectors.

These dependencies should be identified so that key decision-makers are made aware of them and can take action if necessary.

See Case Study section 1.5 for an example of how to present project dependencies.

What should the outcome be?

- A high-level description of the potential benefits of the project, an early identification of the risks associated with the project, and of any constraints and dependencies that should be considered.

Strategic Case completion and assurance:

Having completed the actions above, draft the Strategic Case using the template (at Annex 2) and complete the summary table below.

Table 2 – Summary table of Strategic Case in the Early Business Case

Heading	Content
Project rationale and organisational overview	Concise description of project rationale. Brief description of the organisation(s) that will take forward the potential proposal.
Strategic aims (national)	Brief description of (a) the national strategies and policies that are driving investment including the economic, social, environmental and climate aims set out below, and (b) contribution of the project outputs towards meeting the UN SDGs.
Strategic aims (local)	Brief description of the local strategies and policies that are driving investment.
Objectives	A clear articulation of the project objectives and related outputs expected from the proposed investment, which should be SMART and, where relevant, linked to priority SDGs identified for the project.
Existing arrangements	A factual description of the existing infrastructure and the related services.
Closing the gap between existing arrangements and service requirements – the business needs	A description of what is required to close the gap between the existing arrangements and the service requirements, describing, for example, deficiencies in terms of coverage, reliability, affordability, quality, cost and efficiency. Describe the related opportunities for closing the gap.
Includes consideration of: Social	A summary of the social analysis, including key findings of how the project will improve socio-economic opportunities – and access to these opportunities – for women and/or disadvantaged groups (for example, youth, people with disabilities). A statement on compliance with applicable social standards (for example, IFC Performance Standards).

Heading	Content
<p>Environmental and Climate</p> <p>Governance and institutional arrangements</p>	<p>A description of how the project will achieve environmental improvements and promote compliance with applicable environmental and climate standards and commitments (this includes both local and national standards, and those enforced by key stakeholders, for example, IFC Performance Standards in the case of development funded/financed projects).</p> <p>The opportunities for whole-life carbon cost reductions and circular economy should be outlined for each of the options including 'Business as Usual'.</p> <p>A description of how the project will use effective governance structures at executive and board levels; corporate governance principles adopted; anti-corruption and transparency checks; use of established assurance, approvals and integrated reporting approaches.</p>
<p>Theory of Change and draft Results Framework</p> <p>(Optional step - likely to be a requirement for development projects where MDBs are partners)</p>	<p>A ToC which describes the links between the inputs and outputs of the project through to the objectives, and contribution towards high level strategic (national or global) impacts and goals (for example, the UN SDGs).</p> <p>An accompanying early draft RF which identifies project milestones, key performance indicators (KPIs), and metrics for measuring and reporting project progress and success. This includes benefits realisation metrics.</p>
<p>Potential scope</p>	<p>A high-level description of the service requirements and the potential scope of the envisaged project, to address the gap identified between existing arrangements and the service requirements.</p>
<p>Main benefits</p>	<p>The main high-level benefits the investment/project should achieve, and the category of benefit to which they belong, including organisational, national, and global objectives and commitments, for example, Paris Climate Agreement, and the level of ambition on the Gender & Inclusion Framework.</p>
<p>Main risks</p>	<p>The main high-level risks identified, including economic, environmental, climate change, and social risks.</p>
<p>Constraints and dependencies</p>	<p>The constraints which may limit the scope and potential of the project, and dependencies that must be in place, or need to be coordinated with, to enable successful delivery of the project.</p>

The Strategic Case should be reviewed by a colleague who has not been involved in its development, in order to test the thinking and confirm that conclusions are robust.

Economic Case

The purpose of the Economic Case at the Early Business Case stage, is to demonstrate that you have assessed a wide range of options for delivering the project and, from this analysis, identified a preferred approach and a number of alternative options. The preferred approach and alternative options will then be appraised in the Intermediate Business Case.

The methodology described below involves:

- developing and agreeing a set of 'Critical Success Factors' (CSFs) which the project must achieve;
- thinking openly and widely about possible options for achieving the project objectives identified in the Strategic Case;
- analysing these options through a structured process using an 'Options Framework'; and
- challenging and confirming the result.

We recommend that this analysis is done through one or more 'Options' workshop(s) led by independent and impartial facilitators. The benefits of this approach are:

- It avoids the risk of jumping to a solution which may not solve the problems the authority is trying to address or achieve the desired benefits, may not be commercially viable, may not be affordable, or may not correctly balance financial considerations with broader environmental, climate, and social considerations; it therefore helps to avoid the risk of projects which never happen;
- It enables the Authority to demonstrate that it has been through a rigorous process to reach its conclusions as to the preferred approach; and
- It brings together the knowledge, experience and insight of different stakeholders in a structured way, so that benefits and opportunities can be optimised.

The 'Actions' for completing the Economic Case are set out below.

5. Define critical success factors



Who should work on this?

- The project director and manager
- Economic adviser
- Environmental and social advisers

What should you do?

- Agree the critical success factors (CSFs) for the project. The table below shows standard CSFs that can be applied to most projects, and align with the 5CM:

Table 3 – Developing critical success factors

Critical Success Factors	Description
Strategic fit and business needs	<ul style="list-style-type: none"> <input type="checkbox"/> How well does the option meet the objectives of the project and the broader strategic aims of the authority? <input type="checkbox"/> How well does the option bridge the gap between existing arrangements and the service requirements, and meet the business needs? (including strategic environmental, climate, social, and governance objectives, and contribution towards SDGs). <input type="checkbox"/> Does the option comply with applicable environmental, climate, social, and governance policies, standards and obligations, at local, national, and international levels, for example, IFC performance standards, or Nationally Determined Contributions?
Value for money (VfM)	<ul style="list-style-type: none"> <input type="checkbox"/> How well does the option optimise public value of the investment (economic, social, and environment), taking into account the potential costs, benefits and risks?
Deliverability	<ul style="list-style-type: none"> <input type="checkbox"/> Is there capacity, capability, and interest in the supplier market to deliver the option?

Critical Success Factors	Description
Affordability	<input type="checkbox"/> How much might the option cost and is it affordable from the authority's budget? (Refer to analysis undertaken in Action 10 .)
Achievability	<input type="checkbox"/> How realistically achievable is the option for the project team, and does the authority have the skills and capacity to manage it?

- The generic CSFs may be adapted to fit the specifics of the project.
- The CSFs will be used as criteria to evaluate and score the different options in **Action 6**.

What should the outcome be?

- The project CSFs in table format.

Refer to the Case Study section 2.2 for an example of how to define your CSFs.

ESG Focus 3 – Climate and decarbonisation in the Economic Case

Infrastructure is central to the decarbonisation of the global economy. The Economic Case develops and assesses project options, considering financial and non-financial factors. This options analysis should incorporate decarbonisation objectives on local, national and global levels, which is critical to ensuring infrastructure investment decisions are based on whole-life carbon costs of assets, and support long-term climate and carbon objectives/outcomes. Carbon cost is included in the CSF categories: strategic fit and business needs, and compliance.

There are many frameworks and tools available for assessing and accounting for greenhouse gas emissions, carbon, and environmental sustainability considerations in infrastructure projects (see below for examples). The Business Case development team should identify those most applicable to the national, local, and sector contexts, and that are familiar to the government and partner organisations. When procuring technical studies and advisory services (environmental and social advisers), the preferred frameworks and tools should either (a) be identified in the specification of the respective studies, or (b) required to be stipulated in supplier proposals.

The UK government updated policies and guidance in 2020 in order to (a) reflect the imperative of decarbonising the economy, (b) achieve the international commitment and legislated target of 'Net Zero' by 2050, and (c) prioritise climate change resilience and mitigation in public sector investment decisions.

The key UK documents and references are identified below, along with a selection of international tools and frameworks. These primarily address operational carbon, with further tools being developed to assess and manage embodied carbon.

The global standard for managing carbon throughout the life of assets is **PAS2080**.

It is used for design, construction, and operation, the framework supports the reduction of carbon emissions associated with the infrastructure industry:

- **The Green Construction Board (UK)** – Guidance document for PAS 2080: http://www.constructionleadershipcouncil.co.uk/wp-content/uploads/2019/06/Guidance-Document-for-PAS2080_vFinal.pdf
- **UK government – Green Book supplementary guidance** (including valuation of energy use and greenhouse gas emissions for appraisal, environment, multi-criteria decision analysis).

The Green Book sets out the broad framework for the appraisal and evaluation of all (UK) public projects, policies, and portfolio – including decarbonisation and climate change considerations and planning approach. The set of supplementary guidance materials contains more detailed information on specific issues, and the application of the Green Book in various contexts: <https://www.gov.uk/government/collections/the-green-book-and-accompanying-guidance-and-documents#supplementary-guidance>

- **UK Department for Environment and Rural Affairs – Accounting for the effects of climate change Supplementary Green Book guidance (July 2020)** – https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/191501/Accounting_for_the_effects_of_climate_change.pdf

Additional tools for calculating carbon costs are available at the following links:

A selection of tools is available on the circular ecology website including UK government references – <https://circularecology.com/carbon-footprint-calculators-for-construction.html>

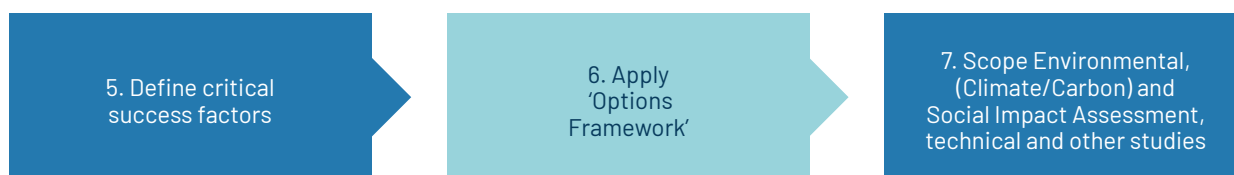
Highways England carbon emissions calculation tool – <https://www.gov.uk/government/publications/carbon-tool>

It is possible to calculate the ‘cost’ of carbon for the solution options, and present these for consideration during the options appraisal during the business case development process. This may be quantified in volume (tonnes of CO₂), or value of the carbon emissions. The UK’s Environment Agency use this approach, and present the results in a simple table like the one below.

Option	Label	Capital Carbon - Tonnes of CO ₂	Operational Carbon - Tonnes of CO ₂	Net Carbon (incl. sinks) - Tonnes of CO ₂	Rank
1	<i>Business as Usual</i>				
2	<i>Do Minimum</i>				
3	<i>Likely most sustainable</i>				
4					

The Environment Agency also uses low carbon workshops to identify options and opportunities for decarbonising their infrastructure asset base and services. (See Appendix III: Workshop – Project Level Carbon for details of the workshop.)

6. Apply 'Options Framework'



Who should work on this?

- The project director and manager
- Economic adviser
- Environmental and social advisers
- Customer and/or user representatives
- Sponsor organisation representatives
- Director of finance

What should you do?

Business as Usual

- Summarise the 'Business as Usual' option (that is, what would happen if a project were not implemented):
 - If there is an existing service or infrastructure, build on the description of the existing service in **Action 2** by answering the questions in the table below:

Table 4 – Options Framework analysis of the 'Business as Usual' option

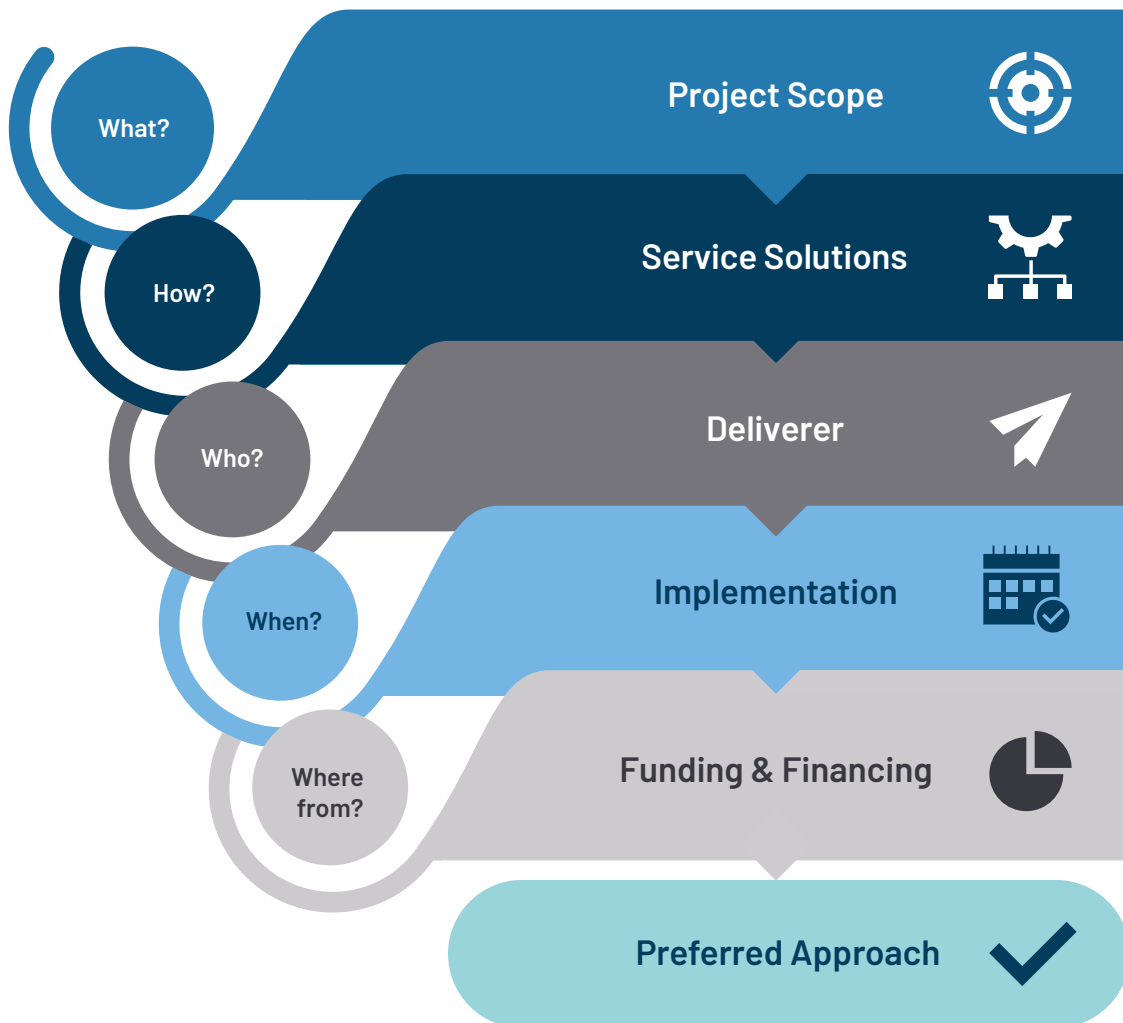
Category	Question	Response
Scope: What?	What is the current coverage of the existing service?	
Solutions: How?	How is the existing service delivered?	
Deliverer: Who?	Who delivers the existing service?	
Funding and financing: Where from?	Where is the funding for the existing service coming from?	

- If there is no current service or arrangement, you should evaluate the benefits and problems of doing nothing as your baseline – this is the 'Business as Usual' option (BAU). This will be used as a basis against which to compare other options.

EBC - Economic

- The analysis should include how the 'Business as Usual' option addresses and/or fails to address environmental, climate, and social risks and opportunities, drawing on the findings from your earlier assessments of issues and risks. Include analysis of how this option complies with required social, environmental, carbon, and climate standards, and contributes to achievement of the prioritised UN SDGs (or alternative standards and frameworks).
- Use the Options Framework filter to develop and analyse a range of other options.
- The Options Framework analysis provides a structured way of developing and considering a range of options and helps to avoid jumping to a preferred approach. It is therefore important to remain open minded when developing your options.
 - The instructions that follow will enable you to use the Options Framework as a filter. Each option should be progressively analysed using the questions within the framework, as shown in Diagram 7 – The Options Framework filter below:

Diagram 8 – The Options Framework filter



To undertake this analysis, you should:

Step 1: Generate a list of possible options and write a structured description of each option, using the table below as a starting point:

Table 5 – The Options Framework for developing a list of options

Category	Question	Response
Scope: What?	What is the potential coverage of the project?	<input type="checkbox"/> Size <input type="checkbox"/> Locations <input type="checkbox"/> Range of services <input type="checkbox"/> Area of influence
Solutions: How?	How might the project be delivered?	<input type="checkbox"/> Different possible technical or output solutions
Deliverer: Who?	Who can deliver the services? (You should always include a public sector option within this category, as this will form the basis of your public sector comparator (PSC) – this will be explained in more detail in the Intermediate Business Case.)	<input type="checkbox"/> Public sector (in-house) <input type="checkbox"/> Private sector – outsourced <input type="checkbox"/> Private sector PPP <input type="checkbox"/> Joint venture <input type="checkbox"/> Voluntary/Aid
Implementation: When?	When can the project be delivered?	<input type="checkbox"/> ‘All at Once’ <input type="checkbox"/> Fast/slow <input type="checkbox"/> Phased
Funding and financing: Where from?	Where might the funding and financing for the project come from?	<input type="checkbox"/> Public <input type="checkbox"/> Private <input type="checkbox"/> PPP <input type="checkbox"/> Bilateral grants <input type="checkbox"/> MDBs

Step 2: Using the questions as a framework, develop your ‘Category choices’ within each Category or row – ‘Scope’, ‘Solutions’, ‘Deliverer’, ‘Implementation’, ‘Funding and Financing’.

It is important to consider each category in order from top to bottom, as this will enable you to filter your options. This will produce the options longlist.

When presenting your analysis, you should order your options from least ambitious to most ambitious, as shown in the example below:

The example that follows is drawn from section 2.3 of the Case Study, which you should also refer to.

Table 6 – Applying the Options Framework for Scope

Category	Question	BAU	Least Ambitious	Intermediate Ambitious (1)	Intermediate Ambitious (2)	Most Ambitious
Scope: What	What is the potential coverage of the project?	1.1 Business as Usual	1.2 Increase connections in city centre only	1.3 Increase connections between city centre and surrounding areas (local coverage)	1.4 Connect all areas in the region (regional coverage)	1.5 Connect various regions (inter-regional coverage)

Step 3: The next step is to use a colour scale of Red, Amber, or Green to ‘RAG-rate’ each ‘Category choice’ against your critical success factors (CSFs) established in **Action 5** as follows:

- Red** – the ‘Category choice’ fails to meet the CSFs.
- Amber** – the ‘Category choice’ should be carried forward as a possibility with some concerns.
- Green** – the ‘Category choice’ meets the CSFs and is a ‘preferred approach’.

Table 7 – Using the Options Framework for Scope

Category	Question	BAU	Least Ambitious	Intermediate Ambitious (1)	Intermediate Ambitious (2)	Most Ambitious
Scope: What	What is the potential coverage of the project?	1.1 Business as Usual	1.2 Increase connections in city centre only	1.3 Increase connections between city centre and surrounding areas (local coverage)	1.4 Connect all areas in the region (regional coverage)	1.5 Connect various regions (inter-regional coverage)

Throughout the exercise, you should make notes of the reasons for the decisions made, setting out their strengths, weaknesses, opportunities and threats.

You should repeat this process through each category from **Scope** to **Funding and Financing**, using the decisions you made in **Scope** (that is, Green and Amber options) to inform the decisions you make in **Solutions** and so on through the remainder of the framework.

You should present this as a matrix, as shown in the example below (drawn from the Case Study):

Table 8 – Laying out the matrix of options

It is important to note that these ‘Category choices’ are not, at this stage, interlinked, meaning your answers in the different columns are not related to one another. The entries below are taken from the Case Study as a matrix of possible options for an infrastructure project.

Category	Question	BAU	Least Ambitious	Intermediate Ambitious (1)	Intermediate Ambitious (2)	Most Ambitious
Scope: What?	What is the potential coverage of the project?	1.1 Business as Usual	1.2 Increase connections in city centre only	1.3 Increase connections between city centre and surrounding areas (local coverage)	1.4 Connect all areas in the region (regional coverage)	1.5 Connect various regions (inter-regional coverage)

Using your green-rated preferred approach and amber-rated possible approaches from Scope to develop your Solutions

Category	Question	BAU	Least Ambitious	Intermediate Ambitious (1)	Intermediate Ambitious (2)	Most Ambitious
Solutions: How?	How might the project be delivered?	2.1 Business as Usual	2.2 Enhanced Bus/Bus Rapid Transport (BRT)	2.3 Tram	2.4 Train	2.5 Metro

Using your green-rated preferred approach and amber-rated possible ways forward from your Solutions to develop your Deliverer

Category	Question	BAU	Least Ambitious	Intermediate Ambitious (1)	Intermediate Ambitious (2)	Most Ambitious
Deliverer: Who?	Who can deliver the services?	3.1 Existing service model	3.2 DB+OM Have separate entities that Design & Build from Operate and Maintenance	3.3 DBOM Have a single entity that is responsible for Project Design, Build, Operate and Maintenance	3.4 DBFM+O One entity is contracted for the Design, Build, Finance and Maintenance and a separate entity is contracted for the Operate element	3.5 DBFOM A single entity is contracted for all elements of the project

Using your green-rated preferred approach and amber-rated possible ways forward from your Deliverer to develop your Implementation

Category	Question	BAU	Least Ambitious	Intermediate Ambitious (1)	Intermediate Ambitious (2)	Most Ambitious
Implementation: When?	When can the project be delivered?	<i>n/a</i>	4.2 Three years	4.3 Two years	4.4 One year	4.5 Immediate

Using your green-rated preferred approach and amber possible ways forward from your Implementation to develop your Funding and Financing

Category	Question	BAU	Least Ambitious	Intermediate Ambitious (1)	Intermediate Ambitious (2)	Most Ambitious
Funding and Financing: Where from?	Where might the funding and financing for the project come from?	5.1 Existing funding	5.2 Publicly funded and financed	5.3 Publicly funded and Privately financed (Availability-based PPP)	5.4 Partially Publicly funded and Privately financed (CAPEX paid on availability basis and OPEX paid on demand basis)	5.5. Privately funded and financed (Concession-based PPP)

On larger or more complex projects, you may find that you have too many ‘Amber’ options and are unable to discount many options. If this is the case, re-run the process, with additional people with relevant knowledge and experience.

Refer to Case Study Table 18 – ‘Matrix used describing a wide range of options’ for further help on how the Options Framework can be used to generate a longlist of options.

Step 4: Using your version of Table 9 above, begin matching your choices for **Scope – Solutions – Deliverer – Implementation – Funding**. The result can be in table format, as shown below:

Table 9 – Matrix of options

Category	Question	BAU	Least Ambitious	Intermediate Ambitious (1)	Intermediate Ambitious (2)	Most Ambitious
Scope: What?	What is the potential coverage of the project?	1.1 Business as Usual	1.2 Increase connections in city centre only	1.3 Increase connections between city centre and surrounding areas (local coverage)	1.4 Connect all areas in the region (regional coverage)	1.5 Connect various regions (inter-regional coverage)
Solutions: How?	How might the project be delivered?	2.1 Business as Usual	2.2 Enhanced Bus/Bus Rapid Transport (BRT)	2.3 Tram	2.4 Train	2.5 Metro
Deliverer: Who?	Who can deliver the services?	3.1 Existing service model	3.2 DB+OM Have separate entities that Design & Build from Operate and Maintenance	3.3 DBOM Have a single entity that is responsible for Project Design, Build, Operate and Maintenance	3.4 DBFM+O One entity is contracted for the Design, Build, Finance and Maintenance and a separate entity is contracted for the Operate element	3.5 DBFOM A single entity is contracted for all elements of the project
Implementation: When?	When can the project be delivered?	n/a	4.2 Three years	4.3 Two years	4.4 One year	4.5 Immediate
Funding and Financing Where from?	Where might the funding and financing for the project come from?	5.1 Existing funding	5.2 Publicly funded and financed	5.3 Publicly funded and Privately financed (Availability-based PPP)	5.4 Partially Publicly funded and Privately financed (CAPEX paid on availability basis and OPEX paid on demand basis)	5.5. Privately funded and financed (Concession-based PPP)

Step 5: The next step is to build a ‘preferred approach’ by mapping your Green choices in each category, as shown below:

Table 10 – Preferred approach option

Category	Question	BAU	Least Ambitious	Intermediate Ambitious (1)	Intermediate Ambitious (2)	Most Ambitious
Scope: What?	What is the potential coverage of the project?	1.1 Business as Usual	1.2 Increase connections in city centre only	1.3 Increase connections between city centre and surrounding areas (local coverage)	1.4 Connect all areas in the region (regional coverage)	1.5 Connect various regions (inter-regional coverage)
Solutions: How?	How might the project be delivered?	2.1 Business as Usual	2.2 Enhanced Bus/Bus Rapid Transport (BRT)	2.3 Tram	2.4 Train	2.5 Metro
Deliverer: Who?	Who can deliver the services?	3.1 Existing service model	3.2 DB+OM Have separate entities that Design & Build from Operate and Maintenance	3.3 DBOM Have a single entity that is responsible for Project Design, Build, Operate and Maintenance	3.4 DBFM+0 One entity is contracted for the Design, Build, Finance and Maintenance and a separate entity is contracted for the Operate element	3.5 DBFOM A single entity is contracted for all elements of the project
Implementation: When?	When can the project be delivered?	n/a	4.2 Three years	4.3 Two years	4.4 One year	4.5 Immediate
Funding and Financing: Where from?	Where might the funding and financing for the project come from?	5.1 Existing funding	5.2 Publicly funded and financed	5.3 Publicly funded and Privately financed (Availability-based PPP)	5.4 Partially Publicly funded and Privately financed (CAPEX paid on availability basis and OPEX paid on demand basis)	5.5. Privately funded and financed (Concession-based PPP)

Step 6: Use the same approach to develop a number of other options using any combination of your Green and Amber choices in each category. This is the shortlist of potential options. The process is illustrated below:

Table 11 – More ambitious option

Category	Question	BAU	Least Ambitious	Intermediate Ambitious (1)	Intermediate Ambitious (2)	Most Ambitious
Scope: What?	What is the potential coverage of the project?	1.1 Business as Usual	1.2 Increase connections in city centre only	1.3 Increase connections between city centre and surrounding areas (local coverage)	1.4 Connect all areas in the region (regional coverage)	1.5 Connect various regions (inter-regional coverage)
Solutions: How?	How might the project be delivered?	2.1 Business as Usual	2.2 Enhanced Bus/Bus Rapid Transport (BRT)	2.3 Tram	2.4 Train	2.5 Metro
Deliverer: Who?	Who can deliver the services?	3.1 Existing service model	3.2 DB+OM Have separate entities that Design & Build from Operate and Maintenance	3.3 DBOM Have a single entity that is responsible for Project Design, Build, Operate and Maintenance	3.4 DBFM+O One entity is contracted for the Design, Build, Finance and Maintenance and a separate entity is contracted for the Operate element	3.5 DBFOM A single entity is contracted for all elements of the project
Implementation: When?	When can the project be delivered?	n/a	4.2 Three years	4.3 Two years	4.4 One year	4.5 Immediate
Funding and Financing: Where from?	Where might the funding and financing for the project come from?	5.1 Existing funding	5.2 Publicly funded and financed	5.3 Publicly funded and Privately financed (Availability-based PPP)	5.4 Partially Publicly funded and Privately financed (CAPEX paid on availability basis and OPEX paid on demand basis)	5.5. Privately funded and financed (Concession-based PPP)

Table 12 – Less ambitious option

Category	Question	BAU	Least Ambitious	Intermediate Ambitious (1)	Intermediate Ambitious (2)	Most Ambitious
Scope: What?	What is the potential coverage of the project?	1.1 Business as Usual	1.2 Increase connections in city centre only	1.3 Increase connections between city centre and surrounding areas (local coverage)	1.4 Connect all areas in the region (regional coverage)	1.5 Connect various regions (inter-regional coverage)
Solutions: How?	How might the project be delivered?	2.1 Business as Usual	2.2 Enhanced Bus/Bus Rapid Transport (BRT)	2.3 Tram	2.4 Train	2.5 Metro
Deliverer: Who?	Who can deliver the services?	3.1 Existing service model	3.2 DB+OM Have separate entities that Design & Build from Operate and Maintenance	3.3 DBOM Have a single entity that is responsible for Project Design, Build, Operate and Maintenance	3.4 DBFM+O One entity is contracted for the Design, Build, Finance and Maintenance and a separate entity is contracted for the Operate element	3.5 DBFOM A single entity is contracted for all elements of the project
Implementation: When?	When can the project be delivered?	n/a	4.2 Three years	4.3 Two years	4.4 One year	4.5 Immediate
Funding and financing Where from?	Where might the funding and financing for the project come from?	5.1 Existing funding	5.2 Publicly funded and financed	5.3 Publicly funded and Privately financed (Availability-based PPP)	5.4 Partially Publicly funded and Privately financed (CAPEX paid on availability basis and OPEX paid on demand basis)	5.5. Privately funded and financed (Concession-based PPP)

Step 7: As you are going through this process, it is important to ask yourself whether the options emerging will be realistic, practicable and deliverable – for example:

- an ambitious option that has the strongest strategic fit, with extensive service coverage delivering rapid transformational change, may be less achievable, less affordable and have a higher deliverability risk than –
- a less ambitious option which might have a weaker strategic fit (less extensive coverage, slower change), but is more affordable and deliverable.

EBC - Economic

In the UK, this process is described as the identification of ‘trade-offs’ – bringing out the differences between possible options through discussion and review, enabling you to discard options which do not merit further investigation because they will be undeliverable, too costly or too complex, non-compliant, or will not go far enough in achieving the CSFs.

It is important that the process is not used to select options just because they are politically desirable – you should document your decisions and the reasons behind them, so that the process is transparent and can be externally reviewed and challenged.

Some CSFs are qualitative in nature, while others are quantitative. These may be difficult to compare, and the approach will be different across countries according to policies. For example, in the UK, noise pollution is recognised as a social cost and has attributed values relative to a scale of volume. The treatment of carbon may be included as a CSF with monetised values based on carbon markets for appropriate sectors, or solutions may be compared using the whole-life greenhouse gas emissions of a project, expressed as the CO2 equivalent. See the UK [Green Book](#) for more information on trade-offs and valuations.⁴³

The complexity of monetising CSFs means it is important to have stakeholders with the right knowledge and experience taking part in the options analysis workshop. (Refer to the Case Study for more on this topic.)

Step 8: The result of the process should be a matrix showing the options identified, as demonstrated in the example below:

Table 13 – Matrix of options following analysis

The reference numbers below relate to the options presented in Table 9

Category	Business as Usual	Do Minimum	Less Ambitious	Preferred Approach	More Ambitious
Scope	1.1	1.2	1.2	1.3	1.4
Solutions	2.1	2.1	2.2	2.3	2.3
Deliverer	3.1	3.2	3.2	3.5	3.4
Implementation	n/a	4.4	4.2	4.2	4.5
Funding and financing	5.1	5.2	5.2	5.5	5.5

⁴³ Annex A1 : Non-Market Valuation and Unmonetisable Values - https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/938046/The_Green_Book_2020.pdf

Step 9: Each of these options (Business as Usual, Less Ambitious, etc.) should then be subjected to further overall analysis of their strengths, weaknesses, opportunities and threats ('SWOT' analysis) as follows:

Table 14 – Strengths, Weaknesses, Opportunities and Threats

Heading	Rationale
Description	Full details of the option.
Main advantages	Strengths and Opportunities.
Main disadvantages	Weaknesses and Threats.
Conclusions	How well does it meet the project objectives and CSFs; should it be discounted or carried forward?

This should include a SWOT assessment for each box in the table and may lead to further consideration of the results. You should document your thinking and the reasons for your decisions.

Refer to Case Study section 2.3, for a detailed account of how options are analysed and discarded, and a 'preferred approach' identified.

Step 10: Indicative Public Value:

Indicative costs and benefits for each of the shortlisted options should be provided to test the affordability of the project before more detailed appraisal takes place. If feasibility studies were carried out prior to developing the business case, those should be used to provide the data for this step where appropriate.

Public Value is also known as the Net Present Social Value.⁴⁴

Public Value = Benefits - (Cost + Risk)

The costs should include some allowance for 'optimism bias' and the 'cost of risk', and, together with the benefits, be discounted to provide indicative public values for the shortlisted options. At this stage high-level estimates are calculated, and further detailed economic analysis is done for shortlist options in the Intermediate Business Case.

More detail on calculating benefits, costs, and risks, including the use of optimism bias and discount factors, is provided in the Intermediate Business Case – **Action 18**.

⁴⁴ NPSV in The Green Book page. 50 – 5.54: Summary measures of social welfare, available at: <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>

What should the outcome be?

A section of the Economic Case that includes:

- A completed Options Framework analysis of the 'Business as Usual' option using the table above.
- A completed environmental and social analysis for the 'Business as Usual' option covering the key issues outlined in Schedule 4.
- Estimates of Public Value for each of the shortlist options.
- A number of options to be taken forward for further analysis in the Intermediate Business Case. This is the shortlist of options, and should include a minimum of three from the list below:
 - the 'Business as Usual' option (always included as the baseline to compare other options to);
 - the 'Do Minimum' option;
 - a less ambitious option;
 - a more ambitious option; and
 - a 'Preferred Approach' (the preferred approach may be one of the other options if only three are being taken forward in the shortlist).

A clear narrative as to the decisions made is shown in this example:

- **Option 1** – was designated as the 'Business as Usual' option (that is, continuing with the current operations).
- **Option 2** – was designated as the 'Do Minimum' option, allowing for benchmarks against which the other options are compared. It consists of a publicly funded and financed enhanced bus service.
- Two tram options were taken forward:
 - **Option 3** – where the tram is publicly financed (that is, Tram – Design, Build, Operate, Maintain (DBOM) – Publicly financed – Local coverage); and
 - **Option 4** – where private finance is used (that is, Tram – DBFOM – Local coverage – Privately financed/Privately funded and financed). The Benefit-Cost Ratio for an alternative option (that is, Tram – DBFM + 0 – Local coverage (Privately financed/Privately funded and financed)) is unlikely to vary significantly from that of option 4, as the difference is primarily a contractual one relating to the party to which operational risk is allocated.
- One Bus Rapid Transit option was taken forward – **Option 5** – where the scheme is privately financed (though a publicly financed scheme (that is, Bus Rapid Transit – DBOM – Publicly financed – Local coverage)) and would be analysed should the Benefit-Cost Ratio of this option (5) indicate the potential for Bus Rapid Transit to be a feasible alternative.

7. Scope environmental (including climate change and carbon) and social impact assessment, technical and other studies



Who should work on this?

- The project director and manager
- Economic adviser
- Environmental and social advisers (including a gender specialist)

What should you do?

- For the options to be taken forward, you need to plan an environmental and social impact assessment (ESIA) in order to identify and evaluate the environmental – including climate change and carbon/greenhouse gas emissions, circular economy, and social risks, impacts, and opportunities to help with decision-making. The ESIA should also determine the project’s intended level of ambition with regards to the Paris Agreement on climate change, UN SDGs, Gender & Inclusion Framework, and other frameworks being applied (see Schedule 4).
- You need to ensure that you are meeting any local or national legal requirements for environmental, climate, carbon, and social risk and impact assessments. An ESIA is normally required by multilateral financial institutions prior to project funding.
 - Recently, there have been attempts by international finance institutions to utilise this risk management approach to also look for opportunities to create additional social benefits for project-affected communities and contribute to the achievement of the UN SDGs.
 - To illustrate, the International Finance Corporation (IFC) emphasises in Performance Standard (PS)1 that “the consultation process should (i) capture both men’s and women’s views, if necessary, through separate forums or engagements and (ii) reflect men’s and women’s different concerns and priorities about impacts, mitigation mechanisms, and benefits, where appropriate”. In PS2, the clients are required to “prevent and address harassment, intimidation, and/or exploitation, especially with regard to women”. PS5 provides the opportunity to achieve empowerment by stating that when “displacement cannot be avoided; the client will offer displaced communities and persons compensation for loss of assets at full replacement cost and other assistance to help them improve or restore their standards”. Mention is made throughout the Standards to pay particular attention to the needs of poor and vulnerable groups.

EBC - Economic

- Carbon accounting, circular economy, and climate change mitigation, adaptation, and resilience is increasingly incorporated into major infrastructure project planning, as countries focus on decarbonising economies and working to meet Nationally Determined Contributions (NDCs). The UK has committed to a 'Net Zero' target by 2050, and major projects are required to consider national and sector strategies for meeting this goal when developing project options. This includes the use of carbon accounting and estimating tools to understand the whole-life emissions of an asset. This analysis is typically commissioned as a technical study, and the results clearly articulated in the Economic Case. More information on UK's approach is available online.^{45, 46}

Steps:

1. Screening

- Identify the scope of an Environmental and Social Impact Assessment (ESIA) required for the project options considered, in accordance with any local, national or international bodies. If the project requires international funding, a categorisation defined by the IFC should be made for the various options, to guide a potential Environmental and Social Impact Assessment. This categorisation is defined by the level of social and environmental risk that it presents, with Category A being the highest risk. The level of detail within an Environmental and Social Impact Assessment will reflect the categorisation of the project.

2. Scoping

- Identify studies that will be required for the environmental and social impact assessment process and how these should be conducted. The level of detail of the studies should be informed by the nature and scale of the project and the presence of high-risk environmental and social factors identified during the scoping process, such as the need for resettlement or operations in critical natural habitats.
- Include a gender specialist in the scoping team to identify heightened risks and specialist skills required to support the environmental and social impact assessment process (for example, child protection, gender-based violence, resettlement, safekeeping of communities, etc.).
- ESIA studies should include consideration of national and local regulations for infrastructure sustainability and resilience, and international commitments on climate and greenhouse gas emissions. Studies should also consider opportunities for the project to adopt and promote sustainable design solutions.

⁴⁵ <https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal>

⁴⁶ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/191501/Accounting_for_the_effects_of_climate_change.pdf

- The Economic Case considers ‘Value for Money’ including consideration of unquantifiable and unmonetisable factors. This should extend to analysis of the value of the natural environment affected by the project – for people and the economy, and provides an opportunity to incorporate a natural capital approach in infrastructure policy and investment decisions. It is important to gather this data during ESIA studies for inclusion in the options analysis.⁴⁷

Table 15 – IFC Environmental and Social Categorisation

Category	Description	Example of project
Category A	Business activities with potential significant adverse environmental or social risks and/or impacts that are diverse, irreversible, or unprecedented.	A coal mine in a culturally and biodiversity rich location.
Category B	Business activities with potential limited adverse environmental or social risks and/or impacts that are few in number, generally site-specific, largely reversible, and readily addressed through mitigation measures.	A wastewater treatment plant rehabilitation on a brownfield site.
Category C	Business activities with minimal or no adverse environmental or social risks and/or impacts.	Selected capacity building or educational activities. As projects that finance construction or rehabilitation cannot be Category C projects, infrastructure projects will not fall in this category.

The detail of the environmental and social impact assessment review checklist is included at Schedule 9.

⁴⁷ More information on Enabling a Natural Capital Approach (ENCA) can be found on the UK Department for Environment, Food, and Rural Affairs (DEFRA) website - <https://www.gov.uk/guidance/enabling-a-natural-capital-approach-enca>

What should the outcome be?

An agreed scope for the Environmental and Social Impact Assessment for each option taken forward. This should include a preliminary understanding of the potential environmental and social risks, impacts, and opportunities for the option, outlined in a scoping report. The scoping report should include detailed 'Terms of Reference' for the assessment. These terms of reference should set out the risks, impacts, and opportunities identified during scoping that require further studies and assessments. It should include a requirement to determine the appropriate level of ambition with regards to the Paris Agreement, UN SDGs, Gender & Inclusion Framework and other frameworks being applied. It should also specify the type of expertise required to safely assess areas of sensitive or heightened risks (for example, a gender-based violence specialist if the project includes construction or requires community consultation). The terms of reference should be reviewed/approved by environmental and social advisers.

Economic Case completion and assurance:

- Draft the Economic Case in accordance with the template (shown in Annex 2 – Templates) and complete the summary table below.
- Finally discuss and agree the Early Economic Case with internal stakeholders to ensure that the analysis is sound. This should include an external critical challenge from someone who has not been involved in the workshops as to whether the assumptions made, and conclusions drawn, are robust.

Table 16 – Summary table of the Economic Case in the Early Business Case

Heading	Content
Critical Success Factors	A description of your Critical Success Factors (CSFs).
Business as Usual	A detailed description of 'Business as Usual', including details on the scope, solutions, deliverer and funding and financing.
Wide range of options (with RAG ratings) – the longlist	A list of the options generated from using the Options Framework – with descriptions of how well they meet the project objectives and the CSFs, and why you have chosen to dismiss certain options.
Final list of options – the shortlist	A description of how you have created your final list of options from the viable (Green and Amber) options of your matrix (see Table 9) – detailing how you have linked scope, solutions, deliverer, implementation and funding together.
Preferred approach	A description of the 'Preferred approach' (usually the option that is rated Green for all options).
Indicative Public Value	High level estimates for each shortlist option based on the costs, benefits, and risks, adjusted for optimism bias. Used to test the affordability of the project.
Environmental and social impact assessment, technical and other studies	A list of studies that will be needed, and an explanation of how environmental, climate and social issues have been included in the options analysis.

Commercial Case

The Commercial Case describes the contractual structure for the project and how it will be procured.

At the Early Business Case stage, it is not possible to be specific about the project's contractual structure, as the 'Preferred Option' has not yet been identified. Nevertheless, it is an important opportunity to:

- identify the required services to be procured;
- do early stage thinking about the possible contractual structure;
- undertake 'soft market testing' to understand potential bidders and financiers;
- consider the approach to procurement and how it will achieve value for money for the authority. This includes the ability to utilise government procurement processes to maximise public value through economies of scale, and drive low-carbon growth and decarbonisation across the infrastructure sector; and
- consider the allocation of risk amongst parties, and mechanisms for meeting policy and regulatory requirements for infrastructure assets with particular attention to environment, climate, and benefits realisation.

The output should be a set of recommendations to the project/executive board, which will make them aware of significant issues and enable them to plan for the Intermediate Business Case stage. Developing the Commercial Case at the Early Business Case stage is likely to involve close working between the project director and manager, the authority's commercial director and the legal adviser.

The actions for completing the Commercial Case are set out below.

8. Consider contractual arrangements



Who should work on this?

- The project director and manager
- Commercial director
- Legal adviser

What should you do?

- Develop your thinking at a high level on a potential contractual structure for the 'preferred approach' identified in the Economic Case, including:
 - how the contract will articulate the project scope;
 - who the contractual parties will be;
 - the type of contract – for infrastructure PPPs, the question to consider is which party will be responsible for designing, building, financing, operating and maintaining the facility/service; key questions to consider are:
 - i. what the market will accept; and
 - ii. what the authority wishes to control, and what it wishes to transfer to the contractor:
 - how risk might be allocated between the contractor and the authority;
 - payment mechanism principles;
 - how the authority wants to ensure market readiness and incentivise the contractor through the performance regime; within this you should consider what you will want the project and the contractor to achieve in terms of:
 - positive environmental (for example, contribution to the low-carbon transition, circular economy objectives, natural capital enhancement opportunities) and social impacts (for example, economic opportunities for disadvantaged groups);
 - compliance with environmental, climate, governance, and social standards;
 - meeting the projects' prioritised UN Sustainable Development Goals; and
 - how this might be reflected contractually.
- Identify, at a high level, issues which have the potential to be challenging. Issues may fall under the sustainability categories of: environment, climate, social, and governance – or more broadly, for example, financial and technical. Some examples are described below:
 - **Land ownership:** Where a new development is involved, the availability of land will need to be addressed at an early stage of the project. To the extent possible, the Early Business Case should identify the land that may be required, its status and ownership. Where land is in external ownership, it is important to start to develop an acquisition plan and consider the level of certainty of acquisition. It is good practice on transport projects to specify a minimum amount of land which must already have been acquired by the authority before going to market. This may also require relocation of existing residents, or consideration of the impact on biodiversity, habitat, and natural capital value of the affected environment.
 - **Potential personnel issues:** Will the project potentially involve transferring staff from the employment of the public sector to the contractor? If so, what are the legal implications of this and what impacts could they have on project planning?

- **Stock, ground, and specialist surveys:** For projects where refurbishment or upgrade work is likely to be required, is there up-to-date knowledge of the existing assets, as this will inform the project costings, risk pricing and risk allocation. Is there a need to commission new surveys?
 - **External interfaces and approvals:** Who are the third parties who could affect the project and who may need to be consulted? Is planning permission likely to be required and/or other consents?
 - **Accounting and balance sheet treatment:** On whose balance sheet is the project likely to sit and what are the relevant accounting standards? If the project is intended to be 'off-balance sheet' for the authority (that is, payable year-by-year as an operating cost) this commitment to pay should nevertheless be recognised. This commitment will reduce the future flexibility of the authority to enter into new spending commitments. Countries should consider how this should be reflected in the national accounts.⁴⁸
 - **Climate related design and technology considerations:** Climate change and the global shift towards sustainable growth and decarbonisation represent risks to infrastructure investments, due to potential changes in the physical environment, and to policy and legislation. Assets are at risk of becoming 'stranded' if they are not resilient to changes in environmental conditions, non-compliant with future regulation, or the technology becomes redundant. Consider where risks associated with these eventualities should be allocated through the procurement strategy.
 - **Environmental management:** Careful consideration should be given to mitigating and managing risks relating to environmental degradation, pollution, and health and safety. This may be particularly important in certain sectors, for example, waste management, water treatment, extractives and mining, nuclear (medical, defence, and energy), and oil and gas. There will be project and operational considerations, as well as decommissioning, environmental and habitat protection, remediation and rehabilitation, and the treatment and long-term storage of waste products.
- In numerous countries, projects may be delivered in accordance with Sharia law using Sukuk financing. This may require additional support and advice but is fully in line with the approach in this Guidance. Further information on Sharia and Sukuk compliance is in the PPP Certification Guidance.⁴⁹
 - The UK government has developed tools to assist with planning the commercial aspects of projects, and may be useful reference points for project teams developing business cases:
 - The Construction Playbook⁵⁰ *"captures commercial best practices and specific sector reforms outlining the government's expectations of how contracting authorities and suppliers, including the supply chain, should engage with each other."*

⁴⁸ See WB PPP Fiscal Risk Assessment Model (PFRAM), which quantifies the macro-fiscal implications, and potential fiscal risks arising from PPP projects. Available at: <https://www.imf.org/external/np/fad/publicinvestment/pdf/PFRAM.pdf>

⁴⁹ See the CP3P certification guidance, Chapter 1b: <https://ppp-certification.com/ppp-certification-guide/ppp-introduction-and-overview-appendix-b-sharia-finance>

⁵⁰ <https://www.gov.uk/government/publications/the-construction-playbook>

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- The Sourcing and Consultancy Playbooks⁵¹ “outline a series of key policies for making outsourcing decisions and contracting outside suppliers for the delivery of public services.”
- Transforming Infrastructure Performance: Roadmap to 2030⁵² “is the UK’s roadmap for transforming how the government and industry decide to intervene in the built environment, to drive a step change in infrastructure performance.”

Chapter 3 of the Case Study shows what you are aiming towards at the Intermediate Business Case stage – use this example to help structure your thinking at this Early Business Case stage.

What should the outcome be?

- A description of the potential contractual structure (building on the work done in the Options Framework in the Economic Case) and potential commercial issues which may present obstacles and risks to the successful procurement of the project (recognising that the preferred option will not be selected until the Intermediate Business Case).

⁵¹ <https://www.gov.uk/government/publications/the-outsourcing-playbook>

⁵² <https://www.gov.uk/government/publications/transforming-infrastructure-performance-roadmap-to-2030>

9. Consider bidder market and procurement options



Who should work on this?

- The project director and manager
- Commercial director
- Legal adviser

What should you do?

Consider bidder market

- At this stage, the intention is to reach a high-level understanding of who the potential bidders for the project might be. This can be documented in a bidder market review.
- This will help the project/executive board to understand questions which have an important bearing on whether to proceed with the project, including:
 - Is the project likely to attract sufficient bidders to enable real competition, which will push bidders to think innovatively and to maximise the quality of their offers?
 - Is the project likely to offer potential for small and medium sized enterprises to participate?
 - Is the project likely to attract bidders who will be able to bring a range of technical solutions?
 - Is the project likely to attract both national and international suppliers?
 - Is the project likely to be financeable (if a PPP is an option)?
 - Is the project suitable and eligible for 'green' or climate financing?⁵³
- This is typically accomplished through:
 - discussions with colleagues within your department/ministry, and more widely if relevant;
 - desktop research using publicly available information; and
 - informal calls/meetings with potential bidders/contractors on a non-committed basis ('soft market testing'); if you undertake a soft market testing exercise you should plan and structure it so that all organisations contacted are given equal amounts of information and asked the same questions; you should document your process and any discussions held.

⁵³ See Schedule 10 of this Guidance for more information on Green and Sustainable Financing

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- For complex projects where you wish to understand the appetite of a range of international suppliers, you may consider engaging a private consultancy to help you.

Consider procurement process

- At this Early Business Case stage, you should consider the range of procurement routes legally available to you and consider three key questions:
 - Will the procurement route enable the authority to demonstrate that it has met World Trade Organization (WTO) principles of equal, fair and transparent conditions of competition? (Further information is available via the footnote below.⁵⁴)
 - Will the procurement route enable the authority to meet the requirements of MDBs that may provide finance?
 - Will the procurement route reflect the complexity of the project?
- This Guidance focuses on the delivery of infrastructure projects, which typically involve the sharing of risk between public and private sector, diverse stakeholders, long design and construction phases, the involvement of MDBs and possibly private sector lenders and investors, and complex contractual structures. It is in the interests of an authority to find a contractor whose offer will help it to achieve the best social, environmental, economic, commercial and financial outcomes.
- It is unlikely that this will be accomplished without a structured procurement process. This would start by pre-qualifying a longlist of bidders, and selecting a shortlist of bidders with whom the authority can engage in dialogue, incentivising them to progressively improve the quality of their bid.
- The Project Development Routemap includes a procurement module with more information and good practice examples for infrastructure projects.⁵⁵

See note on 'Structured procurement processes' overleaf, and the section on procurement strategy in section 3.2 of the Case Study, to help you to think these issues through.

What should the outcome be?

- There should be a section of the Commercial Case that documents the research you have done, the conclusions you have come to and your recommendations.
- There should be a section of the Commercial Case which sets out the options for procurement you have considered, how you have evaluated each option against the complexity of the project and your recommendations to the project board/ executive board.
- You may also find it helpful to include the table below:

⁵⁴ World Trade Organization Agreement on government procurement: https://www.wto.org/english/tratop_e/gproc_e/gp_gpa_e.htm

⁵⁵ Project Development Routemap: <https://www.gov.uk/government/publications/project-development-routemap>

Table 17 – Analysing procurement options

Principles	Description	Explanation
Equality	How will the proposed procurement approach treat bidders equally?	
Accountability and responsibility – risk ownership	What is the risk allocation between the stakeholders? Is the incentivisation model appropriate in the short and long term?	
Transparency	How will we make the process, by which bidders will be evaluated, transparent?	
Fairness	How will we prevent favouritism or discrimination in the treatment of bidders?	
G20	How will the approach promote G20 principles of commercial viability and long-term affordability? ⁵⁶	

Structured procurement processes

The procurement processes available in any country may range from ‘simple’ to ‘complex’, including:

- ❑ **Direct award without competition** – where contracts are awarded with no formal tender process, possibly on the basis of established relationships and/or individual preferences. The contractor’s price and the quality of their offer are not subject to competition. Because the process is informal, there is no accountability for decisions, risks are likely to fall to the government rather than be shared with the contractor, cost is likely to be higher and value for money lower.
- ❑ **Acceptance of unsolicited bids without structured competition** – without the pressure of competition, risks are more likely to fall to the government than be shared, cost is likely to be higher and value for money lower.
- ❑ **Simple procurement with limited competition** – under this approach an authority may follow a procurement procedure that simply asks for fixed price bids, with the lowest bid winning. Whilst this may be appropriate for relatively simple contracts that do not require the sharing of risk, it is unlikely to offer good value for money for a complex infrastructure project.

⁵⁶ These key principles were endorsed by G20 Finance Ministers and Central Bank Governors (at the Buenos Aires summit, July 2018) and MDBs [see World Bank PPP Legal Resource Centre (PPPLRC), where the World Bank promotes the use of this Guidance, at <https://ppp.worldbank.org>].

- ❑ **Complex procurement with high level of competition** – where procurement follows a legal process that typically starts with a form of pre-qualification, then selects a shortlist of bidders with whom the authority engages in dialogue. This incentivises them to improve the quality of their bid and price in a way that will be transparent and justifiable, and is suitable for complex infrastructure projects.

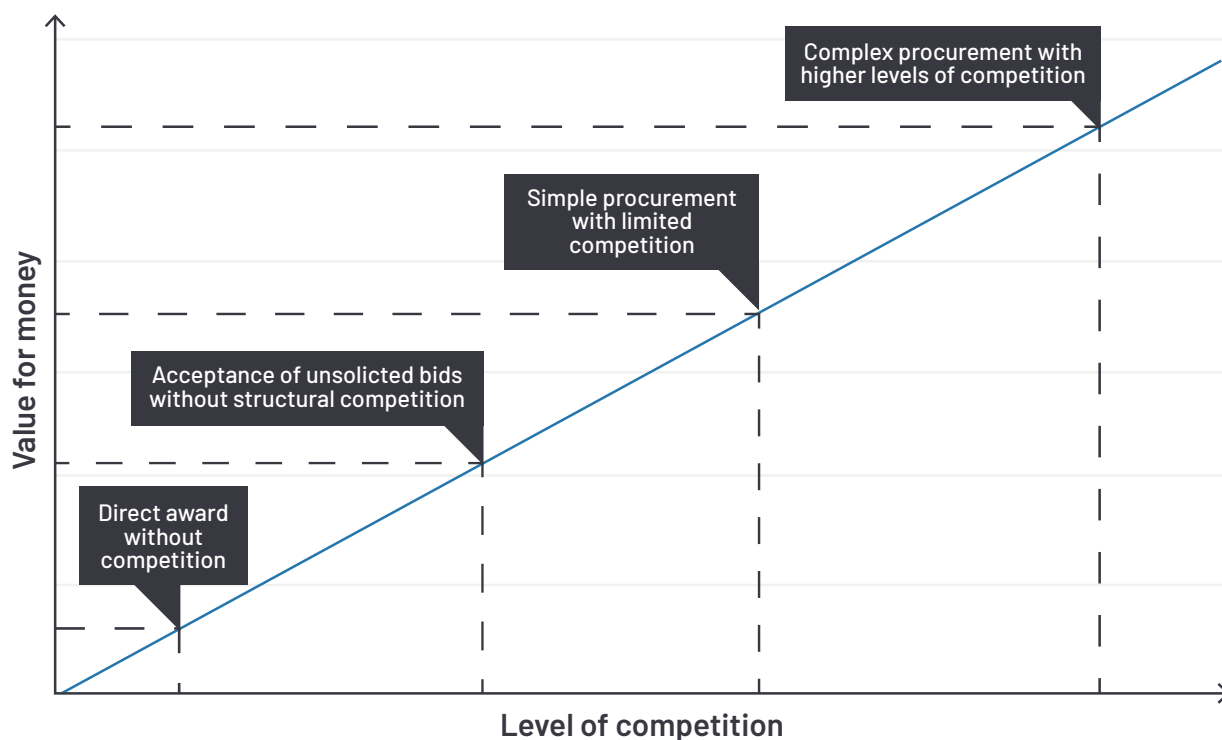
The key differences between simple and complex processes can be summarised below:

Table 18 – Simple and complex procurement processes

Simple	Complex
❑ Enables contract award on basis of lowest cost	❑ Enables contract award on basis of best value for money
❑ No pre-qualification stage	❑ Includes a pre-qualification stage
❑ No dialogue with multiple bidders therefore little or no competitive tension	❑ Competitive tension achieved through structured process of dialogue and negotiation with multiple bidders
❑ No or simple evaluation criteria used; quality of bids not tested, or only tested to a limited extent	❑ Enables more complex evaluation criteria to be applied
❑ Standard contract used, with little or no possibility of variation	❑ Contract structure can be varied to reflect the complexity of the project and the sharing of risk
❑ Simple audit trail	❑ More complex audit trail
❑ May not meet MDB standards for lending or investment	❑ Will meet MDB standards for lending or investment

Experience indicates that there is a strong relationship between the approach chosen and the ability of an authority to achieve value for money, as shown in Diagram 8 below:

Diagram 9 – Procurement value chain for infrastructure projects



The World Bank report on Procuring Infrastructure PPPs 2018⁵⁷ is a useful resource for further information. It benchmarks the regulatory framework of 135 economies against international recognised good practices, scoring them on: preparation, procurement, contract management, and treatment of unsolicited proposals. The OECD Recommendation on Public Procurement also includes useful material.⁵⁸

Unsolicited bids

Sometimes a project may be brought to the government at the initiative of a private sector entity, without an explicit request from a government to do so, as an ‘unsolicited bid’.⁵⁹ In such cases, private sector companies, generally developers, suppliers, and/or financiers, may finance the studies to establish basic project specifications and then approach the relevant government entity for approval.

If a country’s legal framework allows unsolicited bids, it is important to set clear rules to:

- maintain competitive pressure;
- deal with the difficulties which unsolicited bids present; and
- avoid them undermining the business case process.

⁵⁷ Available at: <https://ppp.worldbank.org/public-private-partnership/library/procuring-infrastructure-ppps-2018>

⁵⁸ Available at: <https://www.oecd.org/gov/public-procurement/recommendation/>

⁵⁹ For further commentary on this issue, please see: https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/documents/Procuring%20Inf.rastructure%20Public-Private%20Partnerships%20_2018_EN2_0.pdf, p.62 (Unsolicited Proposals)

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This can be achieved by developing:

- a clear framework setting out when unsolicited bids may be sought or allowed, for example:
 - bids may only be allowed within certain periods, so that officials are not permanently overwhelmed by the volume of work and unable to do their own planning; and
 - governments can signal that they will only consider bids for projects in certain sectors or geographical areas, so that private sector energies are channelled towards the government's national infrastructure priorities.
- a format for unsolicited bids, which is consistent with your business case methodology, and makes clear how issues which may not be of direct interest to a private sector bidder, but are of crucial importance to the authority and wider government, will be addressed – including but not limited to: affordability to the government; alignment with national strategies and strategic planning; inclusion of public sector leadership and management in development of the project; cost-benefit analysis and commercial procurement approach. Unsolicited bids commonly underestimate or fail to identify risks retained by government in the projects they put forward, and it will be up to public sector officials to develop a format for unsolicited bids which will make it easier (for public sector officials) to analyse bids received and present recommendations to their executive boards; and
- methods of subjecting unsolicited bids to competition – for example, through the Swiss Challenge route, whereby the government publicises details of a project or contract for which it has received an unsolicited bid and invites proposals from others interested in executing it; the government's process will need to ensure that other bidders are given equality of access to information and engagement as given to the original bidder. (Further information on the Swiss Challenge route is available on the website of the Asian Development Bank via the footnote below.⁶⁰)

Where, for reasons of policy or wider social objectives, there is a requirement to use local supply chains, this should be clearly specified in the procurement strategy.

Further guidance is available on the website of the World Bank PPP Legal Resource Center.⁶¹

Commercial Case completion and assurance:

Having completed the actions above, draft the Commercial Case in accordance with the template (provided in Annex 2 – Templates) and complete the summary table below:

⁶⁰ Asian Development Bank, Guidelines for Procurement of PPP Projects through Swiss Challenge Route: <https://www.adb.org/documents/guidelines-procurement-ppp-projects-through-swiss-challenge-route>

⁶¹ World Bank Unsolicited Proposals: <https://ppp.worldbank.org/public-private-partnership/ppp-overview/ppp-procurement-bidding/unsolicited-proposals/unsolicited-proposals>

Table 19 – Summary table of the Commercial Case in the Early Business Case

Heading	Content
Possible contractual arrangements	A high-level description of potential contractual arrangements that could be used for the 'preferred approach' established in the Economic Case and key issues arising.
Possible bidders	A summary of work done to identify potential bidders and an assessment of whether it will be possible to generate sufficient interest to run a meaningful competition.
Procurement options	A high-level description of the procurement options and how you will make the process equal, transparent and fair, and meet relevant G20 Principles.

Financial Case

At the Early Business Case stage, the Financial Case is an opportunity to reach a high-level understanding of how much the project might cost, whether it is likely to be affordable (that is, understand how much the authority and possibly other government departments can spend on the project, and whether there is likely to be an affordability gap), and what the non-governmental sources of finance might be.

This is also an opportunity to start to think about how you will do the cost modelling for the Financial Case at the Intermediate Business Case stage, and start to put the necessary capacity and capability in place. This will also start to build awareness and support for the project among potential sources of finance.

The difference between funding and financing

Throughout the Financial Case, we refer to 'financing' and 'funding'. The difference between the two is an important one in relation to infrastructure projects, particularly projects structured as PPPs.

'Financing' for a project, means the up-front borrowing and/or investment used to pay for capital costs. This could be provided by the public sector or, for a PPP, the private sector; the private sector typically raises debt and equity to finance the building of public sector assets under a PPP structure.

'Funding' is the source of income used to repay the up-front finance for a project over its life; this may come from the customer (on a PPP concession project) and/or the government (out of tax receipts).

The actions for completing the Financial Case are set out below.

10. Estimate costs, affordability and ability to raise finance

10. Estimate costs,
affordability and ability to
raise finance

Who should work on this?

- The project director and manager
- Director of finance

What should you do?

Assess affordability

- The intention is to reach a high-level understanding of whether the project will be affordable to the authority.
- To do this you should:
 - Reach a high-level assessment of potential project costs, including environmental and social risk remediation costs (high-level estimates have been calculated in the Economic Case – **Action 6**). If there is an existing service, collect data on the costs to the government of running the service. If there is no data, or it is poor quality, or if there is no existing service, undertake research to find comparable projects (sometimes referred to as the Reference Project) or refer to any feasibility studies which may have been done; you may also gather intelligence through soft market testing (see Commercial Case).
 - Work with finance colleagues, reach a high-level view of the potentially available government funding for the project, taking into account likely project revenues (for example, the fare income on a transport scheme, or any business levy), whether there is an affordability gap, and whether any 'Viability Gap Funding' is available or needed for the project (sometimes required for early stage technologies like renewable energy). It is important to note that the costs you are considering in the financial case are the real costs to government, including inflation and using applicable public sector accounting rules.

Consider how the project will be financed

- The intention is to develop a high-level understanding of how the project might be financed, looking at both the traditional procurement option (the publicly financed reference project or 'Public Sector Comparator') and, if relevant, a privately financed alternative, which you can communicate to the project board.
- You should begin by identifying and listing potential sources of finance for the project, drawing on previous experience and/or desktop research. These may include:
 - i. Government – sources may include:
 - Direct government funding;
 - Government bonds;
 - Government loan (federal and/or state);
 - Government-issued debentures, which give investors tax benefits to make investment in domestic projects more attractive; and
 - Green and climate financing mechanisms (for example, issuing Green Bonds). More details on these opportunities, including standards and frameworks to incorporate into the Business Case development process, are available in Schedule 10.

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- ii. Multilateral banks (MDBs) – please refer to Schedule 3, which provides detailed information on how to work with MDBs. At this stage, you should undertake the first two stages of the six-stage process described, namely:
 - identification; and
 - preparation.
- iii. Commercial sources of finance – it is likely, for a PPP, that the future contractor will source at least part of the financing for the project from commercial sources of finance, including:
 - investment banks; and
 - commercial banks.
- You should undertake ‘market sounding’ of the sources you have identified, meeting and speaking with them to build early awareness of the project, to give them an opportunity to raise issues which it may be important for the project board to consider, and if possible at this stage, to gain insight into possible terms and conditions. You may need to draw up a brief information document to support your discussions. You can include this as part of your general market sounding process under **Action 9**.
- During this market sounding you should explore the following issues:
 - some environmental, climate, and social risks might be unacceptable to some lenders (for example, fossil fuels for a growing number of financiers, both public and private); and
 - some financiers might give preferential terms based on the potential for a project to deliver sustainable infrastructure, defined as “infrastructure projects that are planned, designed, constructed, operated, and decommissioned in a manner to ensure economic and financial, social, environmental (including climate resilience), and institutional sustainability over the entire life cycle of the project”.⁶²
- You should summarise your findings in a table similar to the one below:

⁶² Inter-American Development Bank (IDB), Filling the Infrastructure Investment Gap: the Role of Project Preparation and Structuring Facilities, March 2019: <https://publications.iadb.org/en/filling-infrastructure-investment-gap-role-project-preparation-and-structuring-facilities>

Table 20 – Issues raised in market sounding

Source	Issues identified
Direct government	
Government bonds	
Central government loan	
Climate, green, sustainable finance	
Multilateral bank(s)	
Investment bank(s)	
Commercial bank(s)	

- To the extent you are able to, you should make an assessment as to whether there is likely to be sufficient market appetite to finance the project.

What should the outcome be?

A section of the Financial Case that sets out:

- a high-level understanding of the expected cost of the project, the extent of available funding, whether the funding required is affordable and any 'affordability gap'; and
- the research and analysis you have done to reach your conclusions and any caveats and limitations.

A section of the Financial Case that sets out:

- a high-level understanding of how the project might be financed, along with any potential finance issues and risks of which the project board should be made aware; and
- an assessment as to likely market appetite.

Section 4.3 of the Case Study provides an example of how different sources of funding are described at Intermediate Business Case stage. Whilst you may not be able to provide a comparable level of certainty at the Early Business Case stage, this is an example of what you are working towards.

Financial Case completion and assurance:

Having completed the actions above, draft the Financial Case in accordance with the template provided in Annex 2 (Templates) and complete the summary table below:

Table 21 – Summary table of Financial Case in the Early Business Case

Heading	Content
Affordability	A high-level assessment as to the affordability of the project, making clear any limitations on your assessment, and highlighting any risks and/or issues of which the project board needs to be aware, especially any funding gap.
Potential sources of finance	A summary of the conclusions of your engagement with potential sources of finance; an assessment of any risks and/or issues of which the project board needs to be aware.

Management Case

Even though the project is at an early stage of development, the Management Case in the Early Business Case plays a significant role. It provides an opportunity to think through:

- the structure of the project team and who will need to be involved, including external advisers;
- an initial budget for the team delivering the project, including estimates for external advisory costs;
- the basic elements of a future project plan, including high-level actions and timelines;
- who will provide assurance and approval, and when their input will be required;
- who the external and internal stakeholders affected by the project will be, who will need to be involved in engaging with them, and how stakeholder engagement and change management plans can be developed;
- the benefits that the project will bring, and how these can be monitored and measured; and
- the approach to risk management and who will be responsible for different project risks.

There are many aspects to delivering a complex project and the Early Business Case provides the opportunity to develop a successful delivery structure.

The Management Case should also give the project board and executive/ programme boards confidence that the necessary early stage planning is being done.

Workshop 1 provides a framework to help key decision-makers to develop this essential early thinking.

The actions for completing the Management Case are set out below.

11. Identify project delivery, management and governance structure



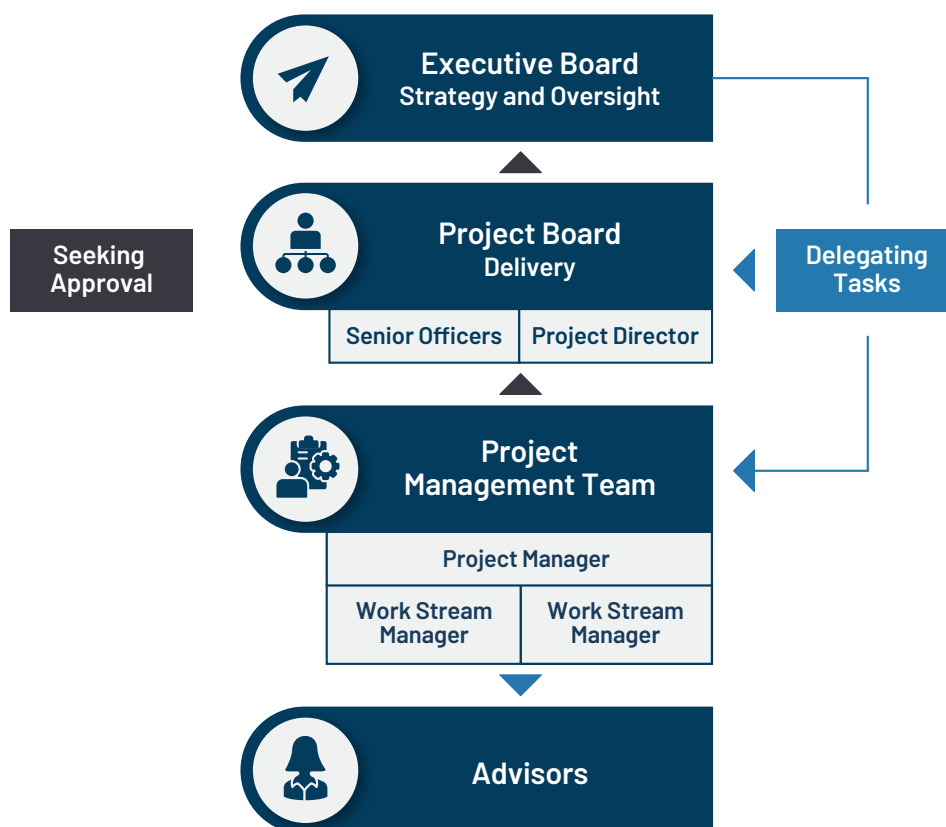
Who should work on this?

- The project director and manager

What should you do?

- The key questions at this Early Business Case stage are:
 - Who will undertake the work of bringing the Business Case together and procuring the project?
 - How will decisions be taken?
 - How will direction and control – ‘governance’ – of the project be provided?⁶³
- The Early Business Case needs to start to address these questions, and set out a governance and delivery structure. A typical structure is shown below:

Diagram 10 – Typical governance and delivery structure



⁶³ For detailed guidance see OECD Principles of Public Governance of PPPs at: <http://www.oecd.org/gov/budgeting/oecd-principles-for-public-governance-of-public-private-partnerships.htm>

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- The executive board has overall responsibility for scrutiny and approval of the business case at each stage, and for securing approvals from other authorities, where required. It holds the project board to account. If the project is part of a wider government programme, the executive board may be the overall 'programme board'. (For the purpose of this Guidance, programmes may be considered the same as major projects).
 - The project board is responsible for reviewing and approving the business case as it is developed and before it is submitted to the executive board and other external approvers. It is likely to include directors of the authority (for example, financial, commercial, human resources, operations), and may bring in representatives from other authorities where appropriate, for example to provide assurance on environmental and social risks and opportunities.
 - The project board should have the senior responsible owner (SRO) for the project as its chairperson, although they should not have an executive role. The SRO is a person with sufficient seniority and influence to 'champion' the project internally and externally, and drive its successful implementation. (Further guidance on requirements and expectations for SROs of major government projects is available via the footnote below.⁶⁴) The project board and SRO hold the project director to account.
 - The project director is responsible for delivering the business case and reports to the project board, and for applying the Project Development Routemap. They should have sufficient seniority, experience and influence to undertake the role successfully.
 - The project manager is an experienced individual who manages development of the business case on a day-to-day basis, implements the assurance and approvals plan and the project plan (see below), works with the project director to apply the Project Development Routemap and generally supports the project director. Depending on the size and complexity of the project, they will run the project team, which may include individuals with relevant experience needed to develop and draft each of the cases. They will also manage any external advisers.
- You should start to develop an organogram, similar to the one shown in Diagram 10 in sufficient detail to give the project board confidence that, if the Early Business Case is approved, the necessary delivery and governance resource will be in place to take it forward to the Intermediate Business Case.
- As risks should be 'owned' by those that manage them best, the governance structure should identify where responsibilities and accountabilities are allocated. For example, by sharing risks between private and public partners in a Public-Private Partnership (PPP). Three categories of risks are identified by the OECD⁶⁵: macroeconomic, commercial and legal/political risks.

⁶⁴ Please see guidance on the role of the SRO available at: <https://www.gov.uk/government/publications/the-role-of-the-senior-responsible-owner>

⁶⁵ For detailed guidance see OECD Principles of Public Governance of PPPs at: <http://www.oecd.org/gov/budgeting/oecd-principles-for-public-governance-of-public-private-partnerships.htm>

What should the outcome be?

A section of the Management Case that includes:

- A diagram, similar to the one shown in Diagram 10, together with narrative setting out:
 - who will fulfil each role, describing their experience and qualifications where necessary;
 - a clear understanding of who will be responsible for ensuring that social and environmental risks and opportunities are properly scoped and assessed throughout the business case development process (overall accountability and oversight for environmental and social issues should be at board level and with the SRO);
 - A high-level budget for the project team resources, including external advisors; and
 - preliminary thinking on where it will be necessary to appoint external advisers to bring in experience and expertise not available within the Authority – if needed, complete a table similar to Table 21:

Table 22 – Identifying function and cost of advisers

Specialist area	Function	Initial cost estimate
Financial		
Technical		
Environmental and social		
Procurement and legal		
BIM (building information modelling) if used		
Other		

Section 5.2 of the Case Study shows what you are aiming towards at the Intermediate Business Case stage – use this example to structure your thinking on project management structure and governance/reporting arrangements at this Early Business Case stage.

The Project Development Routemap includes modules on governance and organisational design and development, with more guidance and good practice examples for infrastructure projects.⁶⁶

⁶⁶ <https://www.gov.uk/government/publications/project-development-routemap>

12. Develop an initial project plan and assurance and approvals plan



Who should work on this?

- The project director and manager

What should you do?

- The intention is to produce an initial project plan that will build awareness and understanding internally as to what the process, timelines and resource requirements for developing the business case, and for procuring and implementing the project, are likely to be. You should also state which project management methodology will be used.⁶⁷
- You should develop a high-level project plan, showing actions, responsibilities and timelines (including principal milestones) for the business case development process, to the extent that you can estimate them at this point.
- If you are able (at this point) to estimate procurement, construction, operation and financial timelines (for example, using any feasibility studies or reports which may have already been undertaken), then you should include these in the project plan, recognising that it is subject to development through the Intermediate Business Case.
- As well as the project plan, you should produce an '**Assurance and Approval Plan**'. The early part of Chapter 3 provides detailed guidance on assurance and approvals, and you should refer to this and the additional documentation available via the footnotes as you develop your plan. Your plan should show:
 - the likely timings of assurance points and from whom you will seek assurance of draft cases; and
 - the likely timings of approval points and from whom approvals will be required.
- You should approach assurers and approvers, and agree the plan with them.

⁶⁷ PRINCE2 (Projects in Controlled Environments) is a project management standard widely used in infrastructure projects.

Transparency and information management

As you develop your project plan, you should develop information sharing protocols. This will help to meet strategic priorities to increase transparency and reduce corruption.

This can be achieved through:

- use of clear and transparent assurance and approval processes;
- making records of decisions and their rationale;
- open and competitive procurement;
- the use of digital tools and record keeping; and
- publication of contract documentation.⁶⁸

It is accepted good practice that contract documentation should be published (subject, if necessary, to redaction of any market sensitive information for a limited period of time) following signature. Authorities should therefore, as part of their project management strategy:

- confirm that they will publish contract documentation after contract signature; only commercially sensitive information (which is expected to be minimal and time limited) should be withheld; and
- make clear to potential contractors that regular project and cost reporting will be a formal condition of the project contract.⁶⁹

What should the outcome be?

- A project plan which gives the Project Board confidence that the likely requirements of the business development and project implementation processes have been identified.
- An assurance and approvals plan.

Section 5.4 of the Case Study shows what you are aiming towards at the Intermediate Business Case stage – use this example to help structure your thinking on the project plan and the assurance and approvals plan at this Early Business Case stage.

⁶⁸ See also World Bank Framework for Disclosure in PPP Projects, which provides a systematic structure for pro-actively disclosing information on PPP projects to help governments to create effective policies and practices for public disclosure, available at: <https://www.worldbank.org/en/topic/publicprivatepartnerships/brief/a-framework-for-disclosure-in-public-private-partnership-projects>

⁶⁹ For good practice on publication together with detailed reporting requirements, see the mechanisms set out in UK guidance for PF2 Contracts - Infrastructure and Projects Authority, Private Finance 2 (PF2): <https://www.gov.uk/government/publications/private-finance-2-pf2>

EBC - Management

- It may be useful at this stage to consider undertaking the assessments contained in the Project Development Routemap Handbook. The purpose of Routemap is to help you understand whether the organisations that will be responsible for development and delivery of the project have the capabilities required for the project, and whether the delivery strategy is appropriate given the delivery context and market conditions. Understanding this is especially important where the proposed project is more complex or on a larger scale than normal, or is being delivered in a new way.
- Routemap allows stakeholders to identify the areas that may require additional activity or focus. If the assessments, even at this early stage of development, indicate that the project offers challenges of complexity or capability, you should revisit the strategic, economic, commercial and financial analysis, and consider what steps you could take to reduce project complexity and/or increase organisational capability. (Schedule 6 provides more detail on the Routemap methodology.)

13. Identify stakeholders, stakeholder engagement and change management



Who should work on this?

- The project director and manager
- Environmental and social advisers
- Senior resources with experience of working with any stakeholder groups identified (for example, indigenous populations, people with disabilities)
- The authority's communications team
- External advisers

What should you do?

- Identify stakeholders and stakeholder engagement
 - Stakeholders comprise the broad range of people participating in project development, execution, monitoring and evaluation, and end users of assets and services. They include financing and executing agencies, national and local governments, communities, civil society organisations (including non-governmental organisations), beneficiaries, other groups who may be affected by the project, contractors, subcontractors and service providers.

EBC - Management

- Stakeholder analysis is important at this early stage. This should be undertaken by an adviser with experience in stakeholder analysis and/or political economy analysis. They should consult industry bodies, government partners, civil society and representative organisations for marginalised/vulnerable groups (for example, informal workers' organisations, disabled people's organisations, women's groups) to ensure all stakeholders views have been included.
- The first step is to identify all social and/or commercial groups who:
 - may be affected negatively by the project if their interests and concerns are not identified and addressed; and
 - could be affected positively by the project if ways to benefit them are built into the future contract by the authority (for example, through the key performance indicators).
- Ensure you have considered impacts on marginalised and/or vulnerable groups. How does age, gender, disability, race and other characteristics affect how they are impacted by the project? For example:
 - Do men and women use a service differently, or could the way in which a service is provided discriminate against users of either gender?
 - Is there potential to develop a service in ways which will promote women's economic advancement and empowerment?
 - How can the interests and needs of people with disabilities, children or the elderly be taken into account within the project design?
 - Are there any disadvantaged communities or indigenous populations whose interests could be impacted and/or advanced by the project?
 - Are there members of staff working for an existing service whose employment could be directly affected?
- You should use the prioritised 'sustainable development goals' identified in the Strategic Case to frame the change management approach, and the anticipated benefits and outputs of the sustainable infrastructure investment.
- You should draw on specialist advisers to help with this process. For example, you might use an environmental, gender, or socio-economic adviser for relevant components of this step.

EBC - Management

- You should then categorise the stakeholders and groups in terms of their level of interest and influence, using the table below:

Table 23 – Stakeholder engagement matrix

	Level of interest			
Level of influence		High	Medium	Low
	High			
	Medium			
	Low			

- If you identify staff employed by an existing service as a stakeholder group, legal advice may be needed before engaging with them, as legal protections of their status may apply, and legislation may require formal processes for communication.
- Using the results of the categorisation, draft an initial stakeholder engagement plan that shows the preliminary thinking on how the identified groups will be communicated and consulted with.
- Undertake early stakeholder engagement and identify risks and opportunities to different groups. If this requires community-level consultation, ensure that necessary safeguards are in place to protect community members against possible abuse and exploitation by staff/consultants.
- Develop an initial change management strategy.

The change management strategy and plan⁷⁰ will be a document, owned by the project board, which will show:

- the changes which will result from the project;
- the potential impacts on/benefits for different stakeholders;
- how stakeholders have been and will be engaged in understanding and mitigating the impacts and potential benefits of changes; and
- how changes will be communicated, implemented and managed.

A change management strategy and plan should also show how the future contract will be managed by the authority.

The Early Business Case is an opportunity to develop an initial Change Management strategy and plan, which will give you a good foundation to develop a more detailed plan once the preferred option has been identified in the Intermediate Business Case.

⁷⁰ The strategy is the aims/goals of the change management. The plan is how the strategy will be practically delivered.

What should the outcome be?

- A section of the Management Case which:
 - sets out your initial stakeholder engagement plan;
 - documents any stakeholder engagement undertaken and the outcomes, including risks and/or potential benefits; and
 - recommends how the outcomes of stakeholder engagement might be taken forward later in the economic appraisal of options undertaken in the Intermediate Business Case and the consequent development of the contract.
- A section of the Management Case which sets out your initial Change Management Plan.

Refer to Action 34 of the Intermediate Business Case (in this Guidance) to understand what you will eventually need to develop for the Change Management plan.

14. Develop an initial benefits realisation plan



Who should work on this?

- The project director and manager
- Environmental and social advisers

What should you do?

- The purpose of a benefits realisation plan is to provide a structure for thinking about the quantitative and qualitative benefits the project will achieve, how you will measure whether they are being achieved as the project is implemented, and who will monitor them.
- It will not be possible for you to develop a full benefits realisation plan at this stage; but it will be helpful for you to start thinking about potential benefits, and the resources you will need to put in place to develop and implement the plan. In particular, the measurement of environmental and social benefits may require the involvement of environmental, carbon/climate, and social impact measurement experts.

EBC - Management

- ❑ To support decarbonisation objectives, the whole-life carbon cost of different infrastructure options can be calculated using carbon planning and calculator tools.⁷¹ This analysis would usually be scoped as part of the ESIA technical studies, as detailed in the Economic Case. The carbon cost of the 'Business as Usual' option can be compared with the emission reduction benefits of alternative options. These benefits should be captured in the benefits realisation plan. Specific project carbon standards may be adopted, for example, PAS 2080,⁷² or CEEQUAL.⁷³
- ❑ The prioritised SDGs for the project identified in the Strategic Case can then be overlaid on the benefits realisation plan, to provide the 'golden thread' that links the direct inputs and outputs of the project, through to the longer-term outcomes and impacts, and the contribution towards national and global objectives.
- ❑ Using the project benefits described in **Action 4** as your starting point, develop a high-level plan of how these will be achieved, measured, and monitored using the table below:

Table 24 – Initial benefits realisation plan

Benefit	How will the benefit be delivered?	How will we measure the benefit?	How will we monitor whether the benefit is being achieved?
Benefit A			
Benefit B (etc.)			

- ❑ You should also start to think about how you will monitor the future contractor's performance, what your approach to contract monitoring will be and what resources you will need to put in place. You could spend time understanding how previous contracts have achieved this. This will put you in a good position to start planning once the preferred option becomes clear in the Intermediate Business Case.
- ❑ You should ensure that the contractors' measures of success are aligned with the project's, and include benefits realisation and SDG impacts where appropriate. These longer-term benefits and impacts are often realised after project implementation, in the operational phase of the infrastructure lifecycle.

⁷¹ A selection of tools is available on the circular ecology website including UK government references - <https://circularecology.com/carbon-footprint-calculators-for-construction.html>
 Environment Agency whole life carbon planning tool: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/571707/LIT_7067.pdf Highways England carbon emissions calculation tool: <https://www.gov.uk/government/publications/carbon-tool> UK government GHG emissions valuation: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/794737/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal-2018.pdf
⁷² <https://www.bsigroup.com/en-GB/our-services/product-certification/product-certification-schemes/pas-2080-carbon-management-in-infrastructure-verification/>
⁷³ <https://www.ceequal.com/>

What should the outcome be?

- ❑ A section of the Management Case which documents the work you have done to develop an outline benefits realisation plan, the capability you will need to develop and implement a full benefits realisation plan going forward, and any gaps which the project board will need to know about and where their input may be required.
- ❑ A table similar to Table 23 above, together with accompanying narrative to explain your thinking.

This initial benefits realisation plan will be expanded in the Intermediate Business Case (Action 35).

Section 5.6 of the Case Study shows what you are aiming towards at the Intermediate Business Case stage – use this example to help structure your thinking on the initial benefits realisation plan and on contract management planning at this Early Business Case stage.

15. Draft initial risk management strategy and plan



Who should work on this?

- ❑ The project director and manager
- ❑ Risk adviser

What should you do?

- ❑ A risk management strategy and plan give the project board and executive/ programme board confidence that project risks have been identified together with their mitigations, and that personnel resources are in place to be accountable for managing them.
- ❑ It will not be possible for you to develop a full risk management strategy and plan at this stage; but it will be helpful for you start thinking about potential risks and the resources you will need to put in place to develop and implement the strategy and plan.
- ❑ Using the project risks identified in **Action 4** as your starting point, develop a high-level plan of how these will be achieved, measured and monitored, using the table below:

Table 25 – Initial risk management

Risk	Who will be responsible for managing the risk?	How will they monitor whether the risk is being managed?
Risk A		
Risk B (etc.)		

What should the outcome be?

- A high-level risk management strategy, describing to the project board:
 - what the principal risks of the project are likely to be;
 - the recommended risk management strategy, given the risk profile; and
 - the high-level risk management plan with accompanying narrative.

Section 5.7 of the Case Study shows what you are aiming towards at the Intermediate Business Case stage – use this example to help structure your thinking on the initial risk management strategy and plan at this Early Business Case stage.

Management Case completion and assurance:

Having completed the actions above, draft the Management Case in accordance with the template (provided in Annex 2 – Templates) and complete the summary table below:

Table 26 – Summary table of the Management Case in the Early Business Case

Heading	Content
Project team	A summary description of the team (including advisers) that has worked on the Early Business Case, and how the team may need to be developed further to deliver the Intermediate and Full Business Cases; an initial budget, including estimates for external advisory costs.
Project plan, including assurance and approvals plan	A timeline that shows key points in the business case development process, along with actions that are needed to meet these. A summary of the Project Development Routemap findings and recommendations if you have undertaken one.
Stakeholder engagement	A summary of the initial stakeholder analysis and resulting engagement plan. A summary of early engagement exercises you have already completed; assessment of any key issues which the project board needs to be aware of.
Change management	A summary of the initial change management plan and assessment of any key issues which the project board needs to be aware of.
Benefits realisation plan	A summary of the initial benefits realisation plan and assessment of any key issues which the project board needs to be aware of.
Risk management strategy and plan	A summary of the initial risk management strategy and plan, and assessment of any key issues which the project board needs to be aware of.

Transition Point

Assurance and Approval Point

Draft the Early Business Case, using the template provided in Annex 2 – Templates, and submit it to the independent assurance team for review as relevant.⁷⁴ Schedule 7 provides a summary of what should be in the Early Business Case and can be used to check your document.

Obtain approval of your Early Business Case

If you follow the actions outlined in the Early Business Case, you will be able to demonstrate that you have followed international best practice in project preparation, at this stage of the project, in line with the following G20 Principles.

SUMMARY – G20 Principles – Early Business Case

You should now have answered the following questions, in line with the G20 Principles:

Strategic Case

- Have you established a clear rationale for the project and placed the project within an overall strategic context (with linkages to national, regional and local plans)?
- Have you established SMART objectives for the project, making clear the problems it aims to solve and the benefits it should bring?
- Does the project help achieve UN Sustainable Development Goals, such as universal access to basic services, electricity and energy, water and sanitation, waste removal, transport, housing, healthcare and education? Have priority SDGs (goals and targets) been identified for the project to report against?
- Have you identified the key risks, constraints and dependencies for the project?
- Does the project improve women's empowerment and inclusiveness for disadvantaged social groups?
- If this is an aid funded project and a Theory of Change and/or Results Framework have been drafted, these should clearly demonstrate the 'golden thread' from project inputs, to outputs, objectives or outcomes, and impacts – from project level through to national and international goals. This should incorporate SDGs relevant to the project.

Economic Case

- Have you established critical success factors to test your project options against?
- Have you considered all relevant options and established a shortlist for cost benefit analysis in the Intermediate Business Case?

⁷⁴ See Diagram 5 – UK Assurance and Approval process

- Have you estimated the Public Value for each option on the shortlist?
- Have you considered environmental, social, and governance issues from the outset, and are decarbonisation, climate, and sustainability factors part of the evaluation criteria?

Commercial Case

- Have you undertaken early market testing which gives you confidence that it will be possible to develop a contractual structure that will be bankable and attractive to potential bidders?
- Have you undertaken initial development of a procurement strategy that will meet principles of equality, transparency and fairness, and G20 Principles of commercial viability and long-term affordability?
- Have you undertaken initial thinking on how risk might be allocated between the parties, with such thinking to be developed at the Intermediate Business Case stage?

Financial Case

- Have you completed a high-level assessment of how much the authority is able to spend on the project (that is, its affordability envelope)?
- Have you made an initial list of the potential sources of finance for the project?

Management Case

- Have you understood what project management and project governance arrangements you will need to put in place, and started to address this?
- Have you developed your assurance and approval structure, and put this in place?
- Do you have an initial risk management plan, including environmental and social risk assessments, and corresponding mitigation plans? Have you understood where you have gaps in your plan that will need to be addressed at the Intermediate Business Case stage?
- Do you have an initial understanding of project milestones and timetable?
- Have you considered what advisers you will appoint, and have you considered this expense in the budget?
- Do you have an initial change management plan?
- Do you have an initial benefits realisation plan?
- Do you have an initial contract performance plan?

16. Commission environmental and social impact assessment (ESIA), technical and other studies

16. Commission Environmental and Social Impact Assessment, technical and other studies

Once the Early Business Case has been approved, you should complete **Action 16** below.

Who should work on this?

- The project director and manager
- Environmental and social advisers

What should you do?

- At this stage, you have completed scoping work for the environmental and social impact assessment and any other studies you may require, and have drafted terms of reference for each of these. (See Schedule 9 of this Guidance for more information on ESIA specifications.)
- Once you have obtained approval for your Early Business Case, you should check these are aligned with the requirements of MDBs or the finance institution(s) from which you are seeking funding which often require adherence to international standards. (See Schedule 3 for more information on working with MDBs.)
- Develop a process for appointing a team to undertake an environmental and social impact assessment that evaluates each of the shortlisted options. There are several options for procuring these services:
 - via open competitive tender; or
 - contracting external consultants from a pre-approved panel of experts.
- Obtain internal agreement and sign-off for these reports as required.
- Run procurement process(es) and appoint advisers.

What should the outcome be?

- Advisers appointed to undertake the environmental and social impact assessment and other studies as required.
- The team includes specific expertise on SDG-related issues prioritised in earlier steps, such as gender equality or climate change and carbon, and any areas of heightened risk identified in the scoping study.
- The team includes a mix of international and national experts.

4.2 Intermediate Business Case

The Intermediate Business Case focuses on the Economic, Commercial, Financial and Management Cases.

- It reviews the shortlist of options produced by the Early Business Case and undertakes a cost benefit analysis for each, in order to assess potential value for money and identify a preferred option.
- It sets out, in detail, the commercial viability and affordability of the project.
- It identifies the expected resources and management arrangements, and how the project will be procured.

A flowchart of the actions needed to produce the Intermediate Business Case is provided at the beginning of this Detailed Guidance chapter. The following pages provide detailed guidance on how to write the Intermediate Business Case, building on the work you have done in the Early Business Case.

Strategic Case

The purpose, at this stage, is to update the Strategic Case to reflect any comments made during the approval process of the Early Business Case, and to take account of any policy/strategy changes that may have occurred since the Early Business Case was drafted.

The action for completing the Strategic Case is set out below.

17. Reconsider the Strategic Case and reconfirm the Strategic Need

17. Reconsider the Strategic Case and reconfirm the Strategic Need

Who should work on this?

- The project director and manager

What should you do?

- Review the outcomes from **Actions 1- 4** against the development of the other four cases.
- Review the notes from the strategic needs workshop(s).
- Record any changes required to the Strategic Case by completing the table below:

Table 27 – Business Case change log

Change reference number	How it was originally presented in the EBC	Reason for change	How it will be presented in the IBC
For example, 1.1	“An objective of the project was to alleviate...”	Project no longer targeting x change	Removed

- This is important because:
 - management of the Early Business Case (EBC) may have been conditional on some changes and adjustments to the project;
 - the early opportunity for the organisation and its key stakeholders to consider the project may have influenced its direction; and
 - some time may have elapsed between the Early Business Case and commencement of the Intermediate Business Case (IBC) and elements of the project may have changed.
- Obtain internal assurance as required to the changes.
- Make amendments to the Strategic Case, using the template found in Annex 2 – Templates, in line with the table above.

What should the outcome be?

- A table setting out required changes.
- A revised Strategic Case which has been updated to reflect the changes.

Table 28 – Summary table of the Strategic Case in the Intermediate Business Case

Heading	Content
Strategic Case review	A detailed change log that shows the edits you have made and the reasons for them, and an updated Strategic Case.

Economic Case

The purpose of the Economic Case at the Intermediate Business Case stage is to undertake the detailed economic analysis of the options identified at the Early Business Case stage, and identify the 'Preferred Option' for delivering the project. The preferred option should deliver value for money (VfM).

The definition of VfM used in the United Kingdom is:

"The optimum combination of whole-of-life costs and quality (or fitness for purpose) of the good or service that meets the user's requirements."

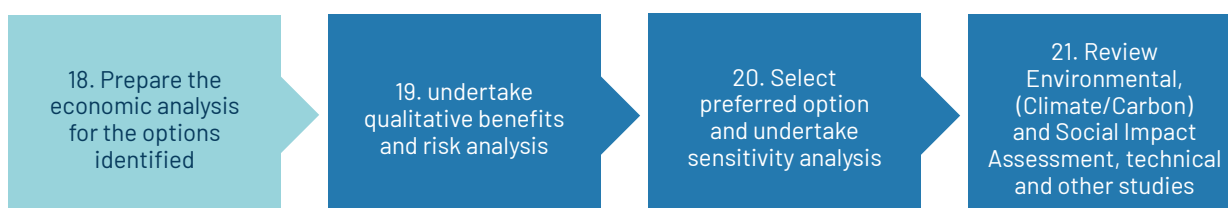
The calculation of VfM shown in this Guidance uses costs and benefits to test:

- the value of the benefits which an option will provide (for example, in terms of quality, equity, performance, capacity, utility);
- the value of the costs and risks associated with delivering that option; and
- includes quantifying social and environmental benefits, costs, and risks.

VfM is therefore different to price, which looks at only one dimension, that is, cost.

The actions for completing the Economic Case are set out below.

18. Prepare the economic analysis for the options identified



Who should work on this?

- The project director and manager
- Economic adviser
- Director of finance
- Environmental and social advisers

What should you do?

- Reconsider the shortlist options developed in **Action 6** of the Early Business Case.
- Confirm that no changes to the list are necessary following the approval of the Early Business Case/make any adjustments that may be necessary.
- Refer to the ESIA studies prepared for the shortlist options to ensure that all relevant environmental and social costs, benefits and risks are included in the analysis.
- The economic analysis process consists of:
 - cost benefit analysis;
 - appraisal of qualitative risks and benefits; and
 - sensitivity analysis.
- The purpose of cost benefit analysis is to calculate the project's Public Value. This can be mathematically defined as:

$$\text{Public Value}^{75} = \text{Benefits} - (\text{Cost} + \text{Risk})$$

- The cost benefit analysis can be broken down into the following steps:
 - **Step 1:** estimate benefits for each option;
 - **Step 2:** estimate costs for each option;
 - **Step 3:** estimate risks for each option; and
 - **Step 4:** calculate Public Value.
- The Public Value of each shortlist option was estimated in **Action 6**. This analysis is now developed in more detail and accuracy. It is important to note that the cost benefit analysis described here is different from the financial analysis described in the Financial Case (see Table 28 below).

⁷⁵ Also referred to as Net Present Social Value (NPSV) in The Green Book page. 50 – 5.54: Summary measures of social welfare, available at: <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>

Table 29 – Economic vs Financial Appraisals

Economic appraisal	Financial appraisal
<p>Focus:</p> <ul style="list-style-type: none"> <input type="checkbox"/> VfM (expressed as the project’s net present social value or cost) <input type="checkbox"/> considers the costs and benefits to society as a whole 	<p>Focus:</p> <ul style="list-style-type: none"> <input type="checkbox"/> cost and affordability (assessed by calculating the financial requirements on the authority each year in nominal terms) <input type="checkbox"/> considers the authority’s and/or other government departments’ costs and revenues
<p>Analysis:</p> <ul style="list-style-type: none"> <input type="checkbox"/> estimates value of costs and/or benefits to society as a whole (including indirect social and/or environmental costs and benefits) <input type="checkbox"/> includes estimates of opportunity costs <input type="checkbox"/> excludes inflation <input type="checkbox"/> excludes sunk costs, excludes depreciation and capital charges <input type="checkbox"/> applies a discount rate (3.5% in the UK) <input type="checkbox"/> calculates value for money by comparing the preferred option against a public sector comparator 	<p>Analysis:</p> <ul style="list-style-type: none"> <input type="checkbox"/> includes inflation <input type="checkbox"/> reflects actual costs and revenues to the authority and other government departments, but not wider social and/or environmental benefits and/or costs <input type="checkbox"/> includes capital and revenue costs, includes sunk costs

This analysis is typically done by building a spreadsheet model.

Step 1 – Estimating benefits:

- The purpose of this step is to estimate the value of the benefits of each option. Your estimates should be prudent, proportionate and appropriate:
 - prudent – benefits should be capable of being realistically measured;
 - proportionate – your estimates of costs of achieving the benefits should be justifiable;
 - appropriate – your estimated benefits should be proportionate to the anticipated scope and spend of the option; and
 - the estimates should cover the useful lifetime of the assets.
- For each option you should separate your benefits into four classes, drawing on analysis and categorisation done in **Action 4** of the Early Business Case:

<p>Cash-releasing:</p> <ul style="list-style-type: none"> □ They will save money for the authority. Either reduced operating cost, or increased revenue. 	<p>Non cash-releasing benefits:</p> <ul style="list-style-type: none"> □ They will save money through efficiency savings and it is possible to monetise them; these savings do not release cash specifically and would not appear on a balance sheet; examples include re-deployment of staff and improved efficiency.
<p>Quantitative:</p> <ul style="list-style-type: none"> □ They can be measured (for example, reductions in carbon emissions and pollution; increases in passenger numbers; reductions in travel time; increases in salaries and/or job participation for women and/or other disadvantaged groups), but not easily quantified in monetary terms. 	<p>Qualitative:</p> <ul style="list-style-type: none"> □ They can be observed (for example, reported customer satisfaction; reported improvements in quality of life; reported improvements in security for women and/or other disadvantaged groups) but cannot easily be measured.

- The next step is to apply a **discount factor** to the sum of cash-releasing and non-cash-releasing and quantitative benefits. This is to account for the value which society attributes to enjoying a benefit today rather than in the future. For this reason, the discount factor is also sometimes referred to as the 'Social Preference Rate' and should not be confused with the financial discount rate for your funding analysis. This rate does not include the costs of funding.
- The annual discount rate mandated by the UK Treasury is 3.5% (3.0% for years 31-75). The table below shows the example of an annual 3.5% discount rate on a benefit valued at £1,000.

Table 30 – Discounting Values

Year	0	1	2	3	4	5
Nominal value	£1,000	£1,000	£1,000	£1,000	£1,000	£1,000
Discounted value	£1,000	£965	£931	£899	£867	£837

- You should ask your equivalent of the UK Treasury to provide you with the discount rate to be used.
- Discount rates make all options comparable regardless of differing timeframes. This will give you the **present value** of the benefits (the sum of the discounted values).

IBC - Economic

- Having estimated the value of the quantifiable benefits of each option, you should also consider **optimism bias**. Optimism bias is the principle that people are generally over-optimistic as to the project's prospects – undervaluing costs and delivery time, and overvaluing benefits. It is important to discount the benefits by a percentage to account for the optimism bias.⁷⁶ For example, you may decide, based on previous experience of the extent to which expected benefits have been realised, to apply a discount for optimism bias of 20%.
- This percentage is a matter of judgement, which will need to be decided upon by the project director and manager with help from the economic adviser. It is crucial that the optimism bias is applied to all options using the same approach, to enable a fair analysis.
- To complete your estimation of the benefits you should fill in the table below.

Table 31 – Categorising benefits

Benefit categories and classes	Option 1	Option 2	Option 3
Discounted quantifiable benefits	For example, £0.5 million	£0.75 million	£1.2 million
Optimism bias %	For example, 20%	20%	20%
Net value	For example, £0.4 million	£0.6 million	£0.96 million

- You should fully explain your assumptions and your reasons for them.
- If you find that there is inadequate information available to evaluate project benefits, you may consider using cost-effectiveness analysis. This is a variant of cost-benefit analysis, which compares the costs of alternative ways of producing the same or similar outputs. Cost-effectiveness analysis may sometimes be appropriate where social costs or benefits will remain broadly unchanged or for the delivery of a public good, such as defence, and/or where output may not be quantified. Further guidance is available via the footnote below.⁷⁷

⁷⁶ Refer to The Green Book page 48 for more detail on the treatment of Optimism Bias in the UK. <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government> As your knowledge of the project and its risks increases over time, the level of optimism bias may reduce (though you may wish to increase the level of your contingencies for known risks provided for in the finance case). Optimism bias is intended to deal with unknown risks and contingencies with known risks.

⁷⁷ Please see page 40 of HM Treasury Green Book for UK guidance on analysis approaches, available at: <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>

Step 2 – Estimating costs:

□ Identify all costs associated with each of the options, including:

- i. **Capital costs:** These include, for example:
 - land and property;
 - construction and refurbishment costs;
 - professional fees;
 - equipment (furniture, fittings, lighting and wiring); and
 - technology and maintenance costs.

You should also include costs that the authority may incur if the project involves the decommissioning of an existing facility or equipment.

- ii. **Operating costs:** These include running, management and overhead costs.
- iii. **Lifecycle costs:** Assets may require replacement, refurbishment or upgrading over the lifetime of the analysis period, potentially including climate adaptation measures. Costs for waste management (for example, nuclear materials, and tailings for extractives), also need to be included. You should therefore assume an amount for 'lifecycle' costs over the whole life of the project. Additionally, some infrastructure projects require considerable resources to dismantle and decommission them, along with any environmental remediation and rehabilitation required, and these costs should be included.
- iv. **Opportunity costs:** These relate to the cost of using resources to develop one option as opposed to the best alternative (for example, the value of a plot of land already in public ownership should be accounted for because that land has value and could be sold – that is, it has an opportunity cost; if an option requires you to demolish a building you will lose revenue you may have gained through renting or selling it). It is likely therefore that more ambitious options will incur higher opportunity costs than less ambitious options.
- v. **Environmental costs:** These should include any environmental costs (for example, the costs of mitigating any adverse impacts on the environment; and/or any costs that can be estimated arising from environmental impacts that cannot be mitigated). This also includes current or future costs associated with greenhouse gas emissions, for example, purchasing or trading carbon credits or carbon offsetting costs.⁷⁸

Environmental and social costs will be informed by the ESIA studies that were scoped in Action 7 and commissioned in **Action 16** of the Early Business Case.

- vi. **Social costs:** These should include any social costs (for example, the costs of mitigating any adverse social impacts on affected communities; and/or any social costs that can be estimated but cannot be mitigated).

⁷⁸ For the UK government guidance on valuing energy and emission costs see the Green Book supplementary guidance at: <https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal>

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- vii. **Contingent liabilities:** You should estimate a cost to cover contingencies (for example, the cancellation costs for which the authority may be liable if it prematurely cancels a contract).
- Apply the discount rate, which you will have confirmed in **estimating benefits** previously.
 - In the same way that **optimism bias** can lead to the value of benefits being overestimated, it can lead to costs being underestimated. In the UK, accumulated experience of cost overruns means that it is possible to reliably estimate the extent to which different cost categories may be underestimated. The footnote below links to UK government guidance on optimism bias assumptions that can be used in the UK.⁷⁹ If comparable guidance is available in your country, you should use this. If not, you may wish to refer to experience from previous projects, or to use the UK guidance. As the business case develops, you may find that you can reduce the allowance for **optimism bias** as scope and cost assumptions become firmer.
 - To complete your estimation of the costs, you should complete the table below.

Table 32 – Categorising costs

Cost categories and classes	Option 1	Option 2	Option 3
Capital costs			
Operating costs			
Lifecycle costs			
Opportunity costs			
Environmental costs			
Social costs			
Contingent liabilities			
Total			
Optimism bias			
Net Total			

- Your costs should cover the useful life of the assets.
- Please note that sunk costs (that is, amounts that have already been spent and cannot be recovered) should be excluded from the economic analysis.

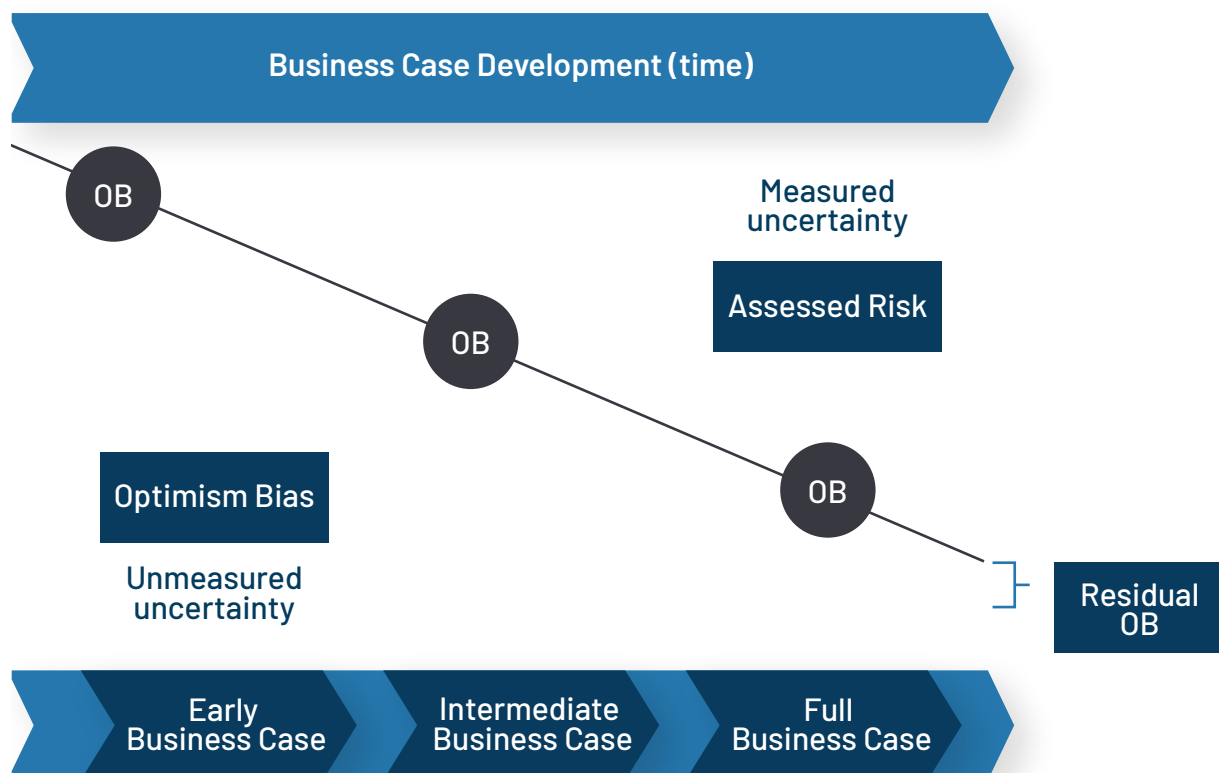
⁷⁹ Green Book guidance on optimism bias: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/191507/Optimism_bias.pdf

Step 3 – Estimating risks:

- You should start by reconsidering the ‘project’ risks you described in the Strategic Case of the Early Business Case – **Action 4**.
- Build upon these by identifying the specific risks associated with each shortlisted option. Risks fall into five categories following the lifecycle of the project:
 - i. Project development
 - ii. Tendering
 - iii. Construction
 - iv. Operation
 - v. Economic
- Detail the risks for each of your shortlisted options, ideally through a workshop with key stakeholders and risk advisers.
- Environmental and social risks will be informed by the ESIA studies that were scoped in **Action 7** and commissioned in **Action 16** of the Early Business Case.
- The next stage is to quantify the cost of each risk through a ‘**risk cost**’. This is calculated by multiplying the cost of mitigating the risk if it materialises, by a percentage that represents the probability of it occurring.
- In the same way that **optimism bias** can lead to the value of benefits being overestimated or costs being underestimated, it can lead to the impact of risks being wrongly estimated. For instance, as optimism bias goes down, contingency for known risk may need to go up. In the UK, accumulated experience of the cost impact of risks materialising means that government departments and contractors have a lot of experience to draw on, and the UK government guidance may also be helpful in this context.⁸⁰ However, if comparable guidance is available in your country, you should use that.

⁸⁰ Green Book supplementary guidance on optimism bias: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/191507/Optimism_bias.pdf

Diagram 11 – The relationship between optimism bias and risk through stages of project development



- You should then add all of your **'risk costs'** together to create a single **'risk cost'** for each option.⁸¹

Step 4 – Calculating Public Value:

- By adding the total **'risk cost'** for an option with your other costs and subtracting this total from your benefits, you can calculate the **'Public Value'**.
- Use the table below as a template for your calculations (example figures have been added to demonstrate the .

⁸¹ The methodology described in this Guidance can be extended to include Monte Carlo Analysis, a simulation technique that presents both the range, as well as the expected value of the collective impact of various costs and risks. It is useful when there are many variables with significant independent uncertainties.

Table 33 – Calculating Public Value

Options	Total benefits	Total cost and Risk cost	Public Value
Option 1 (example)	£10 million	£2.75 million	£7.25 million
Option 2			
Option 3			

- Having calculated the Public Value of each option, you should then calculate the benefits cost ratio (BCR). The BCR is simply the ratio of the discounted benefits to discounted costs. A ratio above 1 indicates that benefits are greater than costs; a ratio below 1 indicates that costs are greater than benefits; a ratio of 1 indicates that costs and benefits are equal.

What should the outcome be?

- The end result of the cost benefit analysis should be a summary table that shows your total figures (benefits, costs and risks; public value and benefits cost ratio) for each option – see example below.

Table 34 – Comparing Public Value with the Benefits-Cost Ratio

Options	Total benefits	Total costs	Total risk cost	Public Value	Benefits-cost ratio
Option 1 (example)	£10 million	£2 million	£0.75 million	£7.25 million	3.64
Option 2					
Option 3					

- You may need to look at the relationship between Public Value and BCR for each option – for example, you may have an option that has a relatively low Public Value but a relatively high BCR. This may lead you to rank this option higher than an option that has a relatively high Public Value but lower BCR.⁸²

⁸² A further comparison using the World Bank Infrastructure Prioritisation Framework is recommended. The Framework helps governments rank and compare potential infrastructure projects using a multi-criteria approach that synthesises social, environmental, financial and economic factors: <https://openknowledge.worldbank.org/bitstream/handle/10986/24511/Prioritizing0i0ment0decision0making.pdf?sequence=1&isAllowed=y>

Accuracy of estimations

The calculations described above rely on an element of judgement and estimation, and this may lead to a perception that the results are 'inaccurate'. The key point of this exercise however is to provide a useful means of **comparing options**, with the assumptions underlying the calculations reflecting the accumulated experience of the parties involved. Rather than providing a single point estimate of Public Value (which suggests complete accuracy) it may be better to provide a range.

Assessing the value for money (VfM) of a public-private partnership (PPP) option

If one option is to deliver the project as a PPP, it is also necessary to test the VfM of using private finance against a public sector comparator (PSC). A PSC is a model that shows how much the project would cost over its whole life – including its operational phase, including maintenance and service costs – if done as a traditionally funded public sector project. Even if there is no realistic means of securing the project objectives through a publicly funded option within a realistic timescale, a PSC should still be completed.

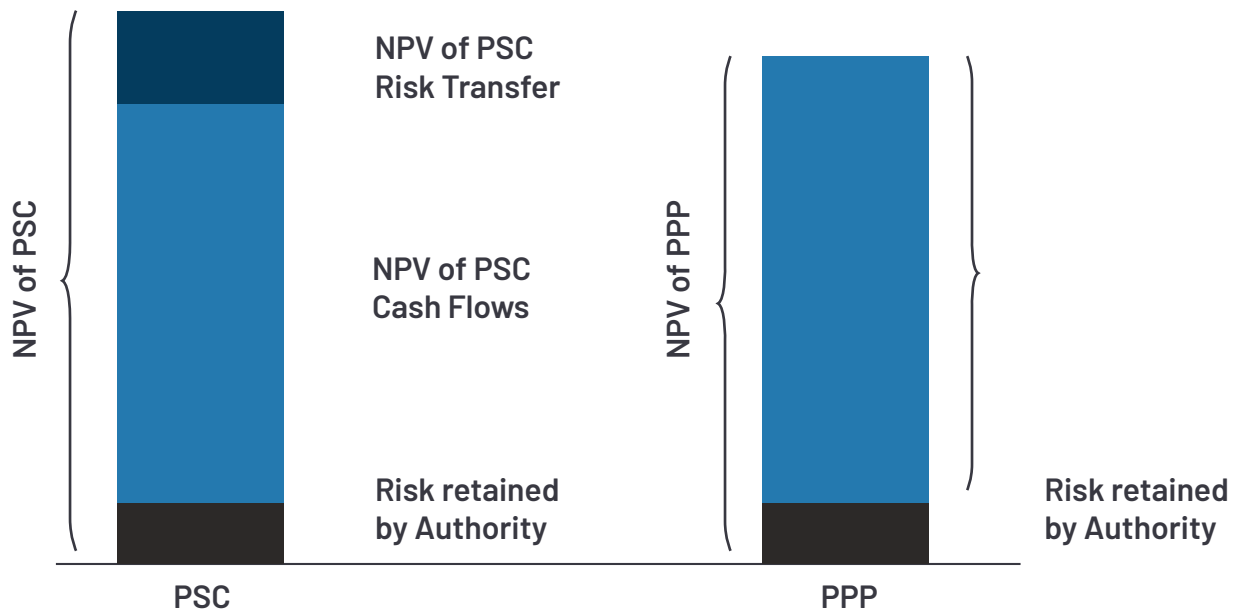
Comparison of a PPP option against the PSC will enable you to demonstrate that the advantages of the PPP option in terms of quantified risk transfer and efficiencies are large enough to outweigh the disadvantage that a private sector contractor will typically incur a higher cost of finance than government. Authorities should detail the sources of their information, and provide supporting material, such as benchmarking against similar projects. The UK has developed a methodology for cost and performance benchmarking which is available for reference.⁸³

The question then arises: how do you develop assumptions for a PSC when you have never done such a privately financed project before and may have no relevant data on its publicly funded alternative. If there is an existing service, you should collect data on the costs to the government of running the service; if data is not available, is of poor quality, or if there is no existing service, you should undertake research to find comparable projects, or refer to any feasibility studies which may have been done. The International Construction Measurement Standards (ICMS)⁸⁴ are an example of an approach developed to tackle problems with data and information. ICMS establishes standard rules of measurement to allow comparable capital costs and is being extended to cover whole-life project costs. You may also gather intelligence through soft market testing (see Commercial Case in the Early Business Case).

⁸³ <https://www.gov.uk/government/publications/best-practice-in-benchmarking>

⁸⁴ International Construction Measurement Standards: <https://www.rics.org/uk/upholding-professional-standards/sector-standards/construction/icms-international-construction-measurement-standards/>

Diagram 12 – Net Present Value (NPV) of the Public Sector Comparator (PSC) vs Public-Private Partnership (PPP)



A qualitative test should also be applied to test whether the type of project and contract being considered is suitable for delivery as a PPP. The criteria specified below will help assess the suitability of your project for PPP delivery – the higher the score for each criterion, the higher is the suitability of the project for PPP delivery.

Table 35 – PPP delivery suitability

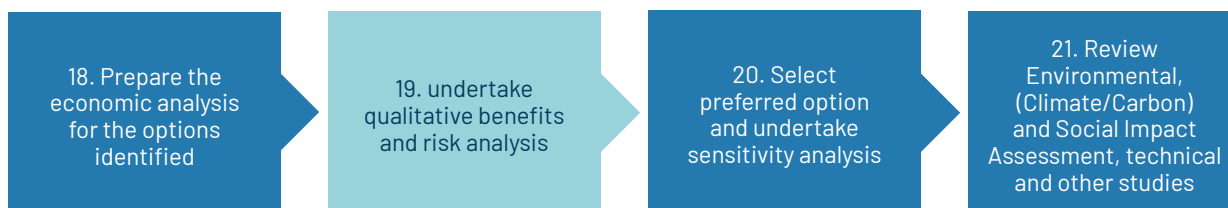
Criteria	High	Medium	Low
1. Output/service-delivery driven			
2. Substantial operating content within the project			
3. Significant scope for additional/alternative uses of the asset			
4. Scope for innovation in design and delivery			
5. Scope for long-term ‘whole life’ solution			
6. Long-term predictable need			
7. Committed and capable public sector management			
8. Political sensitivities are manageable			
9. Risks primarily commercial in nature			
10. Substantial size			
11. Complete or standalone operations to allow maximum synergies			
12. Competitive bidding market			
13. Capable of ‘fixed price’ bid			

The World Bank PPP Screening Tool, an Excel-based tool designed to help governments to determine whether projects are suitable for procurement as PPPs using a combination of qualitative and quantitative inputs, may also be helpful in conducting this analysis.⁸⁵

See Case Study section 2.9 for an example of the assessment of the VfM of a PPP option.

⁸⁵ World Bank PPP Screening Tool; available at: https://pppknowledgelab.org/search?keys=PFRAM%202.0&restrict_pages=1&site_source%5B%5D=Knowledge%20Lab

19. Undertake qualitative benefits and risks analysis



Who should work on this?

- The project director and manager
- Economic adviser
- Risk adviser
- Environmental and social advisers

What should you do?

- Next, consider the qualitative risks and benefits of each option.
- If you consider that an option with a relatively high net present cost will achieve greater qualitative benefits or pose fewer qualitative risks, the question to ask is, "how much are we willing to pay to realise this benefit/reduce these risks?"
- The options workshop should be used to undertake this analysis. Decisions made and the rationale for them should be recorded.

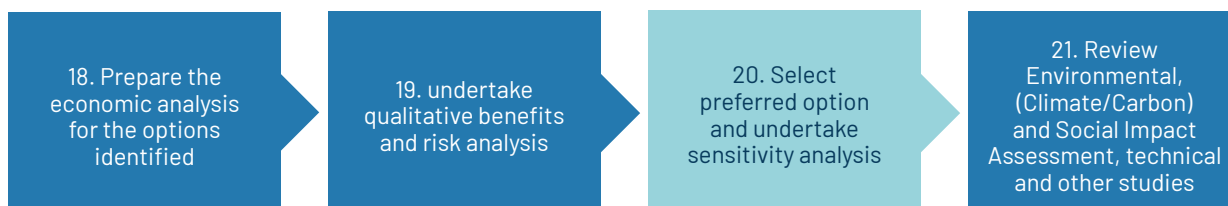
What should the outcome be?

- Add qualitative analysis from the exercise above to the options table and note the rankings of each option, as below.

Table 36 – Summary of overall results

Evaluation results	Option 1	Option 2	Option 3	Option 4
Public Value				
Qualitative benefits appraisal				
Qualitative risk appraisal				
Overall ranking				

20. Select preferred option and undertake sensitivity analysis



Who should work on this?

- The project director and manager
- Economic adviser

What should you do?

- Having completed your analysis of the benefits and risks of your options in **Action 19**, you should be in a position to identify your preferred option (that is, the 1st ranked option).
- The next step is to undertake sensitivity analysis to take into account the inherent risk and uncertainty of your figures. You should test the impact on the Public Value and BCR of each option by making changes to underlying assumptions; for example:
 - Capital Costs +/-10%
 - Operating Costs +/-10%
 - Demand +/-15%
 - Revenues +/-10%
 - Quantifiable Benefits -20%

The above percentage changes are given simply as examples. Different variables may be appropriate, with higher figures used for complicated projects and for the least certain elements (for instance traffic forecasts may merit larger ranges than capital costs). Overall, the modelling should reflect realistic, possible future scenarios. This will enable you to complete the table below.

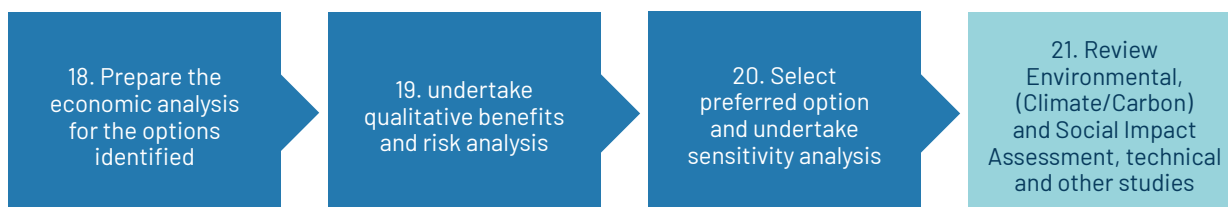
Table 37 – Summary table of options sensitivity analysis

Options	Option 1		Option 2		Option 3 (Preferred Option)		Option 4	
	Public Value	BCR	Public Value	BCR	Public Value	BCR	Public Value	BCR
+10% Capital costs								
-10% Capital costs								
+10% Operational costs								
-10% Operational costs								
-20% Quantifiable benefits								

- If you can see from this table that the preferred option still clearly produces the best Public Value and best BCR, this exercise confirms the selection of the preferred option.
- If, however, this analysis demonstrates that one option achieves Public Value and/or BCR that are very close or superior to the Preferred Option, you may wish to undertake ‘switching analysis’. Switching analysis means that you revisit the calculations in Table 25 and calculate the extent to which an option’s assumptions have to change in order for it to become the preferred option. This analysis may lead you to change your view as to the preferred option, or reconfirm the preferred option.
- You should document all of your thinking.

See section 2.6 of the Case Study for an example sensitivity analysis.

21. Review Environmental (including climate change and carbon) and Social Impact Assessment, technical and other studies



Who should work on this?

- The project director and manager
- Economic adviser
- Environmental and social advisers

What should you do?

- Step one: Review the detailed ESIA and other studies that have been carried out for each of the shortlisted options. The findings from the ESIA should inform the Intermediate Business Case and selection of the preferred option.
 - The ESIA will enable you to understand the risks on the ground relating to the physical construction and operation of the project under each option. It should also give a clear indication of the level of ambition that each option could achieve, according to the Gender and Inclusion Framework (Schedule 4), contribution to SDGs, decarbonisation priorities, and climate change risk mitigation and adaptation measures.
 - Reviewing the Environmental and Social Impact Assessment may require site investigations, collection of technical data, and understanding of beneficiary needs, including consultation with potential beneficiaries.
 - It should ideally be a joint process between you and any involved multilateral development bank. The MDB may engage consultants to support some activities in this stage, and they will conduct due diligence on delivery partners. (See Schedule 3 of this Guidance for more information on working with MDBs.)
 - You should check that the ESIA analysis encompasses the following:
 - Geographical Considerations – often distribution of economic activity and population is unevenly spread in a country. One part of a country may be relatively developed and urbanised, while other parts are more agricultural and less populated. Simple application of cost benefit analysis in this situation may favour projects being situated in already prosperous areas and contribute to over-rapid urbanisation. It is important therefore to undertake a geographical check to ensure that the cumulative effect of different projects being located in a region does not have unintended consequences or contribute to unbalancing the overall economy. Analysis should include not only the target areas, but also other areas from which resources may be diverted.

- Traditional cost benefit analysis is sometimes criticised for favouring (i) projects in major cities over those in more sparsely populated agricultural areas, and (ii) large-scale national projects over small-scale local ones. To avoid this, it is important that the overall strategic priorities are respected, and that purely economic outcomes are not favoured over broader policy outcomes.⁸⁶
 - Protected groups – the project’s impact on groups with ‘protected’ status must also be examined. These groups may be protected by law, international treaty, or development bank requirements. The protected characteristics may be by reference to: indigenous populations, ethnicity, gender, age, disability, religion, maternity, family and other characteristics. Similar consideration should be given to protected animals, plants and natural habitat.
 - Consideration of various construction models that might be used as part of the project, and the risks and opportunities associated with each (for example, labour-based works, semi-mechanised works, community construction schemes, etc.).
- Step two: Develop an ‘Environmental and Social Management Plan’ (ESMP) for the preferred option. This should be linked to the benefits realisation plan and also the prioritised SDG goals and targets that you intend to measure.
- An ESMP is a document outlining the key environmental, climate, and social risks identified for the project, mitigation measures for each risk identified, and roles and responsibilities for implementing and monitoring the implementation of the plan. The plan should also provide for potential opportunities and benefits that may become evident during project implementation or the operating life of the asset, which should be identified, recorded, and addressed. The ESMP should be developed for the preferred option. Please note that different institutions use varying terminology, so these may be referred to differently by your financier.
 - The ESMP is critical for monitoring and managing risks and impacts, benefits and opportunities, both positive and negative. It forms part of the tender documentation and so the selected supplier/implementing partner is then bound to deliver the ESMP’s requirements.
 - It is critical that the ESIA considers the full scope of opportunities and risks, and that these are captured in the ESMP. It should also include the level of ambition for ESG objectives. The ESMP will be a key tool in developing the ‘Environmental and Social Action Plan’ for the project (undertaken by the supplier).

⁸⁶ It is possible to take measures to guard against this in the cost benefit methodology itself; for example, by using a weighting adjustment for different areas of the country. For an example of this mechanism, see General Guidelines for Preliminary Feasibility Studies published by the Korean Development Institute, available at: https://www.kdi.re.kr/kdi_eng/kdicenter/general_guidelines_for_pfs.pdf

Mitigation management and monitoring plan: Environment and Social Management Plan (ESMP)

The ESMP will carry out the following:

Provide clear mitigation measures for design, construction and operations phases

Develop mitigation measures to address the key negative impacts identified. Women and/or other marginalised groups should be consulted to share their knowledge and needs, so that mitigation measures are appropriate. Where there is potential to go beyond mitigation and make broader ESG improvements ('additionality'), these opportunities should be explored.

Develop a monitoring programme

Gender-sensitive and inclusive monitoring is required to ensure appropriate tracking of project benefits for affected groups. This means designing consultation exercises that can reach women and other marginalised groups.

Clarify institutional arrangements for the implementation

The institutional arrangement should identify how the social dimension would be incorporated into project implementation. For example, would there be a specific person responsible (focal point or champion) for making sure that disability or gender issues are incorporated, or would the responsibilities go across the different positions?

Link the ESMP to the project objectives and prioritised SDGs

The ESMP is a useful information management tool for capturing data that will be used to report against the core sustainability and project objectives. Where a ToC has been developed for the project, there may be specific ESMP targets to report against periodically, and these can be incorporated into the Plan. Where project indicators and targets (KPIs) that contribute to national goals and/or prioritised SDGs have been defined, then these outputs and benefits can be captured through the ESMP monitoring activities and used for project and external reporting requirements.

What should the outcome be?

- A quality assured environmental and social impact assessment for the shortlisted options, including the preferred option.
- An ESMP for the preferred option. The ESMP will form part of the tender documentation for the project.

Economic Case completion and assurance:

- Having completed the actions above, draft the Economic Case in accordance with the template provided in Annex 2 (Templates) and complete the summary below.

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- You should also have the Economic Case reviewed by an assurer who has not been involved in the workshops or drafting process, to ensure that your assumptions and conclusions are robust.

Table 38 – Summary table of the Economic Case in the Intermediate Business Case

Heading	Content
Review of the shortlist	A detailed account of any changes that were made to the shortlist of options following the approval of the Early Business Case.
Economic benefits	A table that shows your quantifiable benefits for each option, including the application of the discount rate and optimism bias – add footnotes or appendices that describe the reasons for your level of optimism bias.
Economic costs	A table that shows the different categories of costs and their values, for each option, including the application of the discount rate and optimism bias – add footnotes or appendices that describe the reasons for your level of optimism bias.
Economic risks	A table that shows your calculations for determining the 'risk cost' for each option.
Public Value compared to BCR	A table that shows the calculation of Public Value for each option, and how it compares to the Benefits Cost Ratio.
Qualitative benefits and risks	A detailed description of the qualitative benefits and risks that you have analysed for each option, and the potential effects this has on the ranking of the options.
Comparing Public Value, benefits costs ratio, and qualitative scoring	A table that shows the Public Value, benefits cost ratio, qualitative risks and benefits, and the ranking of each option. Supply detailed accounts on the decision-making process of ranking the options.
Preferred option	A detailed description of the preferred option with supporting tables that show the sensitivity of the option, and its value for money.
Review of environmental, climate and carbon, and social impact assessments, and other technical studies	A description of how the environmental and social impact assessment, technical or other studies, and ESMP, have been reviewed and updated to reflect your preferred option. This should include studies related to carbon emissions, and climate mitigation, adaptation, and resilience.

Commercial Case

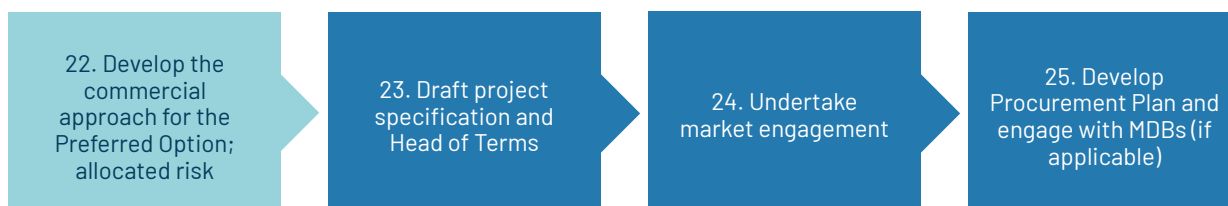
The Economic Case has now produced a preferred option.

The purpose of the Commercial Case at this Intermediate Business Case stage is to build on the work done in the Early Business Case stage, develop the contractual structure, including detailed risk allocation and procurement process, and engage formally with potential bidders and, if relevant, MDBs.

The Intermediate Business Case Commercial Case should give the project board and executive/programme board confidence that the preferred option is commercially viable and the risk allocation is appropriate, that the supplier market has been tested, and the contract is well developed and deliverable.

The actions for completing the Commercial Case are set out below.

22. Develop the commercial approach for the preferred option; allocate risk



Who should work on this?

- The project director and manager
- Commercial director
- Risk adviser
- Legal adviser

What should you do?

- Building upon your work in **Action 8** in the Early Business Case, where you considered the different contractual structures for the 'Preferred Approach', determine the most appropriate form of contract, for example:
 - Design, Build, Finance, Operate and Maintain (DBFOM);
 - Design, Build, Operate and Maintain (DBOM);

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- Design, Build, Finance and Maintain plus Operate (DBFM+O); or
- Design and Build plus Operate and Maintain (DB+OM).

For the preferred option established in the Economic Case, refer to Schedule 2 – Commercial Strategy workshop.

You will also find a detailed review of different commercial approaches in section 3.2 of the Case Study.

- Following this, develop a contract risk allocation matrix for the preferred option which builds on the risks you have identified in **Actions 4 and 19**.
- Risks should be:
 - allocated to the party best able to manage them; and
 - quantified and costed.⁸⁷
- These can then be embodied in the contract (see below).
- Table 38 below shows a typical high-level risk allocation for a PPP project.

Table 39 – Risk allocation for PPP project

	Public authority	Private contractor	Shared
Risk allocation: design			
Cost overrun caused by design		X	
Construction delay caused by design		X	
Operating inefficiencies caused by design		X	
Obtaining land ownership and warranting good title to land	X		
Relocation of people/livelihoods restoration	X		
Obtaining planning permission and other consents			X
Risk allocation: construction			
Construction problems cause time overrun		X	
Contractor becomes insolvent		X	

⁸⁷ The quantification of risks is completed in the cost benefit analysis in the economic case.

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	Public authority	Private contractor	Shared
Public sector partner causes delay or restricts site access	X		
Force majeure causes delay			X
Force majeure causes cost overrun		X	
Facility never satisfies handover requirement /private sector partner abandons construction		X	
Risk allocation: operations			
Facilities unavailable (unless due to force majeure or public sector breach)		X	
Operational problems cause cost overrun		X	
Lifecycle maintenance is more or less than budgeted		X	
Failure to meet service standards (including health and safety)		X	
Change of law affecting building occurs during operational phase			X
Buildings not returned in required condition		X	
Public sector partner reclaims building or ends contract early	X		
Force majeure causes costs overrun		X	
Environmental damage, site or downstream contamination resulting from operations		X	
Public sector partner changes performance standards	X		
Recurring persistent breaches		X	
Changes in carbon emissions regulations and policies makes technologies or assets redundant			X
Risk allocation: demand			
Low user numbers			X
Risk allocation: finance			
Inflation rate changes	X		X

	Public authority	Private contractor	Shared
Private sector partner's costs are higher than budgeted		X	
Change in tax legislation/rates		X	
Discriminatory or project-specific change in law	X		
Public sector partner changes performance standards	X		
Private sector partner found guilty of corrupt practices		X	

The risk of a public health emergency, such as that caused by COVID-19 (Coronavirus), should also be dealt with. This is particularly important for infrastructure projects which involve public services (and this will include many PPPs). Contracts for such projects should, in particular, deal with how the service may be affected in such an emergency, how the impact of any such emergency should be reflected in the payment flows (if at all), if the force majeure provisions apply (if at all), how the infrastructure may need to be requisitioned or adapted, whether the service should continue to be provided in a different way. A more detailed management plan for any such emergency should be developed.

You will also find an example of a more detailed risk allocation matrix for a transport project in Table 31 of the Case Study.

Useful guidance on allocating risks in public-private partnership contracts is also available on the G20 Global Infrastructure Hub via the link in the footnote below.⁸⁸

The Project Development Routemap includes a risk management module with more guidance and good practice examples for infrastructure projects.⁸⁹

What should the outcome be?

- A risk allocation matrix similar to the examples above and in the Case Study, together with accompanying narrative to describe your underlying thinking.

⁸⁸ PPP Risk Allocation Tool, available at: <https://ppp-risk.gihub.org/>

⁸⁹ <https://www.gov.uk/government/publications/project-development-routemap>

23. Draft project specification and Heads of Terms



Who should work on this?

- The project director and manager
- Commercial director
- Legal adviser
- Environmental and social advisers

What should you do?

- The purpose is to develop Heads of Terms for the future project contract based on the preferred commercial approach. This will be the framework within which the full contract can be drafted.
- Key elements of the Heads of Terms will include:
 - project scope;
 - project objectives;
 - required outputs (based on your key service requirements from **Action 2**);
 - responsibilities of the private sector partner;
 - responsibilities of the public sector partner and wider government;
 - responsibilities for acquisition of all licenses and permits required for the project;
 - risk allocation (using the risk allocation matrix you developed in **Action 22**);
 - payment mechanism (the contractual mechanism which will determine how the private sector partner is paid);⁹⁰
 - key performance indicators (KPIs) (based on your KPIs from **Action 2**); and
 - termination provisions.

⁹⁰ See (1) OECD Principles for Private Sector Participation in Infrastructure at: <http://www.oecd.org/daf/inv/investment-policy/38309896.pdf>. See also (2) OECD/WB Checklist for PPP Projects at: <https://www.oecd.org/finance/financial-markets/WBG-OECD-Checklist-for-PPP-Projects.pdf>

- Your Heads of Terms should also show how the key contract issues you identified and analysed in **Action 8** will be dealt with in the contract.⁹¹
- For a PPP, you may not produce a detailed specification, but instead use an output-led approach, so as to allow suppliers to be innovative in their bids. As regards design, you may produce a design brief in which you specify:
 - social and environmental and design quality indicators; and
 - basic adjacencies (for hospitals and educational facilities, for example, these are of vital importance)⁹² which can be developed into a reference or illustrative solution.

Building Information Modelling techniques

You may consider using Building Information Modelling techniques (BIM) in the development of your project. BIM is a digital transformation process that enables easy sharing of data between the different contributors during a project's construction and subsequent operation, making use of 3D computer models to simulate the finished asset and produce a realistic vision of what is being aimed for. It can facilitate early engagement between you and bidders/the contractor. It can also lead to savings in time and material, reduced risks, and improvements to health and safety, asset utilisation and asset quality. More broadly, it supports the digitisation of construction, and the greater use of modern methods of construction and manufacturing, and more efficient operation, maintenance and monitoring of the project throughout its life. See Schedule 6 for further information.

Payment mechanisms may compensate the contractor through a number of mechanisms such as:

- 'availability-based' payments – following construction, the contractor is paid a monthly fee to cover capital and financing costs against availability of service;
- revenues – the contractor keeps all or a proportion of revenues generated by the project (for example, road tolls, fares paid by passengers); if the government holds fares below a level which compensates the contractor's costs, the government may pay an additional amount to the contractor;
- performance-based payments – a portion of the contractor's revenue may be linked to their performance measured by the KPIs;
- 'make good' or 'contract for difference' arrangements, whereby the private sector are effectively assured (by public sector price underpinning) of a minimum sale price; this may be needed where, for instance, new sources of low carbon electricity generation are not commercially viable without support;⁹³

⁹¹ See generally WB Standard Contractual Provisions. Model provisions are provided. See: <https://ppp.worldbank.org/public-private-partnership/library/guidance-ppp-contractual-provisions-2019>

⁹² The term 'adjacencies' refers to how different elements of a building are located in relation to each other – for example, in a hospital, positioning of wards, theatres, laboratories, and diagnostic facilities.

⁹³ <https://www.gov.uk/government/publications/contracts-for-difference/contract-for-difference>

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- ❑ 'Viability Gap Funding' for PPPs where it offers value for money for the public sector to make a payment contribution to the project (see, for instance, Government of India Guidance⁹⁴); and
- ❑ more traditional structures – for payment against work done.

The payment mechanism should be used as the primary place to embed risk apportionment arrangements, with contractor failures leading to payment deductions. The purpose of a well-constructed payment mechanism is to reflect the optimum balance of risk and return in the contract and incentivise the contractor to perform their services. As part of this, in developing the project contract, you should consider how you wish to incentivise the contractor and the authority to increase ambition on social and environmental issues through the project responsibilities, performance indicators and payment mechanism. Within the contract, ensure:

- ❑ you have highlighted existing policy and legal requirements; there is a stronger incentive for the private sector to pursue quality environmental and social practices if compliance with these is a requirement within existing laws and policy;
- ❑ you include specific clauses on gender and social inclusion under the non-discrimination and equal opportunity sections; these can set requirements for equal wage rates, data management, community participation plans, measurements, payment schedules, etc.;
- ❑ you reach agreements with partners that include specific commitments to addressing environmental and social risks and opportunities;
- ❑ KPIs relating to decarbonisation, climate mitigation, adaptation and resilience, and delivering against SDG targets, are clearly reflected in the contract
- ❑ that a comprehensive ESMP, or equivalent, is in place, which specifies environmental, climate, and social risk management and monitoring requirements for all stages of the project, and clauses that allow for the enforcement of penalty mechanisms, should the ESMP not be appropriately implemented; and
- ❑ that there is a mandatory requirement for an accessible complaints/ grievance mechanism; there should be a mechanism for both workers and the affected communities.

An example description of a payment mechanism is provided in the Case Study section 3.5. Further guidance is also available via the links in the footnote below.⁹⁵

See Case Study section 3.6 for an example of how to address contract issues in the Intermediate Business Case.

⁹⁴ <https://dea.gov.in/sites/default/files/Scan%20of%20Revamped%20VGF%20Guidelines%20alongwith%20all%20Annexures-compressed.pdf>

⁹⁵ See OECD Principles for Private Sector Participation in Infrastructure, available at: <http://www.oecd.org/daf/inv/investment-policy/38309896.pdf>; and the PPP Reference Guide available on the website of the Public-Private-Partnership Legal Resource Center at: <https://ppp.worldbank.org/public-private-partnership/library/ppp-reference-guide-3-0>

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You should also consider using the Project Development Routemap (Routemap) to inform your thinking on the project specification and Heads of Terms. Routemap includes four capability assessments:

- ❑ the **sponsor assessment** – this will strengthen your understanding of the requirements for the sponsor’s (authority’s) capability to keep the project viable and aligned with strategic objectives during the investment and delivery planning process;
- ❑ the **client assessment** – considers the ability of the client organisation (the future contractor) to engage effectively with an appropriately selected supply chain and to manage the delivery outputs and outcomes;
- ❑ the **asset manager assessment** – helps identify key operational and maintenance requirements and constraints to be considered; and
- ❑ the **market assessment** – reviews the market’s ability and appetite to respond to the requirements over the life of the infrastructure.

All of these assessments can be found in the **Project Development Routemap for Infrastructure Projects: International Guidance**.⁹⁶ At this stage, you may not know who will be undertaking these roles; however, the assessments will help you to understand and describe the capability required for successful delivery.

It may not be possible to fully complete the assessments at this stage; however, they may help you to develop your thinking as to what you want from the future contractor, and what capabilities you will need to have in place in order to be able to manage the contract.

You can also review the seven Routemap modules, which may also help you to structure your specification and Heads of Terms and advance your thinking on the internal capability you will need.

The seven modules cover areas that represent common causes of under-performance, and lessons learned from other projects, and reviewing them can support your decision-making by aligning with best practice. Being able to answer all the ‘Considerations’ questions in the modules should give you confidence that your business case is robust.

See Schedule 6 for further information on Routemap.

What should the outcome be?

A clearly drafted specification and Heads of Terms, informed by application of the Routemap, which will serve as the basis for the project contract documentation.

⁹⁶ <https://www.gov.uk/government/publications/project-development-routemap>

24. Undertake market engagement



Who should work on this?

- The project director and manager
- Commercial director
- Legal adviser
- Environmental and social advisers
- Communications team

What should you do?

- In **Action 9**, you undertook 'soft market testing' to assess the interest of potential bidders.
- Now that you have identified your preferred option, and developed a Heads of Terms of Agreement, you should progress to market engagement; the purpose of this is to:
 - prepare the market for the forthcoming tender (drawing particular attention to new/more ambitious requirements in the tender, for example, increased focus on delivering environmental and social benefits);
 - enable bidders to start to think about how they will maximise the value for money of their proposals; and
 - invite feedback in a structured way that may lead you to adjust the Heads of Terms.
- To do this, you need to develop a market engagement strategy and plan.
 - Strategy: how you will ensure that market engagement aligns with World Trade Organization principles, treats all potential bidders equally and fairly, and is transparent (that is, all participants understand the intentions of the market engagement and their obligations).
 - Plan: how you will put the strategy into operation. It is common to organise a 'bidder day' to which all potential bidders and market participants are invited, where the authority presents the project and proposed procurement, and where MDBs and potential investors and lenders may also be present. To plan a bidder day, you will need to consider:
 - i. Who will present?
 - ii. What will they present? For example:
 - a summary of the proposed project;

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- a summary of the contractual structure; and/or
- a summary of what the bid requirements and evaluation criteria are likely to be.

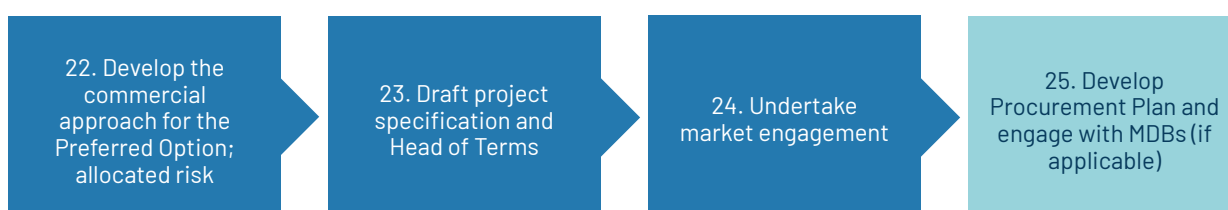
iii. Who will be invited (developers, contractors, lenders; MDBs, investors)?

What should the outcome be?

A section of the Commercial Case that includes:

- a market engagement strategy and plan;
- implementation of market engagement; and
- narrative which answers the following questions:
 - Is there enough evidence of contractor, lender and investor market interest to justify launching the project on the proposed terms?
 - Who are the prospective bidders?
 - Is the bidder community large enough to provide competitive tension?
 - What is the expected availability of equity and debt finance?
 - Are we confident that the MDBs (if involved) will provide finance?
 - Do we need to amend the Heads of Terms?
 - Do we have enough understanding of bidder interest to enable us to draft and run a procurement process?
 - Should we terminate the process at this point – or suspend it to reconsider it?

25. Develop 'Procurement Plan' and engage with multilateral development banks (if applicable)



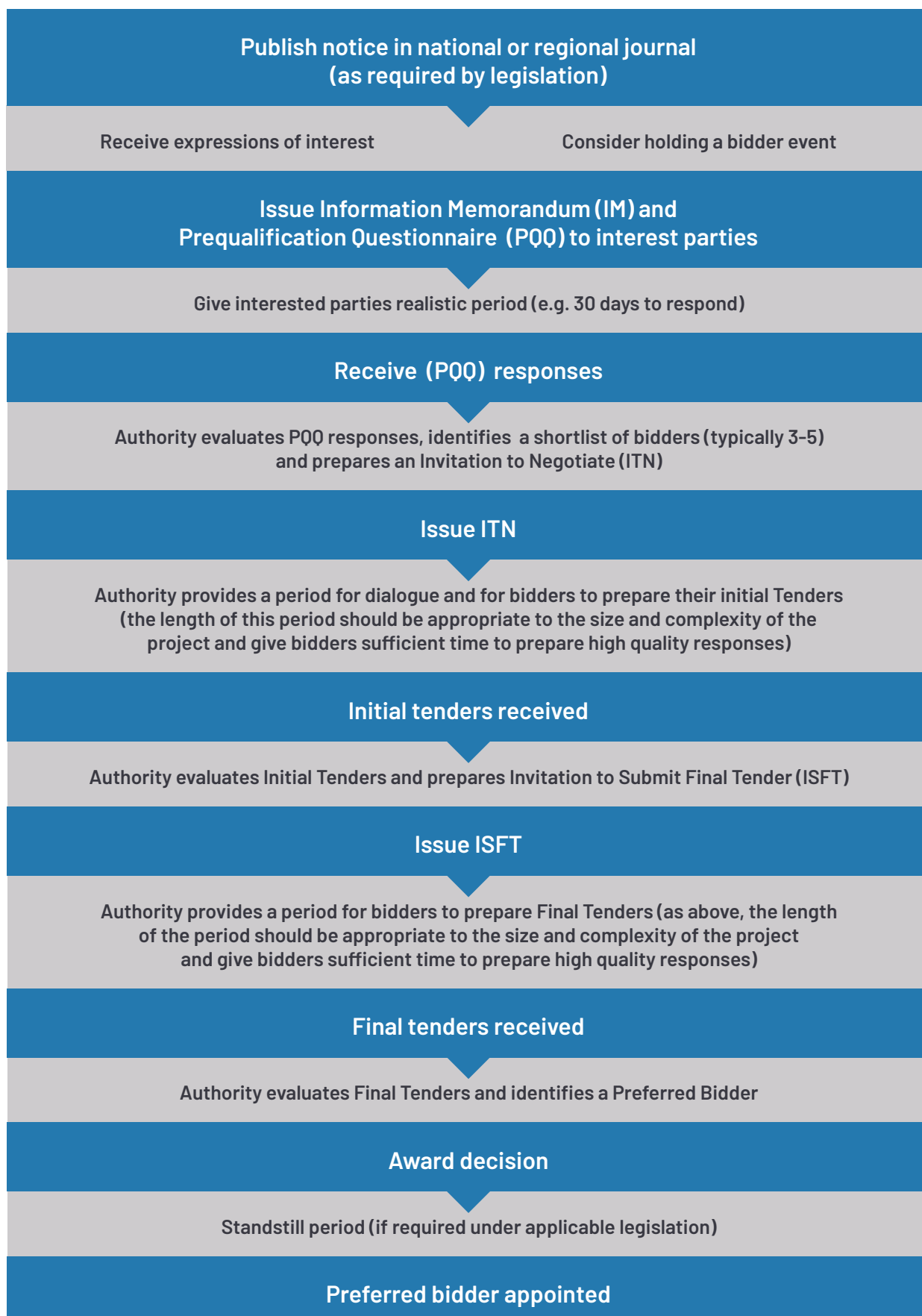
Who should work on this?

- The project director and manager
- Commercial director
- Legal adviser
- Environmental and social advisers

What should you do?

- Building upon **Action 8** (where you considered options for procurement) and **Action 24** (where you undertook market engagement), you should develop and draft the full procurement plan that will set out in detail how the procurement will be undertaken.
- There are many procurement process options available for infrastructure projects, and the most appropriate process will be subject to legislation in your country. If you are seeking financial support from an MDB(s), it is likely that they will have requirements with regard to the procurement process used.
- The process most commonly used for infrastructure projects in the UK is a negotiated procedure shown below. The benefit of this is that it enables bidders and the authority to communicate and engage, within the confines of a structured and transparent process, to refine the contract. This means that the authority can have a high degree of confidence that its objectives are realistic and achievable, that the preferred bidder will be able to deliver the contract and that the contract represents an appropriate allocation of risks.

Diagram 13 – Indicative negotiated process



Engage with MDBs (if applicable)

- In **Action 10**, you made initial contact with MDBs (if relevant). You should now build on that initial contact and confirm that they will, in principle, support your:
 - preferred option; and
 - proposed procurement process.
- To do this you should work through stages three and four – appraisal and negotiation and approval – of the six-stage process detailed in Schedule 3 – Working with the Multilateral Development Banks.
- You should request support letter(s) from them that confirm their willingness to support the project, and state indicative terms and conditions.

What should the outcome be?

- A section of the Commercial Case which contains a procurement plan in which you set out in detail each stage of the procurement process, including:
 - a timeline;
 - who will lead and run the process;
 - who will be involved in the process and when: their responsibilities and how they will be prepared to undertake their roles (for example, you may need to organise training sessions for evaluators on how to read and score bids);
 - what documentation will be required, and how it will be drafted and approved;
 - how and by whom responses will be evaluated at each point in the process;
 - when and from whom assurance and approval will be required; and
 - risks to the objectivity of the process and how these will be mitigated.
- A section of the Commercial Case that documents the engagement you have had with the MDBs, and provides confidence that they will support the preferred option and your proposed procurement process, evidenced by letter(s) of support.

See Case Study section 3.5 for an example of how engagement with MDBs is reported in an Intermediate Business Case.

Commercial Case completion and assurance

Having completed the actions above, draft the Commercial Case in accordance with the template provided in Annex 2 (Templates) and complete the summary table below.

Table 40 – Summary table of the Commercial Case in the Intermediate Business Case

Heading	Content
Finalised commercial approach	A summary of the commercial approach for the preferred option, and description of why it has been chosen.
Allocation of risks	A summary of how the risks of the preferred option will be allocated between project parties and how this allocation maximises value for money.
Project specification and Heads of Terms	A summary of the project specification and Heads of Terms, and the underlying principles, and a statement as to why the authority considers that the contract will maximise the value for money which can be achieved.
Market engagement	A summary of the market engagement process, conclusions reached and actions undertaken as a result (for example, adjustments to the Heads of Terms); a statement as to the level of confidence that it will be possible to run a tender with a good level of competitive tension.
Procurement plan	A summary of the proposed procurement plan, how it complies with World Trade Organization principles and relevant legislation, and how it will achieve competitive tension and a good outcome for the authority.
Engagement with MDBs (if applicable)	A summary of discussions held with MDB(s) (if relevant), outcomes and potential risks to the authority.

Financial Case

The purpose of the Financial Case at Intermediate Business Case stage is to assess the likely cost, affordability and financing of the preferred option. Accordingly, it should demonstrate the project is affordable for the authority over its whole life, taking into account the public funding allocated to it and allowing for contingencies, risk management and monitoring costs. It should make clear what amounts are funded by the authority itself, and what amounts are sought by way of central funding, or are payable by users of the facility.

The process is split into three sections:

1. Confirm the sources of finance that you identified in **Action 10**.
2. Build financial model(s).
3. Test affordability.

The Intermediate Business Case Financial Case should give the project board and executive/programme board confidence that the preferred option will be affordable, and that financing will be available, and that the procurement can therefore proceed.

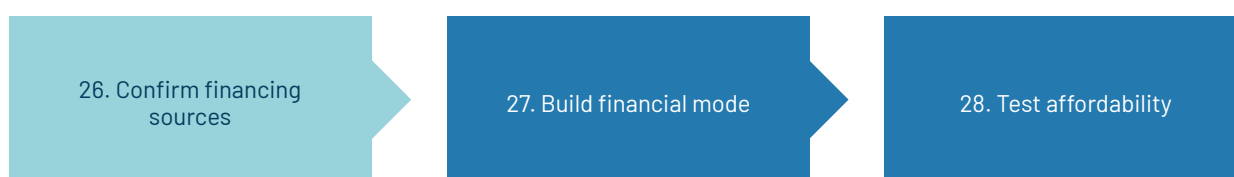
The analyses undertaken in the Financial Case and Economic Case can sometimes be confused with each other; however, they are testing very different things – the Financial Case is testing affordability; the Economic Case undertakes a cost-benefit analysis to establish value for money. Please see the table below for an explanation of the differences between the two Cases.

Table 41 – Contrasting the Economic Case with the Financial Case

	Economic Case – cost benefit analysis	Financial Case – affordability
Focus	Public Value (that is, the cost or benefit that the project will entail/achieve for society)	Affordability (that is, the actual cost that the project will impose on the authority and possibly other government entities)
Coverage	National	The authority
Standards	Relevant economic investment analysis standards recommended by the Ministry of Finance/Treasury	Relevant accounting standards
Transfer payments (for example, turnover taxes)	Not included	Included as a real cost
Discounting	Applied	Not applied
Opportunity costs	Included	Not included
Benefits	Cash and broader benefits	Only cash-releasing benefits
Risks	Included	Included
Inflation	Not included	Included

The actions for completing the Financial Case are set out below.

26. Confirming funding sources



Who should work on this?

- The project director and manager
- Director of finance

What should you do?

- Review the sources of finance you identified at **Action 10**.

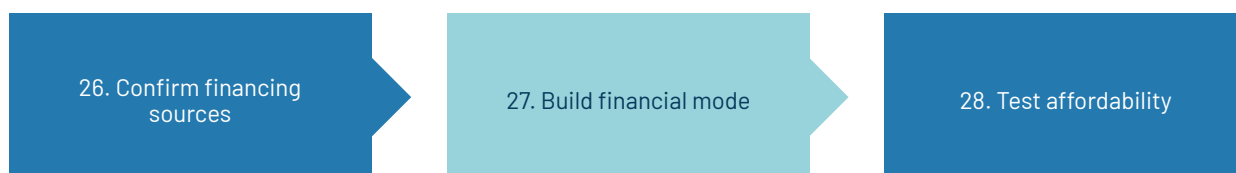
- With regard to MDBs, you can now move into Stage 3 – Appraisal, described in Schedule 3. This will involve working with the MDB(s) to confirm that the preferred option will be consistent with its operational requirements, and that the authority has institutional arrangements in place to implement the project efficiently.
- If the project will be accessing climate or green financing opportunities, the fund and managing body will have specific requirements and approval processes to meet lending or grant criteria. The Financial Case should respond to those processes and includes the development of the appropriate information for submission. See Schedule 10 for more detail on climate and green finance.
- With regard to other sources of finance, you should engage with them to confirm that the preferred option will be, in principle, acceptable, and seek letters of indicative support.

What should the outcome be?

A section of the Financial Case that includes:

- a confirmed list of potential sources of finance;
- letters of support; and
- a summary of any issues and/or risks to the feasibility of the project, of which the project board needs to be aware.

27. Build financial model



Who should work on this?

- The project director and manager
- Director of finance
- Environmental and social advisers

What should you do?

- The purpose of the financial model will be to give the authority a tool capable of:
 - assessing the affordability of the preferred option;
 - (for a PPP project) comparing the preferred option against a publicly funded option or 'public sector comparator'; and
 - comparing future bids against the preferred option, so that differences can be understood, and affordability assessed at the Full Business Case stage.

- Before you are able to build the model, you will need to estimate the costs and potential revenues of the preferred option. You will have begun this process in the Early Business Case (**Action 10**); by building on these you can establish the:
 - Base costs – these should include the capital and operating costs for the preferred option. You must apply a level of contingency for the costs of mitigating the potential risks of the preferred option (the amount of which will be informed by the amount of your optimism bias in the Economic Case).⁹⁷
 - Funding – these should include all relevant sources of income and grant, for example:
 - i. central government grant;
 - ii. projected project income (for transport projects this is referred to as 'farebox'); and
 - iii. business levy on local businesses.

Refer to Case Study 4.1 and 4.2 for an example of how a transport project has estimated the base costs, applied the contingencies for risk and optimism bias, and estimated revenues.

- The minimum requirements for the financial model include:
 - Cash flow projections;
 - Profit and loss;
 - Balance sheet;
 - Funding schedule;
 - Taxation schedule;
 - Underlying sources and base assumptions, including for:
 - i. capital costs;
 - ii. operating costs;
 - iii. revenues;

⁹⁷ Refer to UK Green Book Supplementary Guidance for Generic Optimism Bias Adjustment Percentages: <https://www.gov.uk/government/publications/green-book-supplementary-guidance-optimism-bias>

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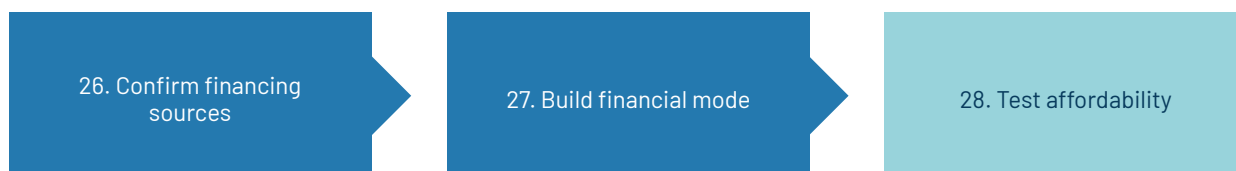
- iv. inflation;
 - v. interest rates;
 - vi. taxation;
 - vii. capital charges;
 - viii. depreciation; and
 - ix. contingencies.
- Confirmation that the model reflects applicable accounting standards.
- For a PPP project, the financial model should set out the projected PPP service payments (the 'unitary charge' which the authority will pay for an 'availability-based' project, or projected user revenues if a concession structure is used). The model should show how the payments have been built up from basic capital and revenue inputs, including:
 - capital, lifecycle and revenue costs (including contingencies);
 - financing ratios and rates for debt and equity;
 - risk pricing;
 - value of asset contributions;
 - third party income or user payments; and
 - timing and other assumptions.
 - For a concession structure, user payment revenue assumptions should be specified, and an explanation of how any shortfalls would be covered should be provided. Costs should be covered by income year-by-year. Any capital contributions (lump sums payable by government – for example, by viability gap funding) should be specified and justified.
 - The financial model should also be capable of generating the table shown in **Action 28** below.
 - You should provide a summary of key outputs of the financial model, and of how the preferred option compares to the public sector comparator, and attach the financial model as an appendix.
 - It is important to note that at this Intermediate Business Case stage, you have identified a preferred option and other shortlisted options, but these have not been tested with the market, therefore firm costs are not available. You must therefore estimate costs from a number of sources, including:
 - cost data, available from previous comparable projects; and
 - inputs from market sounding.
 - If there are no or few comparable projects in your country or overseas, it may be challenging to find reliable data; nevertheless, you should make estimates, document your sources, and note limitations.

Refer to Case Study section 4.4 for an example description of a financial model and summary of outputs, and comparison against the public sector comparator.

What should the outcome be?

- A section of the Financial Case which:
 - provides a summary of key outputs of the financial model and, for a PPP, of how the preferred option compares to the public sector comparator; and
 - highlights any issues of which the project board needs to be made aware.
- A financial model which:
 - draws together the capital, revenue and whole-life costs of the preferred option, the public sector comparator and other shortlisted options;
 - is capable of demonstrating the affordability of the preferred option, the public sector comparator and other shortlisted options;
 - is capable of showing the impacts of a range of sensitivities; and
 - will be capable of demonstrating the affordability of future bids.

28. Test affordability



Who should work on this?

- The project director and manager
- Director of finance
- Environmental and social advisers

What should you do?

- Using the financial model developed at **Action 27**, test the affordability of the Preferred Option against the authority's finances; complete the summary table below.

Table 42 – Summary of Financial Appraisal

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6 etc.	Total
Preferred option:								
Capital								
Revenue								
Total								
Funded by:								
Existing								
Additional								
Total								

- Identify any gaps between project revenues and available funding.
- Complete the same table for the public sector comparator and shortlisted options.
- If the analysis demonstrates that there will be shortfalls in funding for the preferred option, you will need to develop propositions as to how, or whether, this can be addressed.
- You should detail your underlying sources and justify your base assumptions. In particular, you should state:
 - how you have developed your cost and revenue assumptions;
 - how you have tested your assumptions for optimism bias;
 - the level of pricing contingencies you have included;
 - how you have estimated contingencies against risks occurring, including social risks (see Schedule 4 Risk Identification section); and
 - the results of sensitivity analysis, including for environmental and social risks, and whether the preferred option (and other shortlisted options) would remain affordable should any of the risk events considered occur.
- You should engage an assurer to:
 - review the financial model and confirm that the underlying assumptions and functionality are correct; and
 - test and confirm your conclusions.

Refer to Case Study section 4.5 for an example of how to present this information.

What should the outcome be?

A section of the Financial Case which:

- confirms that the preferred option will be affordable (overall and year-by-year);
- highlights any risks to affordability; and
- proposes solutions if the analysis demonstrates that the preferred option will not be affordable, or if affordability is subject to significant risk.

Financial Case completion and assurance

Having completed the actions above, draft the financial case in accordance with the template provided in Annex 2 (Templates) and complete the summary table below.

Table 43 – Summary table of the Financial Case in the Intermediate Business Case

Heading	Content
Financial sources	A summary of updates to the analysis of financial sources undertaken at the Early Business Case stage; risks and issues of which the project board needs to be aware.
Financial model	A summary of the estimated costs and revenues of the preferred option, the assumptions made in the financial model and of the conclusions you have drawn, highlighting any risks and issues of which the project board needs to be aware.
Affordability testing	Confirmation that the preferred option is affordable; risks to affordability; propositions as to how any gaps in affordability may be addressed.

Approval

It is likely that you will also need to gain external approval, for example, from Treasury or Ministry of Finance, for the spending required to support the preferred option.

Management Case

The purpose of the Management Case at this Intermediate Business Case stage is to build on the work done in the Early Business Case and finalise arrangements for successful delivery of the project.

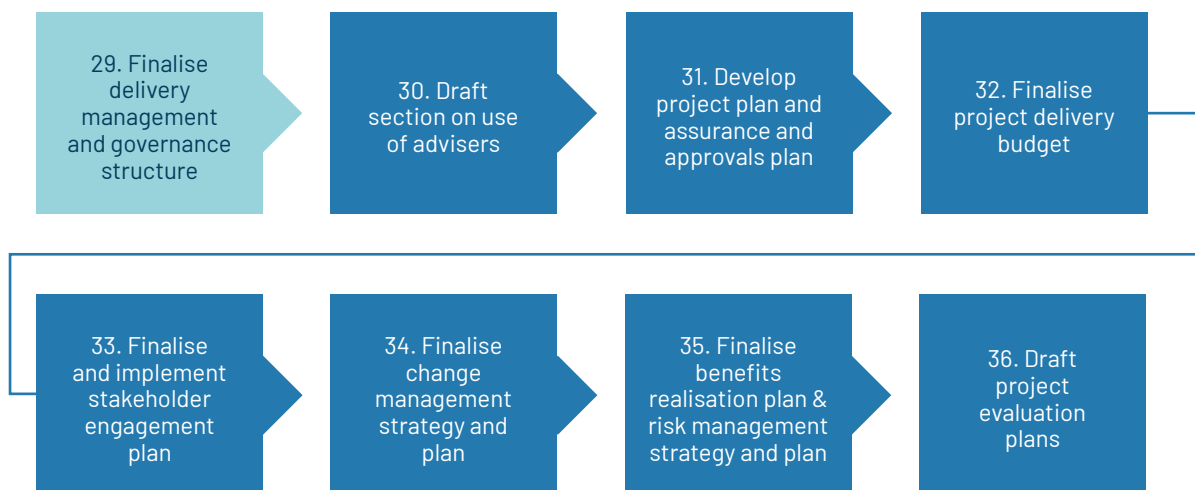
The Intermediate Business Case Management Case should give the project board and executive/programme board confidence that capability and capacity to govern and deliver the project is in place, that stakeholders have been identified, that engagement and change management plans have been developed and implemented, that the capacity is in place to mitigate and manage risk, that the benefits that the project is capable of producing have been understood, and that the authority has capacity to measure and monitor them as the project develops.

It should also give the boards a clear understanding of the development costs of the project.

It is recommended that Actions 33-35 are developed through a 'Successful Delivery' workshop(s).

The actions for completing the Management Case are set out below.

29. Finalise delivery, management and governance structure



Who should work on this?

- The project director and manager
- Environmental and social advisers

What should you do?

- Build on and finalise the delivery, management and governance structure you developed in the Early Business Case.
- Ensure that all individuals have a clear understanding of their roles and responsibilities.
- Formalise the governance arrangements for the structure (for example, through written terms of reference that specify the decision-making and approval processes).
- Set out how the contract with the potential supplier will be managed, covering how the construction progress will be monitored, whether it is monthly reporting or additional meetings and reviews, to consider how well the contractor is providing the service, and what improvements could be made.⁹⁸

What should the outcome be?

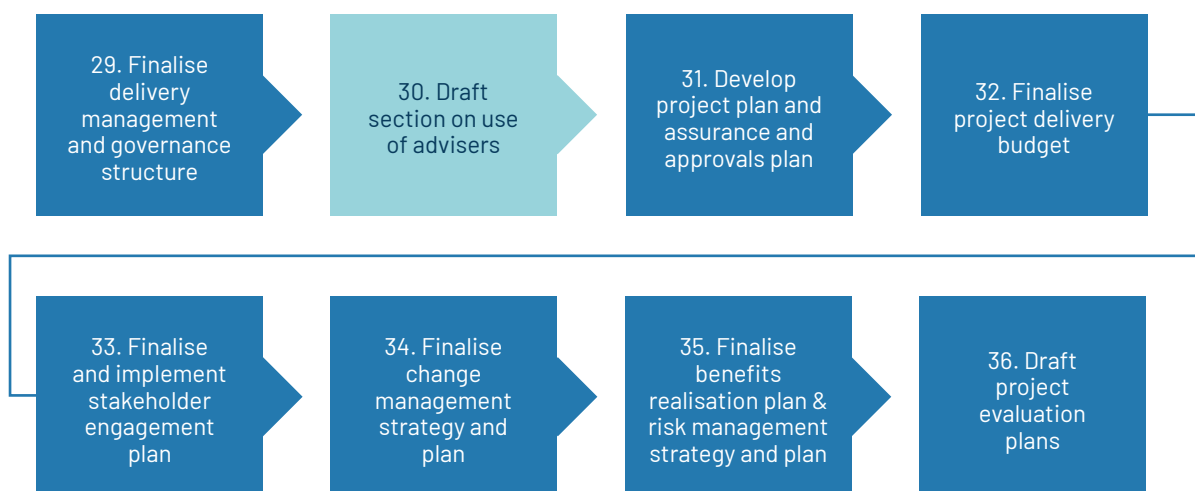
A section of the Management Case that includes:

- an organogram which builds on the initial structure developed at Action 11;
- accompanying narrative which describes:
 - the delivery, management and governance arrangements;
 - key roles and responsibilities, including for environmental and social management;
 - terms of reference put in place;
 - external advisers, their roles and the terms of their appointment;
 - any vacancies and/or risks to the effectiveness of the structure, and how these are being managed; and
 - any significant issues the project and executive/programme boards need to be aware of, which could impact upon successful delivery of the project.

See section 5.2 of the Case Study for an example of how to present this section.

⁹⁸ The contractual structure developed in the Commercial Case will need to reflect these management arrangements (that is, linking payment to monthly reporting, or a successful review).

30. Draft section on use of advisers



Who should work on this?

- The project director and manager

What should you do?

- At the Early Business Case stage, you made a preliminary identification of the advisers you would need, and you may have identified and appointed them.
- With the preferred option identified, you can clarify their scope and costs.
- You should summarise the arrangements you have made in the table below, and ensure that all costs are correctly reflected in the financial model developed in the Financial Case.⁹⁹

Table 44 – Contractual arrangements with advisers

Specialist area	Function	Contractual arrangements	Costs
Financial			
Technical			
Procurement and legal			

⁹⁹ The following reports provide further guidance on the procurement and management of advisers: Chapter 7 'Role of Advisers' in 'How to engage with the private sector in public-private partnerships in emerging markets', available at: <http://documents.worldbank.org/curated/en/995241468337913618/pdf/594610PUB0ID1710Box358282B01PUBLIC1.pdf> EPEC guidance on the appointment and management of advisers, available at: <http://www.eib.org/epec/g2g/ii-detailed-preparation/21/212/index.htm>

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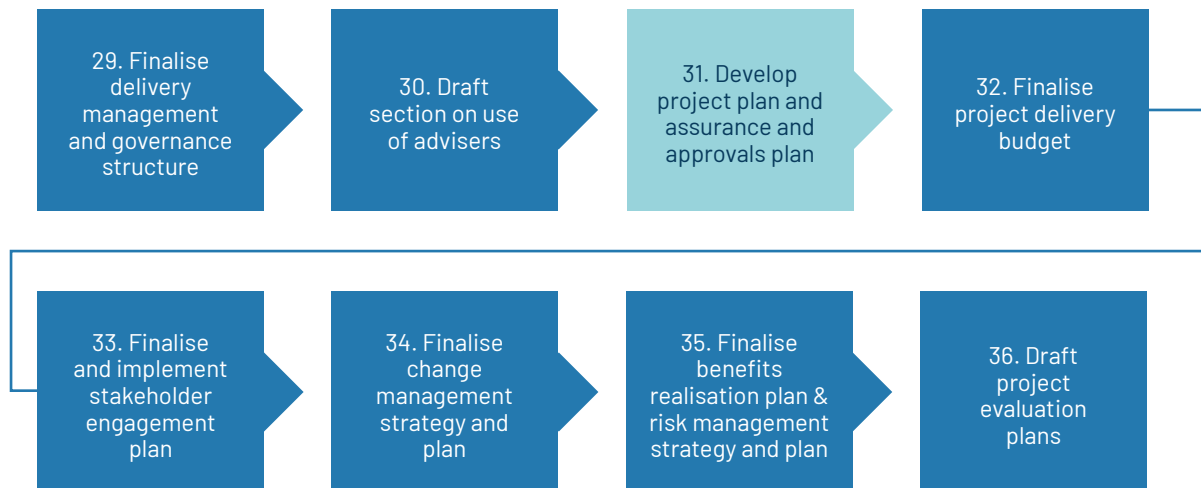
Specialist area	Function	Contractual arrangements	Costs
BIM (building information modelling) – if used			
Environmental, climate, and social			
Monitoring, reporting, and project evaluation			
Other			

What should the outcome be?

A section of the Management Case which will give the project board and executive/ programme board a clear understanding of the advisers who have been appointed, their functions, contractual arrangements and costs, together with any risks or issues of which they need to be aware.

See section 5.3 of the Case Study for an example of how to present this section.

31. Develop project plan and assurance and approvals plan



Who should work on this?

- The project director and manager
- Environmental and social advisers

What should you do?

- You now need to develop the draft project plan and the assurance and approvals plan that you produced at **Action 12**, so that they can become the project plan and assurance and approvals plan for the preferred option.
- The project plan should include:
 - timelines and milestones for key activities and the dependencies between them;
 - statutory processes – such as the acquisition of land and planning permissions;
 - realistic and evidenced procurement, construction, operation and financial timelines; and
 - a realistic timeline for financial close, taking into account all approval stages and known risks, and allowing contingency for unforeseen delays.
- The project plan should also include a finalised assurance and approvals plan that shows how you will obtain all of the assurances and approvals you will need for the Intermediate Business Case, the procurement process and the Full Business Case, building on the work you did at **Action 12**. Please refer again to paragraph 3 ('How to create a framework for review and approval of business cases') at the start of Chapter 3, and the additional guidance available via the footnotes in that paragraph, as you finalise your plan.
- It is important that the project plan and assurance and approvals plan are realistic and regularly updated.

What should the outcome be?

- A detailed project plan and approvals and assurance plan which:
 - is owned by the project director and project manager;
 - can be used to show progress in meeting timelines to the project board and executive/programme board;
 - the project team will be able to use to understand how their roles contribute to the achievement of goals; and
 - assurers and approvers will be able to use to understand their roles and the required timings of their input.

See section 5.4 of the Case Study for an example of how to present this section.

IBC - Management

- (Optional) Complete the Theory of Change and Results Framework – if these tools were developed in the Early Strategic Case (**Action 2**), the ToC should be revisited and updated as necessary to ensure there are still clear links from the intended objectives and outputs through the project to the inputs, including all interim steps.

More detail will now be available regarding the inputs required to implement the preferred option, and the expected outputs and outcomes. This information will provide the body of the RF. The prioritised SDG Goals, targets, and indicators (KPIs) identified in **Action 2** should be included in the RF.

If you undertook Routemap assessments at the Early Business Case stage (see **Action 12**) you may wish to do them again. If the assessments indicate that the conditions or required capability have changed, you should consider whether your business case reflects this, and whether/how it needs to be amended, and whether the recommended actions have been completed.

If you did not undertake Routemap assessments at **Action 12**, you should consider undertaking them now.

You should also consider whether the assessments and modules you have applied at **Action 29** highlight areas of potential weakness in your internal structure and make changes to address these.

32. Finalise project delivery budget



Who should work on this?

- The project director and manager
- Commercial director

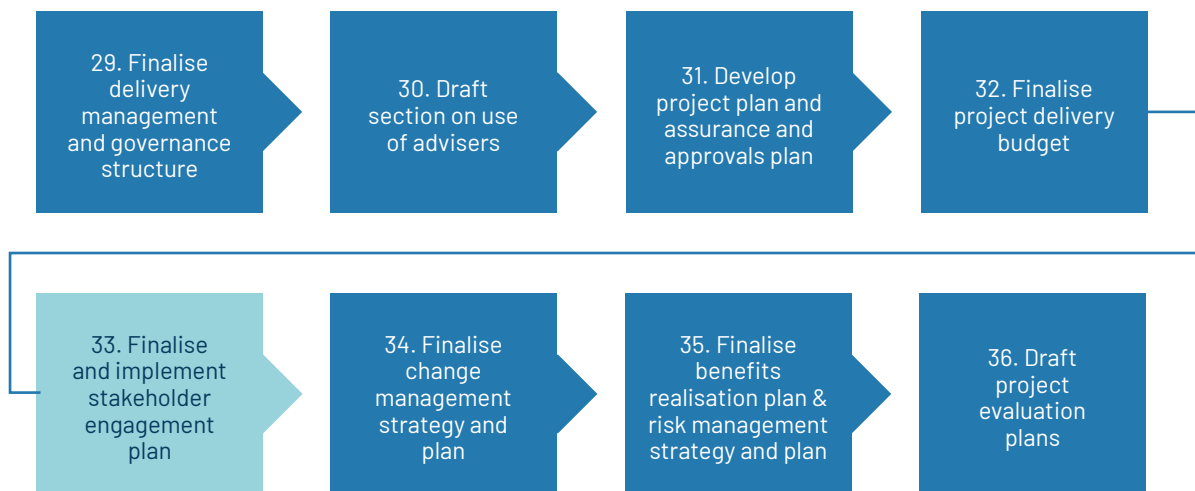
What should you do?

- In parallel with the development of the project plan you should finalise budgets for:
 - the project team and external advisers;
 - acquisition of any assets which may be required to deliver the project (for example, software licences);
 - any resources that you will need to implement the project; and
 - any other project-related costs.
- These should be included as costs in the financial model developed in the Financial Case.

What should the outcome be?

- A budget for delivery of the project, together with supporting evidence, which will give the project board and executive/programme board confidence that all costs have been identified and reliably estimated.

33. Finalise and implement stakeholder engagement plan



Who should work on this?

- The project director and manager
- Senior social advisers experienced in working with stakeholder groups identified/ project affected persons (for example, resettlement, indigenous populations, people with disabilities)
- The authority's communications team
- External advisers

What should you do?

- Now that the preferred option has been identified, you will need to revisit the initial stakeholder engagement plan developed at **Action 13** and consider:
 - Are there any additional stakeholder groups who will be affected by the project?
 - Is our assessment of how stakeholder groups identified may be affected still correct?
 - How can the stakeholder engagement plan support monitoring of project impacts, risks, opportunities, and benefits?
- You will then need to develop a detailed plan setting out:
 - **how** you are going to engage with each group;
 - **how** you can build on any work done at the Early Business Case stage;
 - **who** will engage with the groups;
 - **what** preparation you need to do;
 - **what** messages you want to communicate to them;
 - **what** input you want from them; and
 - **how** you are going to respond to the issues they raise.
- You should implement the stakeholder engagement plan and regularly assess the issues, risks, benefits, and opportunities which become evident, and use this understanding to further inform and develop:
 - the preferred option – if it becomes clear that the preferred option may cause unacceptable issues for one or more stakeholder groups, it may become necessary to reconsider the options assessed in the Economic Case;
 - the contractual arrangements developed in the Commercial Case – outcomes of stakeholder engagement may prompt review and amendment of the contractual arrangements as new risks may become clear;
 - the affordability assessment in the Financial Case – in case unforeseen costs become clear; and
 - whether you should set up a stakeholder committee that includes representatives of different groups that you can engage with more easily on a collective basis.

What should the outcome be?

A section of the Management Case that sets out:

- an updated stakeholder engagement plan;
- specific activities for engagement with stakeholders;
- the outcomes of stakeholder engagement activities to date; and
- conclusions of which the project board and executive/programme board need to be made aware (for example, required changes to the contractual structure).

See section 5.5 of the Case Study for an example of how to present this section.

34. Finalise change management strategy and plan



Who should work on this?

- The project director and manager
- Social advisers
- The authority's communications team
- External advisers

What should you do?

- Now that the preferred option has been identified you will need to revisit the initial change management plan developed at **Action 13** and finalise it, so that it becomes a full change management plan for the preferred option.
- You should therefore develop a change management plan, building upon your work in **Action 13** of the Early Business Case. This plan should enable the authority to adapt and respond to the changes which will arise from the implementation of the project.

IBC - Management

- This final change management plan should show how all change implications of the preferred option will be handled, including:
 - if any staff currently employed by the public sector will transfer to the employment of a new contractor, all legal processes relating to the protection of their interests must be understood, and a plan developed to show how staff will be consulted and how their transfer will be managed;
 - if staff will require training, then a training plan must be developed;
 - infrastructure acceptance and related handover procedures;
 - equipment/facility commissioning procedures;
 - how both the construction phase and the operational phase will be managed over the life of the project;
 - if there will be a pilot phase for the project, it will need to be understood how this will impact on staff and other stakeholders; and
 - if different public sector staff are involved in managing operations from procuring them, a clear handover and briefing process is needed.

- You should present your plan as a table (see below).

Table 45 – Change Management Plan

Areas	Planned tasks
Planning phase	<p>Identify external stakeholders likely to be affected.</p> <p>Understand legal and practical considerations relating to any impact on external stakeholders or the environment, and how these will be managed. For example, if people will be relocated as a result of the project, how will this process be managed.</p> <p>Identify which internal groups within government are likely to be affected, for example, employees of the existing service.</p> <p>Understand legal requirements with regard to staff consultation.</p> <p>Identify any trade union representatives.</p> <p>Understand the government’s legal obligations towards staff who may be transferred to the concessionaire/contractor (for example, in the UK, legislation states that staff who are transferred from a public to a private sector employer must maintain their current terms and conditions).</p> <p>Develop a change management plan, identifying high-level milestones mapped to the overall project plan developed in Action 37.</p> <p>Consider obligations on the future concessionaire/contractor to be included in the draft contract.</p>
Engagement and communication	<p>Appoint an engagement and communications lead with relevant experience.</p> <p>Develop a plan for engaging and communicating with different stakeholder groups and collecting feedback (grievance mechanism, project feedback loop, etc.).</p> <p>Initial consultations carried out to understand concerns.</p> <p>Understand how the different stakeholder groups need to be communicated with in terms of language, style, location; who needs to lead the process; and what sensitivities and risks are involved (see Schedule 4 on sexual abuse and exploitation risks).</p> <p>Understand which media formats are most appropriate for engagement and communications (for example, posters, radio, etc.).</p> <p>Develop an initial plan for addressing their concerns.</p>
Training and development	<p>Identify any training and professional development opportunities and requirements that will be generated by the project.</p> <p>Start to develop a high-level training plan.</p> <p>Consider including training and professional development obligations within the contract.</p>
Piloting	<p>Consider the need for piloting of new infrastructure and build into the change management plan.</p>

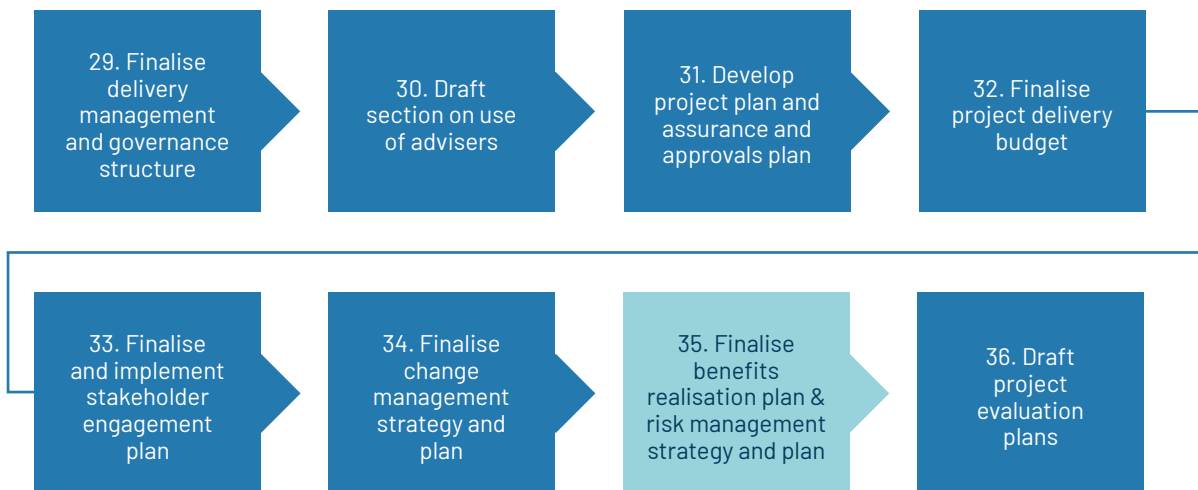
What should the outcome be?

A section of the Management Case that sets out:

- the change management plan; and
- conclusions resulting from the planning process of which the project board and executive/programme board need to be made aware (for example, required changes to the contractual structure).

See section 5.5 of the Case Study for an example of how to present this section.

35. Finalise benefits realisation plan and risk management strategy and plan



Who should work on this?

- The project director and manager
- Risk adviser
- Environmental and social advisers

What should you do?

Benefits Realisation Plan

- Now that the preferred option has been identified, you should build on the work done at **Action 14** and draw up a benefits realisation plan aligned to the preferred Option.
- The benefits realisation plan should be more detailed than the one you developed at **Action 14** and show:
 - the benefit, including its category and class – (revert to the Economic Case for this information);

IBC - Management

- which aspect of the project will give rise to the benefit;
- identify the links to prioritised goals and targets for relevant benefits, and check that these are reflected in the (optional) ToC and RF;
- Incorporate or develop a separate 'Carbon Optimisation Plan' based on the carbon calculations undertaken in the Early Business Case (**Action 14**) to measure and record the emissions and reductions across the whole asset life. Using a recognised infrastructure standard that includes whole project life cycle and value chain assessments may be appropriate, for example, PAS2080;
- potential costs which may be incurred to realise the benefit;
- activities required to secure the benefit and by which party;
- identify an owner (party, or where possible a nominated accountable individual) for the delivery of each benefit, noting that most benefits are delivered post project completion;
- who at the Authority will be responsible for monitoring the benefit; who they will need to engage with on the contractor's side;
- how the benefit will be measured (for example, through regular reporting), with details of any environmental, climate, social, and governance frameworks, or safeguarding policies, selected for the project, for example, WB Environmental and Social Standards, IADB Sustainability Framework, PAS2080 (carbon); and
- how long it will take for the benefit to be realised.

These should be recorded by updating and completing the benefits register you drew up in **Action 14**.

All the benefits identified in the strategic and economic parts of the Intermediate Business Case should be included here, and a full range of social and environmental benefits should be included, together with relevant expertise needed to monitor and evaluate these. Risks associated with the delivery of benefits should not be included here – but put in the risk register (see below).

- You may wish to include reporting and/or performance requirements in the draft contract developed through the commercial case that will require/incentivise the future contractor to realise benefits.

Risk management strategy and plan

- Now that the preferred option has been identified you should build on the work done at **Action 15**, draw up a risk management strategy and plan which fit with the preferred option.
- The risk management strategy and plan should be more detailed and include a risk register in an Excel spreadsheet showing, for each risk:

Table 46 – Risk register

Risk register	
Risk number	
Risk type	
Author	(who raised the risk)
Date identified	
Date last updated	
Description	(of the risk)
Probability of occurrence	
Interdependencies	(between risks)
Estimated cost if the risk materialises	
Party which will bear the risk contractually	
Mitigations	
Risk status	(action status)
Risk owner	(who is responsible for managing the risk)

- The risk register should become a tool for identifying and managing:
 - risks to delivery of the business case;
 - a full range of social, environmental, and climate related risks; and
 - risks associated with delivery of the contract; the nature and allocation of risks may change as negotiations progress with bidders, and may change further as the preferred bidder is selected.

- The project director should therefore use the risk register as a tool for reporting to the project board and executive/programme board on an ongoing basis.

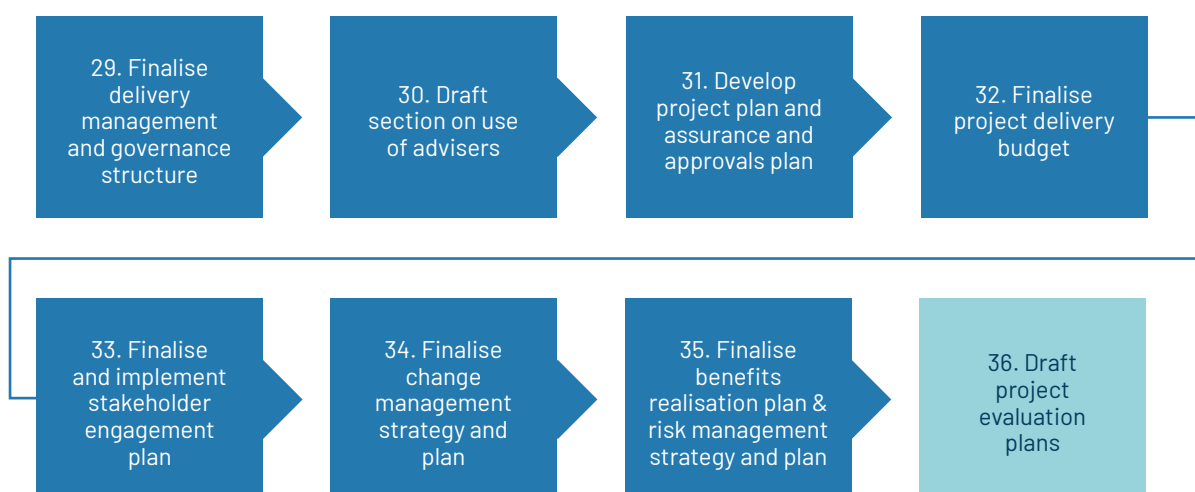
What should the outcome be?

A section of the Management Case that includes:

- a detailed benefits realisation plan and benefits register;
- any recommendations arising from the development process (for example, key performance indicators to be included in the draft contract, and obligations on the future contractor to collect information so that benefits can be measured);
- the risk management strategy and plan;
- a risk register; and
- narrative that explains your underlying thinking and any issues of which the project board and executive/programme board need to be made aware.

See section 5.6 of the Case Study for an example of how to present this section.

36. Draft project evaluation plan



Who should work on this?

- The project director and manager
- Environmental and social advisers

What should you do?

- Evaluation plans are used to improve the authority's and wider government's project delivery capability by:
 - identifying lessons to be learned from the project; and
 - assessing whether the project has delivered its expected improvements and benefits.

IBC - Management

- You should develop a project evaluation plan which sets out:
 - at what point(s) evaluations should be undertaken;
 - what criteria should be used to evaluate whether the project has been successful from the authority's and government's perspective; criteria should include economic factors, and environmental, social governance, and institutional factors;
 - who will be responsible for undertaking the evaluation; and
 - how lessons learnt will be taken into account by the authority.

- You should include project evaluation in the project plan.

Best practice is for the evaluation to be undertaken by an independent and objective third party.

You should consider using the Routemap Assessments described at **Actions 12 and 29** as project evaluation tools and set out when and how you will use them in your project evaluation plan.

What should the outcome be?

A section of the Management Case that sets out the proposed project evaluation plan.

See section 5.6 of the Case Study for an example of how to present this section.

Management Case completion and assurance:

Having completed the actions above, draft the Management Case in accordance with the template (at Annex 2) and complete the summary table below.

Table 47 – Summary table of the Management Case in the Intermediate Business Case

Heading	Content
Delivery management and governance structure	A summary description of the delivery, management and governance arrangements for the project; any key issues that the project board needs to be aware of.
Project plan, including assurance and approvals plan	<p>A summary of the project plan and assurance and approvals plan highlighting key risks where delay and/or additional cost could arise, and mitigations being put in place; any key issues that the project board needs to be aware of.</p> <p>A summary of the results of the Routemap findings and recommendations if you have undertaken one.</p>

Heading	Content
Project budget	A detailed budget for the cost of the project team (including advisers), and any resources and assets that will be required for delivery of the business case and/or project.
Stakeholder engagement	A summary description of how your stakeholder engagement plan has been developed since the early business case; a summary of the plan; a summary report of engagement undertaken and outcomes; a log of how the preferred option has been amended to reflect your engagement; any key issues which the project board needs to be aware of.
Change management	A summary description of how your change management plan has been developed since the Early Business Case; a summary of the plan; a log of how the preferred option has been amended to reflect the plan; any key issues which the project board needs to be aware of.
Benefits register	A summary of the benefits realisation plan and register, and any key issues that the project board needs to be aware of.
Risk management strategy and plan; risk register	A summary of the updated risk management strategy and plan and of the risk register; any key issues that the project board needs to be aware of.
Use of advisers	A summary of adviser costs and any key issues that the project board needs to be aware of.
Evaluation plans	A description of how the benefits of the project will be evaluated after its completion.
Sustainable development objectives (environmental, climate, social)	<p>Clear roles and responsibilities for environmental, climate, and social objectives are assigned across the governance of the project; oversight and overall accountability for environmental, climate, and social criteria should be at senior leadership/SRO level.</p> <p>Environmental and social specialists with sufficient capacity and ability to monitor and evaluate the project impacts now and in the future.</p> <p>Environmental, climate, and social issues integrated into management and evaluation plans, splitting out data by sex, age and income, and including at least one key performance indicator relating to performance against social targets.</p> <p>Evaluation plan includes full range of environmental, climate, and social risks.</p>

Transition Point

Assurance and Approval Point

Draft the Intermediate Business Case, using the template provided in Annex 2 – Templates, and submit it to the independent assurance team for review as required.¹⁰⁰ Schedule 7 provides a summary of what should be in the Intermediate Business Case and can be used to cross check your document.

Next, obtain approval for the Intermediate Business Case.

If you follow the actions outlined in the Intermediate Business Case, you will be able to demonstrate that you have followed international best practice in project preparation, at this stage of the project, in line with the relevant G20 Principles.

Summary – G20 Principles – Intermediate Business Case

You should now have answered the following questions in line with the G20 Principles:

Strategic Case

- Have you updated the Strategic Case following the review and approval of the Early Business Case?
- Have you recorded the changes made and clearly stated the rationale for these changes?

Economic Case

- Have you subjected your shortlist to cost benefit analysis (taking into account social, environmental and other economic costs and benefits, using established benchmarks) on a present value basis in order to reach a preferred option?
- Have risks also been identified and quantified, and a reasonable adjustment made for 'optimism bias'?
- Are the results of the analysis of each option presented clearly, including the existing arrangements option?
- Do you have a robust justification for your preferred option?
- Have you considered if any non-financial risks might affect your decision?
- Have you tested the results for sensitivities, and looked at the distribution of risks and benefits across the project and the country?

¹⁰⁰ See Diagram 5 – UK Assurance and approvals process

Commercial Case

- Do you have a risk matrix that allocates risks to the party best able to manage them?
- Is the contract bankable?
- Have you tested that the contract is commercially feasible, and that the supplier market is likely to be interested in it?
- Have you developed a procurement strategy and plan that will achieve an effective competition?

Financial Case

- Have you accurately assessed project costs?
- Have you accurately assessed project revenues?
- Have you identified funding sources and finance sources (and are credit enhancement, risk mitigation or hedging products available to support project financing)?
- Have you built relevant financial models?
- Have you used appropriate costs benchmarks/sources?
- Have you stated and justified your assumptions?
- Have you performed a sensitivity analysis?
- Have you clearly demonstrated affordability year-by-year?
- Have you allowed sensible contingencies?
- Have you tested overall macroeconomic/fiscal sustainability and affordability?

Management Case

- Have you put in place project management and project governance arrangements?
- Have you described your assurance and approval structure?
- Do you have a risk management plan (allocating risks to public sector, private sector or on a shared basis), including environmental, climate and social risk assessments, and corresponding mitigation plans?
- Do you have a project plan including timelines and milestones?
- What advisers will you appoint, and have you considered this expense in the budget?
- Do you have a contract performance plan?
- Do you have a change management plan?
- Do you have a benefits realisation plan?

Following approval of the Intermediate Business Case, you should complete **Action 37** below.

37. Draft procurement documents and evaluation criteria

37. Draft procurement documents and evaluation criteria

Who should work on this?

- The project director and manager
- Commercial director
- Legal adviser
- Environmental and social advisers

What should you do?

- Draft full documentation for the procurement process you have developed in **Action 25**, including:
 - pre-qualification instructions, questions, evaluation process and criteria;
 - draft documentation to enable subsequent stages, which may include:
 - i. information memoranda;
 - ii. how the authority will engage with bidders at each stage;
 - iii. instructions to bidders;
 - iv. how bids will be evaluated; and
 - v. project contract (making clear if parts are negotiable).
- Agree internally how the procurement will be led and run, who will evaluate bids and how the results of each stage will be agreed.
- Check that there are no changes to your key project assumptions before launching the procurement.

What should the outcome be?

- Procurement documentation agreed internally.
- Roles and responsibilities agreed internally.

38. Run procurement process and undertake bid evaluation

38. Run procurement process and undertake bid evaluation

Who should work on this?

- The project director and manager
- Commercial director
- Legal adviser
- Environmental and social advisers

What should you do?

- Make any amendments required to the draft procurement documents prepared in **Action 37** to reflect comments received during the approval of the Intermediate Business Case.
- Undertake the procurement process and evaluate bids received.
- Select the preferred bidder, to be confirmed through the Full Business Case.

What should the outcome be?

- A procurement process that has been run in accordance with the procurement plan.
- A preferred bidder identified.

It is not the intention of this Guidance to offer detailed advice on procurement processes (for which detailed national law/regulation may apply); however, the World Bank document at the footnote below offers useful guidance.¹⁰¹

¹⁰¹ See Guidance Note on Procurement Arrangements applicable to Public-Private Partnerships (PPP) contracts financed under World Bank projects available at: <https://ppp.worldbank.org/public-private-partnership/library/procurement-arrangements-applicable-public-private-partnerships-ppp-contracts-financed-under>

4.3 Full Business Case

A flowchart of the actions needed to produce the full business case is provided at the beginning of this Detailed Guidance chapter.

The Full Business Case focuses on the procurement process and the actual deal offered by the preferred bidder, and updates the Economic, Commercial, Financial and Management Cases (which contained estimated figures) in line with the winning bidder's bid to reflect this.

In particular, it:

- describes the competitive procurement process, tenders received and how they have been evaluated and scored;
- demonstrates how the highest-scoring tender will represent value for money and be affordable;
- proposes which bidder should be selected as the preferred bidder; and
- confirms arrangements to deliver the project and to monitor whether the projected benefits are being achieved.

Strategic Case

The purpose of the Strategic Case, at the Full Business Case stage, is to clarify that no updates or changes are necessary to the 'strategic need'. All changes should be recorded in a similar manner to the Intermediate Business Case.

The action for completing the Strategic Case is set out below.

39. Update Strategic Case if necessary

39. Update Strategic Case if necessary

Who should work on this?

- The project director and manager

What should you do?

- Review the Strategic Case and document any changes that may have happened since the approval of the Intermediate Business Case, as the wider strategic context may have changed, or further business needs may have been identified.
- Any changes should be recorded appropriately for any post project review (use Table 17 - Intermediate Business Case).

What should the outcome be?

- A final version of the strategic need.

Table 48 – Summary table of the Strategic Case in the Full Business Case

Heading	Content
Final draft of the Strategic Case	An updated version of the Strategic Case that accounts for any changes that have occurred during the Intermediate Business Case.

Economic Case

The purpose of the Economic Case, at the Full Business Case stage, is to review that the preferred option, and ultimately the winning bid, still offers best VfM.

The actions for completing the Economic Case are set out below.

40. Reconsider Economic Case options based on cost data received from bidders



Who should work on this?

- The project director and manager
- Economic adviser
- Other advisers as required

What should you do?

- Review how the cost information received from your bidders may affect your options analysis and that the rankings identified in the Intermediate Business Case remain the same.

FBC - Economic

- ❑ Confirm that the benefits and risks of the preferred option from the Intermediate Business Case remain unchanged – as you reach the final stages of business case development it is likely that the estimates you made at the Intermediate stage need adjusting. If the benefit and risk estimates are adjusted, ensure that no environmental, climate, and social risk or impact goes beyond a threshold that would be considered unacceptable by the project's key stakeholders and beneficiaries. It is useful to compare these using recognised benchmarks, such as the CEEQUAL¹⁰² standards. These establish common sustainability assessment and certification standards for buildings and other infrastructure, and highlight the importance of controlling the whole-life impact rather than just capital costs.
- ❑ Check to see if there are any operational changes that may affect the preferred option, such as a change in the accumulated maintenance costs of the existing service, etc. It is important for the authority to factor in its own costs over the life of the project (since some options may involve the authority retaining higher or lower ongoing costs on its own account).
- ❑ It is possible that your preferred bidder may have identified a solution which is better than the preferred option, or costed a risk more highly than anticipated at the Intermediate Business Case stage, which makes the preferred option less attractive. If any key assumptions have changed, you must demonstrate that the preferred option still offers better public value than other available ones (including the 'Business as Usual', 'Do Minimum' and 'Public Sector Comparator' options) and document the change to the ranking of options in the Full Business Case, making sure the reasons are fully explained, including any impacts on the findings of environmental and social impact assessment studies.

What should the outcome be?

- ❑ A record of your decision-making process in evaluating bidders, the rationale for selection of the preferred bid and confirmation that the winning bid, continues to offer best VfM.
- ❑ You should have your work reviewed by an assurer to confirm that your assumptions and calculations are correct.

41. Select preferred bidder

40. Reconsider Economic Case options based on cost data received from bidders

41. Select preferred bidder

¹⁰² CEEQUAL is the Building Research Establishment's (BRE) evidence-based global sustainability assessment, rating and awards scheme for civil engineering, infrastructure, landscaping and public realm projects. See: <https://www.ceequal.com/>

Who should work on this?

- The project director and manager
- Commercial director

What should you do?

- Using your evaluation of bid submissions in **Action 38**, confirm that the preferred option remains unchanged (or that the preferred option has changed, but this is acceptable to the authority), and compare the evaluation scores given to each bidder.
- Agree internally the winner of the procurement process.

What should the outcome be?

- Internal confirmation of the preferred bidder.
- Having completed the action above, complete the Economic Case using the template at Annex 2 and complete the summary table below.

Table 49 – Summary table of the Economic Case in the Full Business Case

Heading	Content
Review of Economic Case	A description of how the costing information gained from bidders has been used to reassess the shortlisted options; confirmation that the preferred option still remains the best option.
Preferred bidder	A detailed account of the decision-making process in choosing the preferred bidder.

Commercial Case

The purpose of the Commercial Case, at the Full Business Case stage, is to document the procurement process and its outcomes, and the contractual arrangements agreed in principle with the preferred bidder, so that these can be approved by the project board and executive/programme board.

The action for completing the Commercial Case is set out below.

42. Document the procurement process and the contract outcomes

42. Document the procurement process and the contract outcomes

Who should work on this?

- The project director and manager
- Commercial director

What should you do?

- Document the procurement process, including:
 - the process undertaken;
 - any changes made to the procurement plan and the reasons for these;
 - how bids were evaluated and the outcomes of the evaluation;
 - how the assurance and approval of the outcomes of the evaluation were obtained; any significant issues which arose and how these were dealt with; and
 - contracting for the deal: the final terms of the contract agreed in principle with the preferred bidder, any changes to the draft contract developed at the Intermediate Business Case stage, the reasons for these changes and their financial consequences over the life of the project.

What should the contract outcomes be?

- A section of the Commercial Case that documents the procurement process and contractual agreement reached with the preferred bidder, so that the project board and executive/programme board can approve signature of the contract.

Commercial Case completion and assurance:

Having completed the action above, draft the commercial case using the template at Annex 2 and complete the summary table below.

Table 50 – Summary of the Commercial Case in the Full Business Case

Heading	Content
Procurement process	A summary of key points of the report of the procurement process.
Contractual arrangements	A summary of the contractual arrangements agreed with the preferred bidder; any changes to the draft contract agreed at the Intermediate Business Case stage; the reasons for the changes and their impacts.

Financial Case

At the Full Business Case stage, the purpose of the Financial Case is to confirm that the final offer submitted by the prospective preferred bidder will be affordable, and to identify where and why this assessment differs from the affordability analysis of the preferred option at the Intermediate Business Case stage.

This will enable the project board and executive board/programme board to confirm their willingness to proceed to signature of contract and will enable you to seek any other government approvals you may need.

The action for completing the Financial Case is set out below.

43. Confirm the affordability of the prospective preferred bidder's final offer

43. Confirm the affordability of the prospective preferred bidder's final offer

Who should work on this?

- The project director and manager
- Director of finance

What should you do?

- Confirm that the final offer submitted by the prospective preferred bidder is affordable, by:
 - reviewing the financial model built at **Action 27**; or
 - in the case of a PPP, reviewing the preferred bidder's model and confirming that the sources, assumptions, and outputs are correct.
- You should engage an independent assurer to test and confirm your conclusions.

What should the outcome be?

A section of the Full Business Case which:

- Documents changes to the analysis undertaken at the Intermediate Business Case stage.
- Confirms that the project is affordable.

Financial Case completion and assurance

Having completed the actions above, draft the financial case using the template at Annex 2 and complete the summary table below.

Table 51 – Summary table of the Financial Case in the Full Business Case

Heading	Content
Confirmation of affordability	Confirmation that the deal negotiated with the prospective preferred bidder is affordable; summary of differences with the affordability analysis undertaken at the Intermediate Business Case stage; any risks and issues of which the project board and executive/programme board need to be aware.

Approval

It is likely that you will also need to gain external approval (for example, from the Treasury or Ministry of Finance), for the government spending required before progressing to signature of the contract with the preferred bidder.

Management Case

The purpose of the Management Case, at the Full Business Case stage, is to review and finalise the plans developed in the Intermediate Stage, and show that they will be fit for purpose once the contract has been signed and the project moves into delivery.

It should give the project board and executive/programme board confidence that the authority has the capacity and capability in place to work with the contractor and monitor their delivery of the contract.

The actions for completing the Management Case are set out below.

44. Review and update all sections of IBC Management Case

44. Review and update all sections of IBC Management Case

Who should work on this?

- The project director and manager
- Environmental and social advisers

FBC - Management

- Communications advisers

What should you do?

- Review all of the plans developed at Intermediate Business Case stage.
- Communicate any updates or changes since Intermediate Business Case stage, for example, the outcomes of further stakeholder engagement or changes to the risk register.
- Consider how plans need to be updated so that they will become management and reporting tools once the contract has been signed. This should include a critical review of the project evaluation plan you developed at **Action 36**, to update it as required to reflect the contract agreed with the preferred bidder and to assign responsibilities to individuals. The Results Framework developed at **Action 31** should be reviewed to confirm the inputs, outputs, and outcomes (KPI's) reflect the contract terms.
- Undertake any actions under the stakeholder engagement and/or change management plan(s) which need to be accomplished – for example, you may need to communicate the results of the tender process to affected stakeholder groups (internal and external), seek their agreement, and provide clarity as to next steps which may impact them.
- Confirm the final project costs and the authority's own resource costs.

What should the outcome be?

- Clear documentation of any changes since the Intermediate Business Case.

Management Case completion and assurance:

Having completed the actions above, draft the management case using the template at Annex 2 and complete the summary table below.

Table 52 – Summary of the Management Case in the Full Business Case

Heading	Content
Finalisation of Management Case plans	A summary of changes to the plans since the Intermediate Business Case and of any key issues of which the project board needs to be aware. Summary of how the project evaluation plan has been updated and responsibilities assigned.

Transition Point

Assurance and Approval Point

Complete the Full Business Case, using the template provided in Annex 2 – Templates, and submit it for assurance review as relevant. Schedule 7 provides a summary of what should be in the Full Business Case and can be used to cross-check your document.

Next obtain approval for your Full Business Case. If, subsequent to the approval of your Full Business Case and prior to contract signature, the cost of the project significantly increases, the business case should be updated and resubmitted for approval.

45. Sign contracts with preferred bidder

45. Sign contracts with preferred bidder

Who should work on this?

- The project director and manager
- Commercial director

What should you do?

- Provide scores to the bidders along with comments and feedback to educate the market and improve future submissions.
- Notify the winner of the procurement process and sign contracts.

What should the outcome be?

- Signed contracts with the preferred bidder.



05

Schedules

Glossary¹⁰⁵

Affordability gap is the difference between the estimated cost of delivering the project, and the actual amount of funding the government is able to allocate to it.

Approval process is a process by which an approvals body considers whether a project represents an appropriate use of public money and determines whether the project should proceed.

Appraisal as regards:

- options, is a process of comparing different options; and
- projects, is a process of considering the overall state of a project (considering objectives, options, costs, benefits, risks and uncertainty)

before reaching a decision.

Assurance is a review process designed to produce:

- an assessment for its sponsor and approver that shows the assurance team's confidence in the project's ability to meet its aims and objectives; and
- advice as to whether it has reached a sufficient stage of maturity to proceed to the next stage.

Assurance and approvals plan is a plan setting out the planning, co-ordination and provision of assurance activities and approval points throughout its life.

Authority is a local or central public sector body, which may commission a project.

Bankable means the proposal has sufficient collateral, future cash flow, probability of success, and appropriate allocation of risks across parties, to be acceptable to institutional lenders for financing.

Benefit is an advantage or positive outcome.

Blended finance is a form of finance, promoted by the MDBs, which combines concessional finance from donors or third parties alongside MDB and/or commercial finance from other investors.

¹⁰⁵ These definitions are project-specific definitions.

Schedule 1 - Glossary

Building Information Modelling (BIM) (sometimes also referred to as digital construction) is a digital transformation process that allows for easy sharing of data between different contributors during a project's construction and subsequent operation.

Business as Usual is the project option that provides for a continuation of the current arrangements. This provides a benchmark against which to compare other options. Sometimes this is referred to as the 'Do Nothing' option.

Business Case is (a) a proposition that explains why a project is needed, and also (b) a management tool for scoping, planning and evaluating that proposition.

Case Study is the model business case (at the Intermediate Stage) set out in Annex 1.

Cash-releasing benefits reduce the cost of organisations in such a way that the resources can be reallocated elsewhere; this typically means that an entire resource is no longer needed for the task for which it was previously used, for example, staff, cash or other assets.

Category choices are the choices that should be considered at the different stages of the Options Framework, from Scope – Solutions – Deliverer – Implementation – Finance and Funding.

Change management means the different plans/approaches needed to help manage organisational change. This should be supported by an overall strategy that explains the goals and aims, and a plan that explains how these will be achieved.

Circular economy is an economic approach to the use of resources that aims to recover, reuse, and recycle materials associated with construction, operation, and consumption, working towards a closed loop system. The aim of the approach is to reduce waste and cost, reduce pollution and environmental degradation, reduce reliance on external inputs to systems, and recycle raw materials and by-products directly back into a process, or reuse or repurpose elsewhere in a productive manner.

Commercial Case is the section of the business case that describes the commercial viability of the project and should include proposals for contractual structure, risk allocation and procurement strategy.

Contingency is an allowance of cash or resource to cover the cost of risks that may arise.

Cost benefit analysis is a type of socio-economic analysis used to compare different project options and their effect on social welfare, quantifying as many of the costs and the benefits as feasible, including costs/benefits for which there are no satisfactory measures of economic value.

Cost-effectiveness analysis is a variant of cost benefit analysis that compares the cost of alternative ways of producing the same, or a similar, output.

Critical success factors are the high priority objectives for a project, against which the success of the project may be judged.

DFI is a Development Finance Institution.

Schedule 1 - Glossary

Discounting is a method used to convert future costs and benefits to present values using a discount rate.

'Do Minimum' option is the option where the authority takes the minimum amount of action necessary.

Early Business Case is the first stage in developing a project's business case. It focuses primarily on the Strategic and Economic Cases, establishing the 'strategic need' for the project, and a shortlist of options. High-level costs, benefits and risks are also developed.

Economic analysis is a means of assessing the costs and benefits of options to society as a whole, using cost benefit analysis, and an assessment of qualitative benefits and risks.

Economic Case is the economic section of the business case that demonstrates that a wide range of options have been considered, and then refined to a shortlist, and eventually a 'preferred option' using cost benefit analysis.

Effectiveness is a measure of the extent to which a proposed action achieves its objectives.

Efficiency is a measure of the extent to which a project's associated throughputs are increased.

Environmental and social impact assessment is an assessment of the potential environmental and social impacts of a proposed project prior to the decision to move forward with the project.

Environmental and social impact risks are risks of potential negative consequences that result from impacts (or perceived impacts) on the natural environment or communities of people.

Financing, for a project, is the up-front borrowing and/or investment used to pay for capital costs.

Five Case Model (5CM) is a framework for the development and presentation of a business case, comprising the strategic, economic, commercial, financial and management – the five dimensions of the case. It is the methodology described in this Guidance.

Full Business Case is the third stage in developing a project business case. It focuses primarily on the procurement process, and updates the Economic, Commercial, Financial and Management Cases to reflect the negotiated deal.

Funding is the source of income used to repay the up-front finance for a project over its life.

G20 Principles refers to the "G20 Principles for the Infrastructure Project Preparation Phase" issued in July 2018 by the G20 Finance Ministers and Central Bank Governors at the Buenos Aires summit.

Schedule 1 - Glossary

Gateway approach involves a project passing through 'gates' or assurance review points before it is put forward for relevant central government approval. Each gateway requires the assurance team to develop an assessment report of the project and its business case. This is a formal process in the UK, linked to HM Treasury's Approvals Process.

Gender and Inclusion where 'gender' refers to gender equality and women's economic empowerment, and 'inclusion' refers to the reduction of poverty and delivery of inclusive growth among excluded groups, such as women, youth, people with disabilities, and rural communities. Greater inclusion can be achieved through empowerment (through building assets, capabilities and opportunities) and transformation (addressing systemic barriers to economic empowerment).

Gross domestic product (or GDP) measures the value of economic activity within a country, being the sum of the market values, or prices, of all final goods and services produced in an economy during a period of time.

Intermediate Business Case is the second, and most substantial, stage in developing a project business case. It focuses on the Economic, Commercial, Financial and Management Cases, assessing the shortlist of options through cost benefit analysis to determine a 'preferred option', considering the affordability and commercial viability of the 'preferred option', and identifying the expected resources and management arrangements for the project.

Life cycle costs are the costs of an asset over its useful life, including dismantling costs (sometimes known as Whole-Life Costs).

MDB is a Multilateral Development Bank.

Monte Carlo Analysis is a simulation-technique that presents (a) a range and (b) the expected impact values of various risks.

Nationally Determined Contributions are the internationally agreed efforts by each country to reduce national emissions and adapt to the impacts of climate change.

Net present social value is the discounted value of a stream of future costs and benefits to produce a present value. It provides a measure of the overall impact of an option.

Non-cash-releasing benefits often involve reducing the time that a particular resource takes to do, but not sufficiently to re-allocate that resource to a different area of work.

Non-quantifiable or qualitative benefits are qualitative benefits that are of value but cannot be quantified.

Objectives are the 'targeted' outcomes for a project, which reflect its overall rationale, and which must be made SMART for the purposes of evaluation – sometimes also referred to as project objectives, investment objectives or spending objectives.

Optimism bias is the demonstrated tendency for the writers of business cases to be over-optimistic about costs, benefits and time taken to complete a proposal.

Schedule 1 - Glossary

Option appraisal is the process of examining options and weighing up the costs, benefits, risks and uncertainties of those options before a decision is made.

Options Framework filter is a systematic framework for the generation of a wide range of possible options, and the filtering of a few possible options (the 'shortlist') for cost benefit analysis, and identification of the preferred option.¹⁰⁶

Outcomes refers to the consequences to society as a whole of a project.

Outputs refers to the change in the level or quality of a service delivered.

Payment mechanism is the mechanism in the project contract that sets out the payment arrangements.

Public-private partnership (PPP) is a form of contract between public and private sector whereby, characteristically, the private sector design, build, finance and operate a publicly provided service against payment by the authority (for an availability-based PPP) or by users (for a concession-based PPP). There are many different possible definitions.

Pre-feasibility study is an assessment of the basic parameters of a project used to decide whether to go forward with more detailed studies, such as feasibility studies and transaction development.

Preferred approach is the best ranking solution emerging from the options analysis at the Early Business Case stage. It is not the preferred option, which only emerges after full economic appraisal in the Intermediate Business Case stage.

Preferred bidder is the bidder identified at the end of the bid process as being the authority's preferred partner for the contract.

Preferred option is the option selected, as offering best value, after a detailed analysis of the shortlist of options in the Economic Case at the Intermediate Business Case stage.

Programme is a series of coordinated activities designed to pursue a long-term goal. In the infrastructure area, it is normally seen as an overarching structure under which a number of related individual projects can be coordinated and delivered. A programme business case can also be produced using the Five Case Model.

Project Development Routemap (or Routemap) is a tool that can be used in the early stage of a project to take project teams through the key considerations for launching the project. It assesses delivery complexity, 'deliverer' capability, and identifies any capability gaps. It has a set of seven modules that provide best practice and advice to remedy problems identified.

¹⁰⁶ HM Treasury, Green Book: <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>

Schedule 1 - Glossary

Public Value is the net measure of social welfare resulting from an option or project looking at the 'whole of society', or more particularly, it is the sum of total benefits and total costs, including private and social costs and benefits. It is sometimes referred to as 'net present social value'.

Public sector comparator is a cost model showing how much the project should cost over its whole life (including its operational phase, including maintenance and service costs) if done as a traditionally funded public sector project. This serves as a comparator against which other project options can be measured. It is sometimes also referred to as the reference project.

Qualitative risk/benefits are risks/benefits that are not easily measurable in financial terms.

Quantifiable benefits can be quantified. The extent to which they are measured will depend on their significance; however, as a rule, every effort should be made to quantify benefits monetarily wherever possible.

Quantitative risk/benefits are risks/benefits that are easily measurable in financial terms.

Reference project see public sector comparator.

Results Framework is a method used to describe the desired results of a project, programme or strategy, at various stages from immediate inputs, outputs, to longer-term outcomes, and impacts. Using a tabular format, it describes the expected targets to be achieved through the implementation of the project, including the metrics used to measure them. It also includes assumptions which the targets are based on. It is frequently used by Aid funded projects.

Resilience – the robustness of infrastructure and associated systems, and their ability to tolerate, withstand, and continue to operate throughout stress events and shocks – both immediate and long-term, including disasters and climate change. Infrastructure can enhance the resilience of people and places through the use and services provided by assets.

Risk is the possibility of a negative event arising that could adversely affect the project.

Risk register is a tool used to record project risks, their likelihood and value, and the person responsible for their management.

Sensitivity analysis is an analysis tool used in the cost benefit analysis of the Economic Case; it is a process of changing key variables and modelling their impact on the preferred options.

SEAH means 'sexual exploitation, abuse and harassment'.

Sexual exploitation is an actual or attempted abuse of someone's position of vulnerability, differential power or trust, to obtain sexual favours, including but not only, by offering money or other social, economic or political advantages.

Schedule 1 - Glossary

Sexual abuse is the actual or threatened physical intrusion of a sexual nature, whether by force, or under unequal or coercive conditions.

Sexual harassment is any unwelcome sexual advance, request for sexual favour, verbal or physical conduct, or gesture of a sexual nature, or any other behaviour of a sexual nature that might reasonably be expected or be perceived to cause offence or humiliation to another.

Shortlist refers to the shortlist of project options to be taken forward to detailed economic analysis in order to find a single preferred option.

SMART Objectives are objectives that are **s**pecific, **m**easurable, **a**chievable, **r**ealistic and **t**ime-bound.

Social preference rate represents the value society attaches to enjoying a benefit today rather than in the future.

Stranded assets are no longer economically viable to operate due to changes in environmental, commercial, regulatory, geo-political, or technology conditions. Assets may not have achieved the forecast return on investment, or may no longer be compliant with local or international laws (including health and safety), or demand for the product may have reduced.

Strategic Case is the strategic section of the Business Case.

SWOT means **s**trengths, **w**eaknesses, **o**pportunities and **t**hreats. It is used as a framework to weigh up the positives and negatives of different choices.

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.¹⁰⁷

The UN Sustainable Development Goals (SDGs) are a collection of 17 global goals set by the United Nations General Assembly in 2015 for the year 2030. They address global challenges, including those related to poverty, inequality, climate, environmental degradation, prosperity, and peace and justice.

Sustainable infrastructure projects are those that are planned, designed, constructed, operated, and decommissioned in order to ensure economic and financial, social, environmental (including climate resilience), and institutional sustainability over the entire life cycle of the project.¹⁰⁸

Swiss Challenge is a procedure sometimes used following an unsolicited bid, whereby an open bidding process is held, and if the unsolicited bidder does not win, they have the option to match the winning bid and win the contract.

¹⁰⁷ A generally agreed definition from the report of the Brundtland Commission. See: Brundtland, G.H. Our Common Future: Report of the World Commission on Environment and Development; Oxford University Press: Oxford, UK, 1987.

¹⁰⁸ Inter-American Development Bank (IDB), Filling the Infrastructure Investment Gap: the Role of Project Preparation and Structuring Facilities, March 2019, <https://publications.iadb.org/en/filling-infrastructure-investment-gap-role-project-preparation-and-structuring-facilities>.

Schedule 1 - Glossary

Theory of Change is a methodology that lays out the connections the project will make, from objectives through to outputs, to outcomes and impacts, and demonstrates how benefits will actually be achieved.

Unsolicited bid is a proposal made by a private party to undertake a project, submitted at the initiative of the private body, rather than in response to a request from government.

Value for money (VfM) is the optimum combination of whole-of-life costs and quality, or fitness for purpose, of a good or service that meets the user's requirements (though there are many different possible definitions).

Viability gap funding is a grant used to support projects that are economically justified, but not financially viable (they have an ongoing 'affordability gap').

WB is the World Bank.

Whole life carbon is the calculation of the total value of direct and indirect greenhouse gas emissions associated with a product or asset across the full life cycle. This includes; sourcing materials, extraction, transportation, construction, operation, maintenance, repair, replacement, and decommissioning and demolition, and all associated waste activities. The greenhouse gases are calculated as carbon dioxide equivalent units to standardise accounting and emissions measuring and recording practices.

Whole life carbon is made up of **Capital Carbon** (CapCarb) which are the emissions associated with the construction and development of infrastructure, most of which becomes embedded carbon in the physical asset, and **Operating Carbon** which are the emissions associated with running the infrastructure asset or delivering associated services, for example, energy for heating, cooling, and lighting a building.

Project roles and descriptions

We refer to the following roles and responsibilities in the Detailed Guidance. It is recognised that not every different country will have direct equivalents to each of these positions.

Table 53 – Project roles and descriptions

Title	Description
Senior responsible owner (SRO)	<ul style="list-style-type: none"> <li>❑ The visible owner of the project, accountable for successful delivery of objectives, and realising required benefits. The SRO should be recognised throughout the authority as the key leadership figure in driving the project forward. <li>❑ Is able to commission the application of Routemap. <li>❑ Further guidance on the requirements and expectations for SROs of major government projects is available via the footnote below.¹⁰⁹
Project director	<ul style="list-style-type: none"> <li>❑ The senior executive who represents the project and business case to the project board. <li>❑ Has ownership of the business case and Routemap (if undertaken). <li>❑ Leads the business case through assurance and approval processes. <li>❑ The seniority of the individual should reflect the complexity of the project.
Project manager	<ul style="list-style-type: none"> <li>❑ Supports the project director. <li>❑ Has day-to-day responsibility for leading and managing the development, procurement and delivery of the project. <li>❑ Leads on drafting the business case and coordinating inputs. <li>❑ Organises and runs/facilitates workshops. <li>❑ Engages with representatives of the authority and/or stakeholder groups as required. <li>❑ May lead on undertaking the Routemap/coordinating resources as necessary.

¹⁰⁹ Please see guidance available at: <https://www.gov.uk/government/publications/the-role-of-the-senior-responsible-owner>

Schedule 1 - Glossary

Title	Description
Project team	<ul style="list-style-type: none"> <input type="checkbox"/> Led by the project manager and project director. <input type="checkbox"/> Possesses the range of skills and experience relevant to the project. <input type="checkbox"/> Inputs into the business case as required. <input type="checkbox"/> For major projects the team may become a project/ programme management office.
Project board	<ul style="list-style-type: none"> <input type="checkbox"/> The board with overall responsibility for delivering the project and writing the business case. <input type="checkbox"/> It should report to a higher-level executive board, or, if the project is part of a larger portfolio of work, a programme board.
Executive board/ programme board	<ul style="list-style-type: none"> <input type="checkbox"/> The senior management board of the authority/a board made up of senior management, with responsibility for delivering an over-arching programme of projects.
Economic adviser	<ul style="list-style-type: none"> <input type="checkbox"/> A specialist individual or organisation with the necessary skills to evaluate and analyse potential project options from an economic perspective. <input type="checkbox"/> Will input into the Economic Case (and other cases as required).
Commercial director	<ul style="list-style-type: none"> <input type="checkbox"/> The executive responsible for commercial decisions on the project board. <input type="checkbox"/> Possesses the necessary skills to evaluate and determine the best means of procurement for the project. <input type="checkbox"/> Will input into the Commercial Case (and other cases as required) and lead the procurement process.
Director of finance	<ul style="list-style-type: none"> <input type="checkbox"/> The executive responsible for confirming the affordability of the project on the project board. <input type="checkbox"/> Will input into the Financial Case (and other cases as required).
Communications team	<ul style="list-style-type: none"> <input type="checkbox"/> Likely to be drawn from the authority's communications team. <input type="checkbox"/> Will need to have the capacity to support stakeholder engagement for the project, and to draft and implement a communications plan. <input type="checkbox"/> Will input into the Management Case (and other cases as required).

Schedule 1 - Glossary

Title	Description
Change Management adviser	<input type="checkbox"/> A specialist individual or organisation with the necessary skills to help to develop a Change Management strategy and action plan.
Environmental and social advisers	<input type="checkbox"/> A multidisciplinary team that specialises in the commissioning/undertaking of environmental, climate change, greenhouse gas emissions/decarbonisation/ carbon accounting, circular economy, social, and health impact assessments.
Risk adviser	<input type="checkbox"/> A specialist individual or organisation with the necessary skills to analyse potential risks and advise on how to best manage them.
Legal adviser	<input type="checkbox"/> A legal professional able to advise on the Commercial Case and other areas require legal input.

Workshops

Part 1

The body of the Guidance describes how to build a business case. This schedule sets out a framework of key steps and workshops in a chronological order, which will assist you in your business case development process.

Five workshops

Set out below are a set of five 'demonstrator' workshops, designed as a template for the five workshops you should hold with your stakeholders in order to develop your business case. They are written as actual (though made up) accounts of workshops for a light rail project.

The diagram below maps the five workshops against the five cases.

Diagram 14 – The five workshops against the five cases



Schedule 2 - Workshops

Background

The schedule will follow a project manager for a light rail project (the 'Project') in the Ministry of Transport. As part of the business case development process, they have held five workshops with stakeholders. Set out below is a record of how they did this – which can serve as a step-by-step guide for your own workshops.

The project manager has been asked to develop a business case for the Project, which is identified in the Ministry's strategic plan. While it is an identified priority for the Ministry, the scope of the Project has not yet been set and the project manager needs to get this under way.

Workshop 1: Strategic Needs

Workshop(s) – Strategic Needs – (Actions 1-4)

We recommend that **Actions 1-4** are undertaken via one or more Strategic Needs workshops, involving all interested parties from the authority and other government organisations.

Workshop objectives	<ul style="list-style-type: none"><input type="checkbox"/> To agree why the project needs to happen and how the project fits within the government's wider strategic aims, and alignment with SDGs<input type="checkbox"/> To identify and agree a set of project objectives<input type="checkbox"/> To describe the existing arrangements, and the gap between the existing arrangements and the project objectives<input type="checkbox"/> To define a high-level scope for the project<input type="checkbox"/> To identify the benefits the project could generate, and the risks which the government will need to manage
Key participants	<ul style="list-style-type: none"><input type="checkbox"/> Senior decision-makers<input type="checkbox"/> Project director<input type="checkbox"/> Project manager<input type="checkbox"/> Environmental and social advisers<input type="checkbox"/> Strategy advisers/consultants<input type="checkbox"/> Other stakeholders, including service user representatives
Outputs	<ul style="list-style-type: none"><input type="checkbox"/> Objectives<input type="checkbox"/> Identification of SDGs relevant to the project<input type="checkbox"/> Existing arrangements<input type="checkbox"/> Gap between objectives and existing arrangements<input type="checkbox"/> Project scope<input type="checkbox"/> High-level benefits, risks, constraints and dependencies

Schedule 2 - Workshops

The project manager realised that to launch his business case process they needed to hold a workshop with key stakeholders to establish the 'Strategic Need'.¹¹⁰

First, in order to prepare for the workshop, they:

- ❑ considered who the key stakeholders were, considering their potential influence and importance, as well as their exposure to the project's potential risks and impacts; and
- ❑ listed the policies and strategies which were (a) directly relevant to the Project, and (b) not directly relevant, but which the Project must take account of.

Next, they drew up the purposes of the workshop, which were to identify and agree:

- ❑ the strategic aims of the project;
- ❑ five headline project objectives with SMART output(s) for each;
- ❑ Identify SDGs aligned with project objectives;
- ❑ existing arrangements and any gaps in understanding;
- ❑ the gap between the existing arrangements and the objectives;
- ❑ potential scope; and
- ❑ related benefits, risks, constraints and dependencies.

They invited the most significant stakeholders to the workshop, including relevant policy leads, the head of transport, a departmental economist, and a representative of the potential service users (local transport consortium). The project manager asked them to set aside three hours for the meeting.

The project manager managed the meeting as follows:

- ❑ The group started by considering the key policy drivers (with the project manager checking them against the ones they had already noted and adding the new ones) and setting the strategic aims for the project.
- ❑ The transport policy lead then described the public transport services already available. The project manager noted the scope and costs of existing services.
- ❑ The group then discussed why the existing arrangements were inadequate, how they could be improved, and what opportunities the Project gave rise to, including how it might address climate change mitigation, adaptation, and resilience measures for transport infrastructure.

The project manager recorded the conclusions on a flipchart. The strategic aims that they recorded are set out below.

¹¹⁰ The UK has developed a tool to help establish a clear 'golden thread' from government priorities to the development of strategies and business cases for programmes and projects. The Programme/Project Outcome Profile (POP) can be viewed here: <https://www.gov.uk/government/publications/green-book-supplementary-guidance-projectprogramme-outcome-profile>

Strategic aims

- Ease congestion and increase public transport provision.
- Serve the transport needs of the city's rapid expansion.
- Increase connectivity across the city's population hubs.
- Develop the city as an attractive place to live and work.
- Reduce carbon emissions from transport
- Increase the resilience of public infrastructure to the effects of climate change

The conversation did not provide him with all the material they needed for the business case, but the project manager had gained a better understanding of the existing position (that is, 'where we are now'), and in particular:

- the overall strategic background and policy drivers;
- what the main problems were; and
- what opportunities these presented.

They knew these would provide the basis of the 'identify the gap' section of the business case and now felt the workshop could move forward to consider: 'where we want to be' – looking at how the project might solve these problems and take advantage of these opportunities.

The project manager moved the conversation on to project objectives (being the key things the project should achieve) and corresponding outputs to measure achievement, using the SMART framework (Specific, Measurable, Achievable, Realistic, and Time-bound). They knew that it would be difficult to keep people on topic, so they asked the workshop to consider these with reference to the following factors, and to come up with just five or six headline project objectives:

- Economy (reducing cost)
- Efficiency (improving productivity)
- Effectiveness (improving quality and also long-term resilience to environmental, climate change, social and economic trends)
- Compliance (satisfying statutory or lender requirements)
- Replacement (replacing a service that is about to expire)
- Advancement (mitigating environmental, climate, and social risks, realising environmental, decarbonisation, and social benefits including intergenerational equity, promoting achievement of the UN Sustainable Development Goals)

The project manager had to chair the discussion rigorously in order to try to reach a consensus. By the end of this time, however, the project manager thought that there was a broad measure of agreement. They felt that they could, broadly, match each objective against a problem (which it would help solve) or opportunity (which it could exploit) and they recorded the objectives as follows:

Schedule 2 - Workshops

Project objectives	SMART outputs
<ul style="list-style-type: none"> To reduce congestion and address the transport 'gap' by providing a modern transport system for the city, fit for the 21st century. 	<ul style="list-style-type: none"> Reduce travel times at peak hours within five miles of the city centre from 35 minutes to 20 minutes, within four years of the scheme being fully operational.
<ul style="list-style-type: none"> To improve quality, reliability and connectivity, so as to enable more people to access places of work, education and retail opportunity. 	<ul style="list-style-type: none"> Obtain a passenger satisfaction score in excess of 85% within five years of operation, to be at least maintained thereafter.
<ul style="list-style-type: none"> To improve accessibility for women, children and persons with disabilities. 	<ul style="list-style-type: none"> Ensure adequate lighting and sanitation facilities at all public transport stops within one year of the scheme being fully operational. Ensure all passenger stops and transport vehicles accessible by wheelchair within two years of the scheme being fully operational.
<ul style="list-style-type: none"> To increase personal safety and reduce accidents and deaths. 	<ul style="list-style-type: none"> Reduce road accident fatalities by 70% and serious injuries by 40% within five years.
<ul style="list-style-type: none"> To reduce the impact of transport on the environment and reduce carbon emissions to national standards. 	<ul style="list-style-type: none"> Reduce the number of cars passing through the city centre by 40% over the next five years. Reduce CO2 emissions from [public] transport within the city by 20% within 10 years.

The project manager then explained the SDGs to the stakeholders, and as a group they discussed and agreed on three that are most relevant to the project and the objectives and outcomes:

- SDG 3 – Health and wellbeing** (Target 3.6 – Reduce death and injuries from road traffic accidents)
- SDG 9 – Build resilient infrastructure, promote sustainable industrialisation and foster innovation** (Target 9.1 – Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human wellbeing, with a focus on affordable and equitable access for all)
- SDG 11- Sustainable Cities and Infrastructure** (Target 11.2 – By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons)

Schedule 2 - Workshops

The project manager next asked the workshop to consider the potential scope of the project with reference to:

- 'core' coverage (being the essential minimum changes it should achieve);
- 'desirable' coverage (further changes that could be justified on value for money grounds to deliver the five objectives); and
- 'optional' additional coverage (which were not vital but could offer added benefit on a 'marginal cost' basis).

The project manager recorded the results as follows:

Scope: Route

- Core – increased connections in city centre only
- Desirable – increased connections between city centre and surrounding areas
- Optional – connect all areas in the region

Scope: Service

- Number of vehicles: Core [] Desirable [] Optional []
- Number of stops: Core [] Desirable [] Optional []

Finally, the project manager asked the group to consider the:

- Benefits – noting the related 'beneficiary' for each and whether they were quantitative or qualitative;
- Risks – at a high level only;
- Constraints – being the external parameters or limiting factors over which the Project had no control; and
- Dependencies – being external factors and related projects that were key to the success of this project.

Schedule 2 - Workshops

The project manager recorded the benefits as follows:

Benefits

- ❑ **Deprivation:** The places that fall within the 10% most deprived areas are also the ones most impacted by the proposed scheme.
- ❑ **Employment:** The project would enable residents to access a broader range of employment opportunities throughout the region.
- ❑ **Education:** A large number of universities and higher education establishments will become more accessible to residents.
- ❑ **Investment:** The project would encourage further investment into the area through regeneration and development of disused land.
- ❑ **Income:** Areas that are expected to benefit most from the scheme have an average annual income far less than the national income.
- ❑ **Women's empowerment:** The project is expected to make significant strides into enabling women to safely utilise public transport, and increase access to employment.
- ❑ **Reduced emissions and enhanced environment:** The scheme will allow for reduced car usage with a corresponding reduction in greenhouse gas emissions, and will include remediation of adjacent land to improve the local environment.

It was agreed that follow-up discussions on certain points would be needed. The project manager felt they now had the basic information they needed to progress the business case.

Workshop 2: Options Development

Workshop(s) – Options Development – (Actions 5-7)

We recommend that **Actions 5-7** are undertaken via one or more Options Development workshops, involving all interested parties from the Authority and other government organisations.

Workshop objectives	<ul style="list-style-type: none"> <input type="checkbox"/> To identify critical success factors (CSFs) <input type="checkbox"/> To describe the 'Business as Usual' option <input type="checkbox"/> To identify a range of options <input type="checkbox"/> To consider low carbon options and opportunities <input type="checkbox"/> To analyse these options through a structured process <input type="checkbox"/> To identify a preferred approach
Key participants	<ul style="list-style-type: none"> <input type="checkbox"/> Senior decision-makers <input type="checkbox"/> Project director <input type="checkbox"/> Project manager <input type="checkbox"/> Economic adviser <input type="checkbox"/> Director of finance <input type="checkbox"/> Environmental and social advisers <input type="checkbox"/> Strategy advisers/consultants <input type="checkbox"/> Representatives of customers/users of the current service (if applicable) <input type="checkbox"/> Representatives of those impacted, which may include NGOs
Outputs	<ul style="list-style-type: none"> <input type="checkbox"/> A preferred approach <input type="checkbox"/> A number of alternative options <input type="checkbox"/> A description of the process undertaken

The project manager developed the business case following Workshop 1, and soon needed to arrange a second workshop to explore the potential options for delivery of the project.

The objectives of this workshop were to:

- agree critical success factors;
- identify and evaluate a wide range of options;
- identify shortlisted options; and
- provide initial estimates of costs, benefits and risks associated with each of the shortlisted options.

Schedule 2 - Workshops

The same workshop attendees (as for Workshop 1) were invited to attend for another session. The project manager brought a colleague with him to help run the workshop and record conclusions.

The project manager began by summarising the results of Workshop 1, reminding the group of the Project's:

- strategic aims;
- five principal objectives and associated outputs;
- potential scope; and
- intended benefits and associated risks, constraints and dependencies,

in order to ensure that this workshop built on the foundations already developed.

The project manager then outlined the purpose of the workshop, explaining that they would be using the 'Options Framework' as a structured approach to developing potential options for the project. The stakeholders were unfamiliar with this tool, and the project manager explained how it would be used; in particular looking at the following categories of choice:

- Project scope: 'what' – were the service coverage options;
- Service solution: 'how' – may services be delivered (technical solution options);
- Deliverer: 'who' – could deliver services;
- Implementation: 'when' – timing and phasing options; and
- Funding and financing: 'where from' – options to fund and finance the required services.

Agreeing critical success factors

The project manager wrote the agreed project objectives on a flipchart and asked the group to consider the 'critical success factors' – being the high priority criteria for the project against which the success of the project might be judged. The group considered the standard criteria of:

- Strategic fit and business needs
- Value for money
- Deliverability
- Affordability
- Achievability
- Sustainable development, climate, and environmental priorities, including alignment with SDGs
- Compliance – statutory and lender requirements (including gender and inclusion principles, environmental, climate, social, and governance policies, standards and obligations)

Schedule 2 - Workshops

The group agreed that these should form the basis of the critical success factors used to filter the options they were about to consider, alongside the project objectives – which in this case effectively aligned with the Ministry’s transport strategy and formed part of the strategic fit. The project manager recorded them as follows:

Critical success factors

- Strategic fit
 - capacity to move large numbers of people
 - connectivity to as many areas as is feasible
 - quality and reliability
 - contribution to the UN Sustainable Development Goals (or other relevant frameworks selected for the project)
 - broader social benefits of safety, comfort, air quality, decarbonisation, crime reduction, improved health
 - Alignment with SDGs
- Value for money
- Deliverability
- Affordability
- Achievability

The Options Framework

The project manager started the conversation about potential ‘scope’ of the project – the first category of choice within the Options Framework. They applied a strict approach to this – limiting the group to discussing the coverage of the project, both in service and geographical terms. The group often strayed into considering the ‘service solution’, but it was explained that this would be explored after the potential scope had been agreed and that it was important to consider the categories of choice in the correct order.

Different options were identified ranging from less to more ambitious. The group assessed these against the critical success factors, and agreed that the most ambitious coverage option should be discounted because it was unlikely to be affordable; the intermediate option was most likely to optimise value for money; and a more and less ambitious option should be carried forward to the shortlist. Throughout this process, the project manager chaired the debate, and his colleague made notes to record the reasons for the decisions taken by the group, so that it could be recorded in the business case to clearly show how and why the options were chosen.

The group spent a significant amount of time discussing the potential scope of the project. The project manager thought this necessary since the scope of the project had to be clearly established before moving on to the more detailed categories of choice. They recorded the outcome as follows:

Schedule 2 - Workshops

Scope: Route

- Core – increased connections in city centre only
- Desirable – increased connections between city centre and surrounding areas
- Optional – connect all areas in the region

Scope: Service

- Number of vehicles: Core [] Desirable [] Optional []
- Number of stops: Core [] Desirable [] Optional []

The project manager introduced the service solution options – the technical options to deliver the preferred scope. Operational, technical and policy colleagues were present to contribute to the debate and inform assessment of the suitability of potential solutions from a technical and practical perspective, including whole life carbon. The project manager introduced some reference studies they had researched earlier, to show how potential options had been implemented elsewhere, and to consider how any solutions or lessons from elsewhere could be introduced to this project. His technical colleagues had spent significant time considering the potential service delivery options in advance of the workshop, and some difficult issues arose. It was concluded that a feasibility study was needed to provide technical evidence to support potential options.

The group spent a significant amount of time considering the service solution options, identifying various solutions. After assessing each against the critical success factors, the group felt that further technical evidence was needed as regards two of the possible solutions before the business case could go further. This included further analysis of carbon costs, to be completed with the ESIA studies. (Details on running a separate 'Project Level Carbon' workshop are provided in the Annexes to this Guidance).

During the workshop, the project manager recorded the outcome of discussions directly onto his laptop, which was projected onto a large screen, so stakeholders could see how the options were developing.

After the break, the project manager asked the group to consider the implementation options – as regards the timing and phasing for the project. The group agreed the preferred option and a more ambitious option (quicker delivery), discounting the least ambitious option.

The group considered the funding and financing options, including the potential to raise finance from MDBs for climate related projects, and the project manager summarised the key points from the overall discussions:

Schedule 2 - Workshops

- ❑ Increasing connections in the city centre only would be ineffective.
- ❑ Increasing connectivity with surrounding regions would be a long-term goal.
- ❑ A heavy rail solution would involve complex/risky interfaces with national rail.
- ❑ A metro solution, while ideal, would be too disruptive and prohibitively costly.
- ❑ Given the 'novelty', the number of contractors should be limited to minimise interface risk.
- ❑ Any new or upgrade to existing infrastructure must be designed to enhance the local environment including wildlife habitat, and must be resilient to the effects of climate change including more frequent and extreme weather events.
- ❑ Three years is the maximum length of time that would be acceptable for implementation; and
- ❑ All funding and financing options are considered potentially feasible at this stage.

Identifying shortlisted options

The project manager summarised the options that had been considered for each element of choice using the Options Framework, and a colouring system making clear options remained open. They constructed a 'preferred approach' by selecting the preferred option from each element of choice. They then constructed a less ambitious option by choosing less ambitious carry forward options (in terms of scope and timing), and also a more ambitious option. The result looked like this.

Schedule 2 - Workshops

Wide range of options	Option 1	Option 2	Option 3	Option 4	Option 5
1. Project scope	1.1 Existing arrangements	1.2 Increase connections in city centre only	1.3 Increase connections between city centre and surrounding areas (local coverage)	1.4 Connect all areas in the region (regional coverage)	1.5 Connect various regions (inter-regional coverage)
	<i>Carry forward as baseline</i>	<i>Carry forward as DM</i>	<i>Preferred approach</i>	<i>Carry forward as possible</i>	<i>Discount</i>
2. Service solution	2.1 Existing arrangements	2.2 Enhanced Bus/Bus Rapid Transport (BRT)	2.3 Tram	2.4 Train	2.5 Metro
	<i>Carry forward as baseline</i>	<i>Carry forward as DM</i>	<i>Preferred approach</i>	<i>Discount</i>	<i>Discount</i>
3. Service delivery	3.1 Existing service model	3.2 DB+OM	3.3 DBOM	3.4 DBFM+O	3.5 DBFOM
	<i>Carry forward as baseline</i>	<i>Carry forward as DM</i>	<i>Carry forward as possible</i>	<i>Carry forward as possible</i>	<i>Preferred approach</i>
4. Project implementation	4.1 Four years	4.2 Three years	4.3 Two years	4.4 One year	4.5 Immediate
	<i>Discount</i>	<i>Preferred approach</i>	<i>Carry forward as possible</i>	<i>Carry forward as DM</i>	<i>Carry forward as baseline</i>
5. Project funding and financing	5.1 Existing funding	5.2 Publicly funded and financed	5.3 Publicly funded and privately financed (Availability-based PPP)	5.4 Partially publicly funded and privately financed (CAPEX paid on availability basis and OPEX paid on demand basis)	5.5. Privately funded and financed (Concession-based PPP)
	<i>Carry forward as baseline</i>	<i>Carry forward as DM</i>	<i>Carry forward as possible</i>	<i>Carry forward as possible</i>	<i>Preferred approach</i>

Schedule 2 - Workshops

The shortlist options were then agreed as follows:

Shortlist

- ❑ **Option 1** was designated as the 'Business as Usual' option – that is, continuing with the current operations.
- ❑ **Option 2** was designated as the '**Do Minimum**' option, allowing for benchmarks against which the other options are compared. It consists of a publicly funded and financed enhanced bus service.
- ❑ Two tram options were taken forward:
 - **Option 3** – where the tram is publicly-financed (that is, Tram – DBOM – Publicly Financed – Local Coverage); and
 - **Option 4** – where private finance is used (that is, Tram – DBFOM – Local Coverage – Privately Financed/Privately Funded and Financed). The benefit-cost ratio for an alternative option (that is, Tram – DBFM + O – Local Coverage) (Privately Financed/Privately Funded and Financed) is unlikely to vary significantly from that of option 4, as the difference is primarily a contractual one relating to the party to which operational risk is allocated.
- ❑ One Bus Rapid Transit option was taken forward – **Option 5** – where the scheme is privately financed (through a publicly financed scheme) (that is, Bus Rapid Transit – DBOM – Publicly Financed – Local Coverage); this would be analysed should the benefit-cost ratio of this option (5) indicate the potential for Bus Rapid Transit to be a feasible alternative.

Initial estimates of costs, benefits and risks

The project manager sought feedback from the group on the potential costs of each option. The discussion was supplemented with information from the other relevant reference projects, and stakeholders were encouraged to provide ranges of costs (rather than single point estimates). Similar treatment was applied to benefits and risks, although the focus at this stage was very much high-level, with the aim of providing an indicative Public Value at this stage.

Following conclusion of the workshop, the project manager was able, with help from his advisers and others, to complete the Early Business Case and submit it for approval.

Workshop 3: Preferred Option

Workshop(s) – Preferred Options – (Actions 18-21)

We recommend that **Actions 18-21** are undertaken via one or more Preferred Options workshops, involving all interested parties from the authority and other government organisations.

Workshop objectives	<input type="checkbox"/> To undertake a quantitative and qualitative analysis of the benefits, costs and risks of the options identified at the Early Business Case stage <input type="checkbox"/> To identify a preferred option
Key participants	<input type="checkbox"/> Project director <input type="checkbox"/> Project manager <input type="checkbox"/> Economic adviser <input type="checkbox"/> Director of finance <input type="checkbox"/> Risk adviser <input type="checkbox"/> Environmental and social advisers <input type="checkbox"/> Commercial director
Outputs	<input type="checkbox"/> Identification of the preferred option for the delivery of the project

Background

The Early Business Case was approved, and the project manager now quickly moved to set up a third workshop to help take forward the economic analysis at the heart of the Intermediate Business Case.

Ahead of the workshop, the project manager researched the potential economic costs and benefits of the project, by reviewing other reference projects and liaising with economists in the Ministry. For the principal costs and benefits, they found:

- standard metrics were available for benefits that could be applied to each of the shortlisted options (including wider benefits to society), which could be adapted for use on the Project;
- direct cost data from several reference projects, which could be adapted for use on the Project to provide a reasonable range of potential direct costs;
- environmental analysis, which modelled the predicted reduction in use of private vehicles and the reduction in CO2 that would result – using a government-approved methodology, the potential carbon reductions were translated into financial amounts for inclusion in the analysis; and
- Whole life carbon estimates were developed for each of the shortlisted options, based on reference projects and using industry standard modelling for the components: capital (construction), and operation.

Schedule 2 - Workshops

The project manager noted that there were significant uncertainties in the model they were building; for example:

- ❑ the potential costs of the project for each option were difficult to accurately predict since reference projects showed significant variances; and
- ❑ the predicted public usage of the transport system was not reliable – reference project data indicated that uptake of a new service could vary significantly from initial estimates.

To provide an accurate view of the potential value of each option, the project manager used ranges of values in his cost benefit analysis to calculate a range of scenarios from 'best' and 'expected' to 'worst-case'.¹¹¹ They referred to guidance on 'optimism bias' as a starting point, and modified this in the light of his research and expert opinion/ experience. This resulted in Public Value calculations for each of the shortlisted options, which incorporated optimism bias into the modelling.

The Workshop

The Project Manager invited a similar group of stakeholders as before to participate in the third workshop; but, in particular, ensured that the appropriate economic adviser and finance director were invited to participate, and a representative of a multilateral bank which had expressed interest in the project.

The objectives of the workshop were to:

- ❑ validate the findings of cost benefit analysis of the shortlisted options;
- ❑ appraise the qualitative benefits and risks of the shortlist; and
- ❑ identify the 'preferred option' that offered best value for money.

The project manager began by explaining his cost benefit approach. This resulted in debate over the assumptions that had been made in developing the model, and resulted in some of the estimated values being refined. The stakeholder group eventually agreed that the estimated costs and benefits would offer a reasonable estimation of the potential value provided by each option; however, it was agreed that a transport study was needed to provide greater confidence in the demand forecasts.

Appraising qualitative benefits and risks

The project manager then outlined the qualitative benefits and risks associated with the project, such as improved social mobility, and improvements to public safety and wellbeing, and the whole-life carbon emissions. While these benefits and risks could not be reasonably translated into money terms, many of them were measurable through public surveys and feedback. Again, reference projects and associated benefits realisation studies provided a useful starting point to estimate the possible improvements.

¹¹¹ Monte Carlo Analysis can be a useful methodology to use to calculate NPV values using ranges rather than single value estimates, and can provide a view of the potential outcomes and the cost/benefit elements that have the greatest effect on those outcomes.

Schedule 2 - Workshops

The group discussed the extent to which each option would deliver these benefits and the level of associated qualitative risk. As the differences between the shortlisted options in particular related to the coverage of the Project, the group were able to draw conclusions as regards the 'trade-offs' in benefit which each level of coverage offered – considering propositions such as:

“Are we willing to pay an additional \$20 million to extend service coverage to an additional 10,000 people and achieve more social mobility?”

“Are we willing to pay an additional \$10 million for the option with the lowest whole-life carbon emissions?”

This 'willingness to pay' approach to assessment allowed each option to be ranked in accordance with the perceived value of its qualitative benefits and risks.

The project manager recognised that this process was not a perfect science; however, they had applied best practice to carefully monetise as many benefits, costs and risks as possible, to limit the extent to which the analysis would rely on qualitative assessment.

The group drew conclusions that (considering quantitative and qualitative assessment of the options) the previously identified preferred approach should be selected as the preferred option, subject to sensitivity testing.

The workshop concluded, and the project manager was tasked to conduct sensitivity studies on the shortlist, to examine the effects of various cost increases and the delivery of related benefits, and recommend whether the preferred option remain, or whether it was particularly sensitive to change and potentially should be replaced by another option.

Workshop 4: The Commercial Strategy

Workshop(s) – Commercial Strategy – (Actions 22-25)

We recommend that **Actions 22-25** are undertaken via one or more Commercial Strategy workshops, involving all interested parties from the authority and other government organisations.

Workshop objectives	<ul style="list-style-type: none"> <input type="checkbox"/> To develop the service specification for the project <input type="checkbox"/> To allocate risk across the project parties <input type="checkbox"/> To agree and draft Heads of Terms of the contract <input type="checkbox"/> To develop the procurement process <input type="checkbox"/> To agree how to undertake formal market engagement effectively, to maximise the number of interested bidders. <input type="checkbox"/> To agree whether and how to engage with MDBs and other potential lenders and investors.
Key participants	<ul style="list-style-type: none"> <input type="checkbox"/> Project director <input type="checkbox"/> Project manager <input type="checkbox"/> Commercial director <input type="checkbox"/> Risk adviser <input type="checkbox"/> Environmental and social advisers <input type="checkbox"/> Economic adviser <input type="checkbox"/> Director of finance
Outputs	<ul style="list-style-type: none"> <input type="checkbox"/> A risk register for the preferred option <input type="checkbox"/> An agreed contractual structure <input type="checkbox"/> Confirmation and confidence that enough bidders will be interested in the project to produce an effective competition <input type="checkbox"/> Agreement as to the procurement route to be followed <input type="checkbox"/> Letters of support from MDBs and other potential lenders and investors as relevant

Background

The project manager conducted the sensitivity tests suggested by stakeholders in the previous workshop, which confirmed the preferred option. In order to progress the Intermediate Business Case, the project manager now needed to call another workshop to clarify the commercial Strategy and further develop the 'deal'.

The objectives of the workshop were to:

- determine the best overall commercial contract structure for the project;
- devise a procurement strategy suitable for this;

Schedule 2 - Workshops

- develop the risk allocation model for the contract;
- develop the payment mechanism for the contract; and
- identify any remaining key contract issues.

Determine the best overall commercial contract structure

Workshop 3 had concluded that some form of PPP contract was likely to work best for the Project. There was a lengthy debate concerning different possible forms, and the project manager recorded the outcome as follows:

- The contractual structures considered in respect of the procurement and implementation were:
 - Design, Build, Finance, Operate and Maintain (DBFOM)
 - Design, Build, Operate and Maintain (DBOM)
 - Design, Build, Finance and Maintain plus Operate (DBFM+O)
 - Design and Build plus Operate and Maintain (DB+OM)
- The preferred structure was DBFOM, as it offered:
 - Full transfer of system integration risk
 - Whole-life costing optimisation
 - Incentives to achievement of passenger-focused outputs
 - Network flexibility, as potential future extensions will be included in procurement
 - Transfer of revenue risk
 - Value for money

Service streams

It was considered that the following service streams would form the heart of the project:

- track infrastructure
- vehicles
- service management

And that specialists should be commissioned to help develop key service requirements and outline specifications for these.

Schedule 2 - Workshops

Procurement strategy

The workshop determined that these service streams could be jointly or separately procured, but that the optimum arrangement would be to give single point responsibility to one private sector contractor for all of them. The workshop then discussed the most appropriate procurement process in accordance with the procurement rules set out by the responsible Ministry.¹¹²

The procurement strategy agreed was as follows:

- to undertake market engagement to determine market appetite, capacity and capability; and
- subject to this, to use a negotiated form of procurement in the light of the complexity of the arrangements, in order to reach the best balance of risk/reward with the market.

The project manager recorded the conclusions as follows:

- The DBFOM scheme conferred significant revenue risk on the concessionaire.
- For such a PPP, the negotiated form of procurement for PPPs should be used.
- Given the complexity of the Project, and areas where some dialogue with bidders would be needed, a fixed contract procedure was considered inappropriate.
- Negotiated form would involve the following stages:
 - Regional Official Journal (ROJ) advertisement
 - Bidders' pre-qualification
 - Invitation to negotiate
 - Shortlist bidders
 - Best and final offer
 - Selection of preferred bidder and financial close
- This was in line with bidder expectations.
- An opinion from the legal adviser confirmed the above analysis.

Apportion service risks

The project manager decided to draw on additional input from the procurement officers and technical experts to consider the apportionment of risk between public and private sectors.

¹¹² Which will differ from country to country.

Schedule 2 - Workshops

Since the commercial strategy determined that the services would be procured through a PPP arrangement with a single service provider, this would result in a different allocation of risk to a traditional design and build procurement (with a greater proportion of the risks being transferred to or shared with the private sector). The headline risks were considered and allocated, and the project manager recorded the results as follows:

Table 54 – Risk allocation example

	Public authority	Private contractor	Shared
Risk allocation: Design			
Cost overrun caused by design		X	
Construction delay caused by design		X	
Operating inefficiencies caused by design		X	
Obtaining land ownership and warranting good title to land	X		
Relocation of people/livelihoods restoration	X		
Obtaining planning permission and other consents			X
Risk allocation: Construction			
Construction problems cause time overrun		X	
Contractor becomes insolvent		X	
Public sector partner causes delay or restricts site access	X		
Force majeure causes delay			X
Force majeure causes cost overrun		X	
Facility never satisfies handover requirement/ private sector partner abandons construction		X	
Risk allocation: Operations			
Facilities unavailable (unless due to force majeure or public sector breach)		X	
Operational problems cause cost overrun		X	
Lifecycle maintenance is more or less than budgeted		X	

Schedule 2 - Workshops

	Public authority	Private contractor	Shared
Failure to meet service standards (including health and safety)		X	
Change of law affecting building occurs during operational phase			X
Buildings not returned in required condition		X	
Public sector partner reclaims building or ends contract early	X		
Force majeure causes costs overrun		X	
Environmental damage, site or downstream contamination resulting from operations		X	
Public sector partner changes performance standards	X		
Recurring persistent breaches		X	
Changes in carbon emissions regulations and policies makes technologies or assets redundant			X
Risk allocation: Demand			
Low user numbers			X
Risk Allocation: Finance			
Inflation rate changes	X		X
Private sector partner's costs are higher than budgeted		X	
Change in tax legislation/rates		X	
Discriminatory or project-specific change in law	X		
Public sector partner changes performance standards	X		
Private sector partner found guilty of corrupt practices		X	

Payment mechanism

With the contract form decided, and headline risk allocation agreed, the project manager invited the group to further consider the potential payment arrangements. They recorded the results as follows:

The payments streams would be split as follows:

Availability payment

- Unitary charge – monthly payment to cover 50% of capital costs of project and interest charges and equity returns.
- Authority's patronage forecasts indicate farebox revenues will be sufficient to cover operating costs, but insufficient to cover capital and other costs.

Incentive payment

- Availability payment adjusted depending on how concessionaire performs in relation to the key service requirements.

Farebox revenue

- Concessionaire will set prices to at least cover the operating costs of the scheme and earn the required rate of return.
- Concessionaire will be responsible for collecting fares and will retain the full amount of such fares (subject to a limit).

Compensation for subsidised fares

- Concessionaire will receive difference between the price of a full-paying adult ticket and the price of a concession ticket.

Key remaining contract issues

The group discussed a number of further issues, which the project manager recorded as:

❑ **Third party interfaces**

- Detailed review of all agreements entered into with third parties being carried out
- Decision to be taken on whether appropriate and cost-effective to transfer responsibility for performance of these obligations to the concessionaire

❑ **Utilities diversion**

- Working with the relevant utility bodies prior to financial close to maximise certainty to the concessionaire and hence reduce risk pricing

❑ **Land acquisition**

- Not all rights had been acquired for the proposed track lay out

❑ **Staff transfers**

- Authority considered the possibility of transferring some public sector staff
- Decided that short-term secondments or regular 'site' visits to the concessionaire would be more effective

The workshop agreed to form a small working group to continue to consider these issues as the procurement process proceeded through formal negotiations and contract agreement.

Workshop 5: Successful Delivery

Workshop(s) – Successful Delivery – (Actions 33-35)

We recommend that **Actions 33-35** are undertaken via one or more Successful Delivery workshops, involving all interested parties from the authority and other government organisations.

Workshop objectives	<ul style="list-style-type: none"> <input type="checkbox"/> To develop plans for: <input type="checkbox"/> Stakeholder engagement <input type="checkbox"/> Change management <input type="checkbox"/> Benefits realisation <input type="checkbox"/> Risk management
Key participants	<ul style="list-style-type: none"> <input type="checkbox"/> Project director <input type="checkbox"/> Project manager <input type="checkbox"/> Communications lead <input type="checkbox"/> Change management adviser <input type="checkbox"/> Customer and/or user representative <input type="checkbox"/> Risk adviser <input type="checkbox"/> Environmental and social advisers
Outputs	<ul style="list-style-type: none"> <input type="checkbox"/> A set of agreed plans <input type="checkbox"/> Clear understanding as to how the plans will be resourced and implemented <input type="checkbox"/> Ability to give confidence to the project board and executive/ programme board that the capacity and capability required are in place and risks have been recognised and mitigated

Background

At the Early Business Case stage, the project manager had agreed detailed assurance and approval plans with the relevant parts of the Ministry of Transport and Ministry of Finance, and had created a detailed Project Plan and timeline that had kept the project on track. The project manager now wants to develop more detailed project delivery arrangements, and convened the workshop, calling on key stakeholders, including representatives from the operations committee which had been recently set up to help with this.

The objectives of the workshop were to develop strategies and plans for:

- stakeholder engagement
- change management
- contract management
- benefits realisation
- risk management

Change management

Early on at the Intermediate Business Case stage, the project manager had identified effective change management as critical to the success of this project, and they had mapped out a high-level communications plan which had developed tailored engagements with the different stakeholder groups (for example, the general public; specific property owners who may be directly affected by the project; politicians; the media; etc.). As the business case had developed, however, they realised they needed in addition to put in place practical management plans for the 'on the ground' transitions that would happen as the project moved into its implementation phase. The workshop considered what these would involve, and the project manager recorded the results as follows:

Implementation management plan should cover:

- How we will hand over the delivery of the scheme to the concessionaire
- How and when to transfer any existing infrastructure required
- How we will manage land acquisition and other retained risks
- How we will facilitate stakeholder and approval interfaces
- How we will hand back highway-related infrastructure and temporary land after implementation
- How we will manage changes to the concession
- How we will handle land compensation events
- How we will work to close out any outstanding implementation issues

Concession hand back

- When concession ends, the project will have to be handed back to a successor organisation
- Concessionaire will provide authority with a hand back plan that:
 - Sets out the process and the trigger points for the hand back
 - Contains sufficient detail to allow successor organisation to receive assets and maintain operations without disrupting the services
- Concessionaire will return the assets consistent with maintenance plans
- Concessionaire will make available for a period any senior staff necessary to provide specific maintenance knowledge

Service change

Provision has been made in the Project Contract to ensure service changes can be dealt with and priced to ensure value for money for the authority (pricing benchmarks and market testing).

Schedule 2 - Workshops

Stakeholder engagement

The project manager asked the attendees to review the stakeholder engagement plans that were developed (at a high level) for the Early Business Case. They were asked if:

- Any further stakeholder groups need to be considered since the development of the preferred option?
- The timelines for engagement were still appropriate for the project plan?
- Further engagement prior to moving to the Full Business Case stage would be necessary?

The answers were recorded by the facilitators and fed into the drafting of the stakeholder engagement plan for the Intermediate Business Case.

Contract management

The workshop then considered how the contract would be managed throughout its different operational phases, including build, commissioning, service provision, and hand back.

The contract was reviewed to ensure that each key service had an output that could be measured and reported on a monthly basis. The operations committee (specifically set up for this purpose) were tasked with developing:

- a system of checks;
- customer satisfaction programmes; and
- an operations manual for the next phase.

Benefits realisation

The group reviewed the benefits register and discussed benefits management, agreeing to:

- establish a sub-group of the project management team to meet regularly and oversee benefits management; and
- develop a benefits realisation strategy and a benefits plan to monitor this, with the characteristics recorded below:

Schedule 2 - Workshops

The **benefits plan** should lay out:

- ❑ the expected benefits of the asset and/or services, including a carbon optimisation plan;
- ❑ the organisations that will deliver those benefits;
- ❑ timescales; and
- ❑ the review process required throughout the design, construction and early operational phase of the asset and/or services.

The plan should be structured around the project objectives, outputs, and related benefits described in the Strategic Case.

For each expected benefit, the plan should provide the following:

- ❑ **Stakeholders** – the individual or organisation impacted by or able to directly influence the realisation of the benefit.
- ❑ **Benefit manager** – the individual or organisation responsible amongst others for monitoring the extent to which the benefit is being realised, evaluating reasons for any deviations and how to bring that benefit back in line with expectations, where relevant and possible.
- ❑ **Measure of success** – the specific measure linking the intervention (that is, the project) to the benefit being targeted.
- ❑ **Supporting measures** – measures that need to be taken (in addition to implementation of the project) in order to maximise the benefit.
- ❑ **Linked performance indicators** – a broad indicator to be used to measure the extent to which the benefit is being realised (both as a result of the intervention, as well as supporting measures).
- ❑ **Identify the links to prioritised SDG** goals and targets – for relevant benefits, and check that these are reflected in the (optional) ToC and RF;
- ❑ **Timescale** – the period or phase over which the benefit is expected to be realised.
- ❑ **Review process** – points at which the progress of benefit realisation is to be reviewed.
- ❑ **Risks** – currently identifiable obstacles to the realisation of the benefits.

The plan should contain an indicative timetable for the tracking, monitoring and reporting of the key benefits and impacts of the project.

A monitoring programme should be established and include a number of performance indicators that should be published periodically.

The range of performance indicators should focus on outputs and benefits linked to the objectives and aims of the project, as set out in the business case.

Schedule 2 - Workshops

Indicators should include:

- quantitative measures, such as system usage, modal shift and congestion estimates, reduction in CO2 emissions; and
- qualitative indicators, such as individual attitudes to service provision and commercial views on the influence of the project on business location decisions.

Develop a carbon optimisation plan to incorporate into the benefits plan. This is based on the carbon calculations undertaken in the Early Business Case (Action 14) to measure and record the emissions reductions across the whole asset life.

Risks

Finally, the project manager moved on to consider the risk register and risk management arrangements set up at the Intermediate Business Case stage, as follows:

- Through facilitated risk workshops a comprehensive risk register had been developed which was updated continuously.
- Each risk was assessed in terms of impact and likelihood.
- A response plan was prepared which takes account of the proximity of the risk event occurring.
- A full quantified risk assessment had been undertaken based on the project risk register.
- Outputs were fed into the project cost model.

It was agreed that these risks should be reviewed fortnightly at project management team meetings and key risks reviewed monthly at project delivery group meetings.

Working with multilateral development banks

Schedule 3

What are the multilateral development banks?

A multilateral development bank (MDB) is an international financial institution created by a group of countries to provide financing and other support, to promote development in member countries. MDBs may have a global, regional or sub-regional scope. A non-exhaustive list of MDBs includes:

Table 55 – List of MDBs

<input type="checkbox"/> African Development Bank	<input type="checkbox"/> European Bank for Reconstruction and Development
<input type="checkbox"/> Asian Development Bank	<input type="checkbox"/> European Investment Bank
<input type="checkbox"/> Asian Infrastructure Investment Bank	<input type="checkbox"/> Inter-American Development Bank Group
<input type="checkbox"/> Caribbean Development Bank	<input type="checkbox"/> Islamic Development Bank
<input type="checkbox"/> Central American Bank for Economic Integration	<input type="checkbox"/> New Development Bank (formerly BRICS Development Bank)
<input type="checkbox"/> Corporacion Andina de Fomento Development Bank of Latin America	<input type="checkbox"/> West African Development Bank
<input type="checkbox"/> East African Development Bank	<input type="checkbox"/> World Bank Group
<input type="checkbox"/> Eurasian Development Bank	<input type="checkbox"/> Brazilian Development Bank (BNDES – National Bank for Economic and Social Development)

What is their purpose?

While each MDB has its own unique membership, governance structure and operations, they have similar functions and share a common mission; that of ending extreme poverty and promoting shared prosperity in a sustainable manner. By way of exemplar for all MDBs, we set out below how the World Bank (WB) can help governments with their infrastructure programmes.

The WB Group is made up of the following five institutions.

Table 56 – World Bank Group’s five institutions

Institution	Function
International Bank for Reconstruction and Development (IBRD)(core WB)	Provides financing, policy advice and technical assistance to governments, focusing on middle-income and creditworthy poorer countries
International Development Association (IDA)(core WB)	Provides financing, policy advice and technical assistance to governments, focusing on the poorest countries
International Finance Corporation (IFC) (WB Group)	Aims to mobilise private sector investment in developing economies, by providing financing and advisory services to private enterprises
Multilateral Investment Guarantee Agency (MIGA)(WB Group)	Aims to mobilise private sector investment in developing economies, by providing guarantees to private enterprises
International Centre for Settlement of Investment Disputes (ICSID)(WB Group)	Aims to mobilise private sector investment in developing economies, by providing disputes resolution services

How can MDBs support my infrastructure programmes?

By way of example, the WB Group can offer five different means of support:

- project financing;
- programme-for-results;
- development policy financing;
- advisory services; and
- technical assistance.

A. Project financing

IBRD can provide:

- project finance (including where appropriate blended finance – see section D below); or
- guarantees

Schedule 3 - Working with multilateral development banks

to infrastructure projects or programmes for up to 28 years, provided the project:

- meets WB development objectives;
- complies with WB environmental and social safeguard policies;
- does not have an unacceptable impact on the member country's fiscal sustainability;
- complies with WB procurement policies and principles (value for money, economy, integrity, fit-for-purpose, efficiency, transparency and fairness);
- has sufficient oversight arrangements to ensure the loan proceeds are used only for the purposes for which the financing is granted, including compliance with the above; and
- is supported by a country counter-indemnity (for guarantees only).

Under appropriate circumstances, a portion of the loan may be applied to project preparation activities.¹¹³

The WB also offers borrowers:

- support services, including training and advice, oversight, reviews of procurement activities;¹¹⁴ and
- knowledge transfer and technical assistance;

for both project preparation and implementation – including in the areas of project operation, management, and fiduciary and safeguards activities.

B. Programme-for-Results

Programme-for-Results (P for R) provides funding (at national or sub-national level) for capacity-building activities payable against delivery of defined results, such as:

- maintaining or improving quantifiable measures of service delivery; and
- improving fiscal management and sustainability (for example, reduction of principal on outstanding commercial loans, progress towards cost-recovery tariffs).

Under appropriate circumstances, the WB may disburse a portion of the P for R financing proceeds as an advance for results that have not yet been achieved.

C. Development policy financing

Development policy financing (DPF) provides budget support to governments for achieving an identified programme of actions aimed at, for example:

- strengthening public financial management;
- improving the investment climate;

¹¹³ Currently limited to US\$ 6 million in normal situations and US\$ 10 million in situations of fragility – and only when there is a strong probability that an operation will receive future financing by the WB.

¹¹⁴ For more details on the WB's procurement regulations and processes, refer to: <http://pubdocs.worldbank.org/en/178331533065871195/Procurement-Regulations.pdf>

Schedule 3 - Working with multilateral development banks

- ❑ diversifying the economy;
- ❑ strengthening service delivery; and
- ❑ meeting applicable international commitments.

DPF supports such reforms through general budget financing used in accordance with the borrower's own implementation processes and systems. WB funds are disbursed based on completion of policy and institutional actions agreed between the WB and the government.

The WB's decision to extend DPF is based on:

- ❑ the strength of the proposed programme; and
- ❑ the country's own ownership of and commitment towards it.

In preparing development policy operations, the WB collaborates with the International Monetary Fund (IMF) and other international financing institutions and donors, as appropriate, while retaining responsibility for the ultimate financing decisions.

D. Blended finance

Blended finance techniques, using MDB and other public financing to crowd in private sector finance, are essential to achieve the Sustainable Development Goals and the twin goals on MDBs – shared prosperity and the elimination of extreme poverty.^{115, 116} The WB has launched a programme entitled 'Maximizing Finance for Development' to prioritise blended finance.¹¹⁷ MDBs view blended finance as a better way of supporting infrastructure projects than the simple provision of public finance, since:

- ❑ blended finance concentrates on working together with the private sector market to leverage larger amounts of capital into a project than the MDBs can do on their own; and
- ❑ private philanthropy is also developing its role with its higher risk tolerance and greater willingness to invest in innovative business concepts.¹¹⁸

When properly applied, concessional finance could leverage between **5 and 17** times the amount of non-concessional finance by using blended finance techniques.¹¹⁹

¹¹⁵ The OECD and Business and Sustainability Development Commission have published guidance on blended finance setting out five principles for blended finance as follows: (a) anchor blended finance use to a development rationale, (b) increase mobilisation of commercial finance, (c) tailor to local context, (d) focus on effective partnering, (e) monitor for transparency and results. See – WB, DFI Working Group on Blended Concessional Finance for Private Sector Projects: https://www.ifc.org/wps/wcm/connect/a8398ed6-55d0-4cc4-95aa-bcbabe39f79f/DFI+Blended+Concessional+Finance+for+Private+Sector+Operations_Summary+R...pdf?MOD=AJPERES&CVID=IYCLe0B

The OECD estimates that 167 donor facilities have been launched between 2000 and 2016 to pool financing for blending with a total of \$31 billion in commitments.

¹¹⁶ The G20 agreed this critical focus on Blended Finance in Addis Ababa in 2015 and the Hamburg Accord in 2017.

¹¹⁷ See inter alia World Bank, *Maximizing Finance for Development: Leveraging the Private Sector for Growth and Sustainable Development* (September 2017): https://www.devcommittee.org/sites/dc/files/download/Documentation/DC2017-0009_Maximizing_8-19.pdf

¹¹⁸ See OECD, *Making Blended Finance Work for the Sustainable Development Goals*:

<http://www.oecd.org/publications/making-blended-finance-work-for-the-sustainable-development-goals-9789264288768-en.htm>

¹¹⁹ Over the period 2014 –2016, DFIs financed overall project value of over \$15 billion off concessional commitments of at least \$1.5 billion – providing average leverage of 1:10.

Schedule 3 - Working with multilateral development banks

To be effective, Blended Finance should:

- catalyse market development and mobilise private sector resource, but not 'crowd out' the private sector;
- be sustainable and avoid creating dependency;
- address market failures, and avoid disrupting or distorting markets;
- promote high standards of conduct, including in areas of corporate governance, environmental impact, social inclusion, transparency, integrity and disclosure,¹²⁰ and
- reduce the impact of risks, rather than completely insulating the private sector from risks.

Governments should consider these structuring principles in the Commercial Case analysis.

E. Other forms of development assistance

In addition to project finance, the WB also provides:

- technical advice;
- institutional development plans; and
- country-level strategies;

to help shape policies and programmes, and build institutional capacity. These are provided through other funding mechanisms, including:

Trust funds

Trust funds are contributed by development partners and administered by the WB for specific development activities. These activities may include:

- standalone financing for specific economic and social development projects;
- co-financing to fill project funding gaps;
- funding for project-level preparatory work; and
- technical assistance, including capacity building, analytical and advisory services, research and knowledge sharing.

Trust funds are often used to pilot innovations that may later be brought to scale or mainstreamed into the WB's operations, including at the country level.¹²¹ Nearly two-thirds of the WB's advisory and analytics work is funded by trust funds.

¹²⁰ See WB, DFI Working Group on Blended Concessional Finance for Private Sector Projects: https://www.ifc.org/wps/wcm/connect/a8398ed6-55d0-4cc4-95aa-bcbabe39f79f/DFI+Blended+Concessional+Finance+for+Private+Sector+Operations_Summary+R...pdf?MOD=AJPERES&CVID=IYCLe0B

¹²¹ The Indonesia Infrastructure Finance Development Fund, for example, is a WB administered multi-donor trust funded by the Government of Canada's Department for Foreign Affairs, Trade and Development aimed at addressing key bottlenecks constraining infrastructure financing in Indonesia and providing consistent policy and transaction-level advice to the government on channelling private finances into infrastructure.

Schedule 3 - Working with multilateral development banks

In WB-executed trusts, the WB performs the activities and manages expenditures under its rules. In some trusts, known as 'recipient-executed trust funds', the WB passes funds on to a recipient for specified activities and expenditures while playing an operational role (that is, appraising and supervising activities supported by the funds). The WB's normal operational policies and procedures apply (including preparation, appraisal, supervision and evaluation, fiduciary, procurement, safeguard and other policies). Recipients may be governmental, non-governmental or other external entities.

A trust may be entirely WB-executed, entirely recipient-executed, or a combination of the two.

The WB also offers an alternative trust fund referred to as an 'externally financed output' (EFO). The EFO is a streamlined instrument for receiving external contributions, less than one million US dollars, over a maximum period of 24 months to complete all relevant activities.

Reimbursable advisory services

The WB can also provide customised technical assistance through reimbursable advisory services. For these, the WB is reimbursed for the costs of delivering the advisory services. Clients can be countries, government entities, states and municipalities, state-owned enterprises, civil society organisations and multilateral agencies.

How can I access MDB/WB support for my programme?

Authorities should consider MDB support at the earliest possible stage in the project development cycle, and, in particular, consider blended finance options as part of the development of their finance options (see section D above). Where MDB finance is sought, incorporating the procedural requirements of the MDBs (as set out in this Guidance) as part of the business planning process from the outset will maximise the prospects of a successful application.

WB support is centrally coordinated through government, so it is vital to liaise with the relevant coordinating ministry/unit at an early stage.

The WB's environmental and social policies (referred to as the 'Safeguard Policies'), apply throughout the process. The Safeguard Policies provide robust mechanisms for identifying, avoiding and minimising harm to people and environments. They require borrowers, including financial intermediaries, to take steps to address certain environmental and social risks, for instance by conducting environmental and social impact assessments, consulting with affected communities about potential project impacts, and restoring the livelihoods of displaced people.¹²²

For projects that are implemented by the private sector, the WB has adopted IFC's Performance Standards (referred to in this context as the WB Performance Standards), in place of the safeguard policies (see below).

¹²² For detailed information regarding the content and application of the Safeguard Policies, refer to: www.worldbank.org/en/projects-operations/environmental-and-social-policies

Schedule 3 - Working with multilateral development banks

To be eligible, you would need to comply with the following six stage procedures:

- identification;
- preparation;
- appraisal;
- negotiation and approval;
- implementation and support; and
- completion and evaluation.

The first four of the above procedures are summarised below.¹²³

Identification

The WB Group works with a member country's government and other stakeholders to determine how financial and other assistance can be best designed to have the largest impact. This is embodied in the Country Partnership Framework (CPF), developed by the government and the local WB Country Management Unit (CMU), supported by global personnel in a variety of regional and cross-cutting thematic units to help design, prepare and implement projects.¹²⁴

Each country identifies its priorities and targets for the reduction of poverty and national development, which may be laid out in a poverty-focused national development strategy. Once the objectives are established, the CPF lays out a flexible programme of engagement, tailored to the country's needs, to support the achievement of those objectives. Specific projects and programmes generally flow from, or are identified by reference to, the CPF.

CPFs are aligned with country circumstances (for example, national development strategy, election cycles) and are typically prepared on a four- to six- year cycle. Every two years or midway through implementation of a CPF, the World Bank prepares a Performance and Learning Review (PLR) to evaluate and update the CPF as needed. If significant changes have taken place since the original CPF, the PLR realigns the CPF programme. The PLR thus provides an opportunity for updating the choice and mix of instruments, and the modalities or criteria for engagement, as necessary. In addition, the PLR updates the plan of activities for the next phase of the CPF if they were not well defined at the time of the original CPF.

¹²³ For details on the final two steps, refer to: www.worldbank.org/en/projects-operations/products-and-services/brief/projectcycle

¹²⁴ To assist in this, the WBG maintains six regional units (Africa; East Asia and Pacific; Europe and Central Asia; Latin America and the Caribbean; Middle East and North Africa; and South Asia); 17 global practice groups (Agriculture; Education; Energy; Environment and Natural Resources; Finance; Competitiveness and Innovation; Governance; Health, Nutrition and Population; Jobs and Development; Macroeconomics; Trade and Investment; Poverty; Social Protection; Social, Urban, Rural and Resilience; Transport; Digital Development; and Water); and five global themes groups (Climate Change; Fragility, Conflict and Violence; Gender; Infrastructure, PPPs and Guarantees; and Knowledge Management).

Schedule 3 - Working with multilateral development banks

For each project, the WB and the government agree on an initial project concept and its beneficiaries, and the WB's project team outlines the basic elements in a project concept note. This document identifies:

- proposed objectives;
- risks;
- alternative scenarios; and
- a timetable for the project approval process.

In addition, a project information document sets out:

- the scope of the intended project;
- public information needed for tailoring bidding documents to the proposed project; and
- a publicly available integrated safeguards data sheet, which identifies key issues related to the safeguard policies.

Preparation

For IPF (Investment Project Financing), the borrower government and its implementing agency or agencies are responsible for the project preparation phase, which entails:

- conducting feasibility studies;
- preparing engineering and technical designs; and
- stakeholder consultation and feedback, to ensure the project meets their needs.

Infrastructure projects will also require:

- an environmental assessment report;
- an environmental action plan (which describes potential problems, identifies the main causes of those problems, and formulates policies and concrete actions to deal with them); and
- where relevant, an indigenous peoples plan (which identifies the authority's planned actions in indigenous areas, with the objective of avoiding or lessening potential negative impacts on the people).

The full commitment of the government to the above is vital.

The WB generally takes an advisory role, and offers analysis and advice when requested during this phase. At the same time, the WB assesses the relevant capacity of the implementing agencies, in order to reach agreement with the authority about arrangements for overall project management, including:

- financial management;
- procurement;
- reporting; and
- monitoring and evaluation.

Appraisal

Appraisal provides an opportunity to review the project design in detail and resolve any outstanding questions. The government and the bank review the work done during the identification and preparation phases, and confirm the expected project outcomes, intended beneficiaries, and tools for monitoring progress. Agreement is reached on the viability of all aspects of the project at this time. The WB team confirms that all aspects of the project are consistent with WB operational requirements, and that the government has institutional arrangements in place to implement the project efficiently.

All parties agree on:

- a project timetable;
- public disclosure of key documents; and
- identification of any unfinished work required for final bank approval.

Approval

Once all project details are negotiated and accepted by the government and the WB, the project team prepares the project appraisal document (for IPF and P for R) or the programme document (for DPF), along with other financial and legal documents, for submission to the bank's board of executive directors for consideration and approval.¹²⁵ When funding approval is obtained, conditions for effectiveness are met, and the legal documents are accepted and signed, the implementation phase begins.

How can private sector focused MDBs help me deliver my programme?

International Finance Corporation (IFC)

The IFC is the largest global development institution focused exclusively on the private sector in developing countries. The IFC directly invests in projects and companies by providing long-term (7 to 12 years) financing in foreign and local currencies, as well as equity contributions. The latter are generally limited to between 5 and 20 per cent of a company's equity, as companies are encouraged to broaden share ownership through public listings, thereby deepening local capital markets.

The IFC can invest through:

- profit-participating loans;
- convertible loans;
- preferred shares;
- blended finance arrangements; and

¹²⁵ IPF and P for R may also be structured as part of a Multiphase Programmatic Approach (MPA), which allows countries to structure a long, large, or complex engagement as a set of smaller linked operations (or phases), as part of one programme with intermediate short-term targets. MPA is appropriate for programmes with scalable, modular phases, each of which has self-standing results. For example, a road corridor of 600 kilometres could be split into three smaller projects of 200 kilometres each.

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- loans to intermediary banks, leasing companies, and other financial institutions for on-lending.

The IFC offers innovative products and solutions that enable clients to hedge foreign exchange, interest rate, commodity price and other risks. These include:

- partial credit guarantees;
- risk-sharing facilities;
- securitisations; and
- the Global Trade Finance Program (which guarantees trade-related payment obligations of approved financial institutions).

The IFC offers:

- professional advisory services to private companies, financial institutions and funds, and governments

with the aim of fostering the conditions that will attract private capital, enabling the private sector to grow.

The IFC offers support to governments:

- to design and implement public-private partnerships; and
- to assist with reforms aimed at building resilient, transparent and smooth-functioning financial systems and capital markets, and improving the overall investment climate.

Eligibility, safeguards and exclusions

To be eligible for IFC funding, a project must:

- be located in a developing country that is a member of the IFC;
- be in the private sector;
- be technically sound;
- have good prospects of being profitable; and
- benefit the local economy.

The IFC does not lend directly to micro-, small-, and medium-sized enterprises or individual entrepreneurs, but many of the IFC's investment clients are financial intermediaries that on-lend to smaller businesses.

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For all projects, eligibility is contingent on them being environmentally and socially sound. Projects or intermediaries supported by the IFC are subject to IFC's Sustainability Framework, which comprises the Sustainability Policy, the Performance Standards on Environmental and Social Sustainability, and the Access to Information Policy.¹²⁶

The IFC maintains an exclusion list that defines the types of projects that the IFC does not finance (covering, for example, illegal or banned products, alcohol, tobacco, etc.).¹²⁷

A company or entrepreneur seeking to establish a new venture or expand an existing enterprise can approach the IFC directly by submitting an investment proposal.

Multilateral Investment Guarantee Agency (MIGA)

MIGA provides political risk insurance guarantees to private, cross-border investors and lenders for projects in a broad range of sectors in developing member countries. In certain cases, MIGA may also insure an investment made by a national of the host country, provided the funds originate from outside that country and the host government approves. Investments by state-owned corporations are also eligible if they operate on a commercial basis. Projects supported must be financially and economically viable, environmentally sound, and consistent with the labour standards and development objectives of the country.

MIGA guarantees to protect investments against non-commercial risks and can help investors obtain access to funding sources with improved financial terms and conditions. Eligible projects can be insured against losses relating to:

- currency inconvertibility and transfer restriction;
- expropriation;
- war, terrorism and civil disturbance; and
- breach of contract and non-honouring of financial obligations.

Applicants seeking MIGA cover should submit a preliminary application as soon as feasible, for which no fee is charged. Once investment and financing plans are established, applicants submit a Definitive Application along with any relevant project documentation and a processing fee.

Theory of Change and Results Framework for development projects

For projects that address development objectives, and/or will use official development assistance or concessional finance, it will usually be a requirement to develop a Theory of Change (ToC) and Results Framework (RF). The tools are also applicable to infrastructure projects, and can be helpful in identifying the high-level goals and objectives of the

¹²⁶ For further details on the Sustainability Framework, refer to: www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards

¹²⁷ For a complete list of excluded projects and additional details on conditions and application, refer to: www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/company-resources/ifcexclusionlist

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project, and the causal links from the project activities that are required to realise those objectives. The tools are then used for monitoring and reporting activities throughout the project lifecycle.

Developing a ToC and RF helps map the links between inputs, outputs, outcomes (objectives), and impacts, and provides a mechanism for identifying key performance indicators (KPIs) which may be included in procurement specifications.

In the Early Business Case, the ToC can be developed, and the RF drafted with high level objectives/outcomes added. It may not be possible to include details for specific inputs and outputs as this stage, and those will become clearer through design and scoping work during development of the Intermediate Business Case (Management Case).

- a. The ToC and RF will reference any existing strategic frameworks used by the organisation or programme, and align the project objectives, outcomes and impacts.¹²⁸
- b. Outputs are near-term objectives that will be delivered within the life of the project or asset. Outcomes and impacts are generally longer-term strategic aims, and contribute to national development agendas (for example, reduction in carbon emissions help to meet Nationally Determined Contributions under the Paris Agreement), and/or the UN Sustainable Development Goals.
- c. The metrics for monitoring the inputs, outputs, and outcomes through project implementation and asset operation are defined in the RF, along with project milestones. These are described as KPIs, which are linked to the objectives of the project, and through to strategic national development goals and commitments, and where possible, upwards to SDG indicators and goals (the 'golden thread' linking local programmes and projects, and national and global objectives).
- d. The documents are living project tools, and support monitoring, reporting, evaluation, and learning activities throughout the asset life, including benefits realisation objectives.
- e. All assumptions for ToC and RF are recorded and reviewed on a regular basis to confirm they remain valid, along with any updates to the ToC and RF in response to changes in project scope or other changes.
- f. More detail on project rationale and best practice for developing a Theory of Change can be found in the Project Development Routemap for Infrastructure Projects: International Module, Rationale: <https://www.gov.uk/government/publications/project-development-routemap>

¹²⁸ The SDG Compass provides guidance for organisations on how they can align their strategies as well as measure and manage their contribution to the realisation of the SDGs, developed by the UN Global Compact, GRI and the World Business Council for Sustainable Development (WBCSD): <https://sdgcompass.org/>

Sustainability and inclusive growth frameworks

Schedule 4

1. Sustainable development and global frameworks:

Sustainable development was defined in the 1987 Brundtland report as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”.

The concept of sustainable development provides the foundation for the 2030 Agenda for Sustainable Development and its **Sustainable Development Goals (SDGs)**. The Sustainable Development Goals were adopted by all United Nations (UN) member states in 2015, and comprise a global agenda to end poverty, protect the planet, and ensure all people enjoy peace and prosperity.

The global framework is composed of 17 interdependent goals – economic, environmental and social, each of which is underpinned by targets and measurement indicators. Details of the targets and indicators can be found here: <https://unstats.un.org/sdgs/indicators/indicators-list/>

All projects should be able to link their objectives back to the SDGs. In the UK, government departments are required to report on their contributions to the SDGs on an annual basis. At the start of a project, the full list of SDG targets should be reviewed and those that are relevant to the project in question selected to be measured against the indicators provided. If the indicators suggested are not suitable, proxy indicators that support the high-level goals should be used.

Diagram 15 – Sustainable Development Goals



The predominant global climate change frameworks are; the Paris Agreement, and the Kyoto Protocol. They were developed under the United Nations Framework Convention on Climate Change (UNFCCC) which was negotiated at the Earth Summit, held in Rio de Janeiro in 1992 and came into force in 1994. 197 countries have ratified the Convention.

The Kyoto Protocol was signed in 1997 and came into force in 2005. It set binding emission reduction targets for 37 industrialised countries and economies in transition (called Annex B countries) between 2008-2012. It was followed by a second commitment period, agreed at Doha, from 2013 until 2020.

Importantly, the Kyoto Protocol created three market-based mechanisms to support countries to meet their targets:

- ❑ **International Emissions Trading** – allows Annex B countries that have unused emissions allowances to sell this excess capacity to countries that are over their targets. It covers more than actual emissions units, for example: a removal unit (RMU) on the basis of land use, land-use change and forestry (LULUCF) activities such as reforestation are also included.
- ❑ **Clean Development Mechanism (CDM)** – allows developing, Annex B countries to earn saleable Certified Emission Reduction units (CER) by implementing an emission-reduction project. Such projects' credits can be bought by other countries and counted towards meeting their Kyoto targets. The CDM supports developing countries to monetise emission reduction initiatives.
- ❑ **Joint Implementation (JI)** – allows Annex B Parties to earn emission reduction units (ERUs) from an emission-reduction or emission removal project in another Annex B Party, which can be counted towards meeting its Kyoto target.

Schedule 4 - Sustainability and inclusive growth frameworks

New climate market mechanisms under **Article 6** of the Paris Agreement, the **Sustainable Development Mechanism (SDM)** are being established. It is envisioned that the Kyoto mechanisms will continue to function between 2020 and 2023 as a transition period.

The Paris Agreement is a legally binding, international treaty on climate change. It was adopted at the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 21) in Paris, in December 2015. It entered into force in November 2016, superseding the Kyoto Protocol. As of January 2021, 190 members of the UNFCCC are parties to the Paris Agreement.

Its purpose is to keep the increase in global average temperature to well below 2°C above pre-industrial levels, and limit the increase to 1.5°C, to reduce risks and the impacts of climate change. The agreement also intends to increase the ability of countries to deal with the impacts of climate change, and provide finance flows consistent with low greenhouse gas (GHG) emissions and a climate-resilient pathway.

Countries agreed to submit national plans for climate action, called Nationally Determined Contributions (NDCs) by 2020. The NDCs include actions to increase resilience and to adapt to the impacts of rising temperatures. Countries agreed to assess the collective progress towards the long-term goals every five years.

2. Environmental and social safeguard policies

Multilateral banks and development agencies have environmental and social safeguards systems that set out their procedures for avoiding, minimising and mitigating any negative environmental and social impacts of a project, and to enhance positive developmental impact (for example, skills development for those affected by the project) where possible. These systems, especially among development banks, are harmonised to a high degree, following the lead of the International Finance Corporation's (IFC) Performance Standards (PS). For example, the World Bank Environmental and Social Framework aligns with the IFC PS, and is a more relevant resource for government/aid-funded infrastructure; the IFC Standards are more focused on private sector-financed projects.

Schedule 4 - Sustainability and inclusive growth frameworks

Performance Standard 1:	Assessment and Management of Environmental and Social Risks and Impacts
Performance Standard 2:	Labour and Working Conditions
Performance Standard 3:	Resource Efficiency
Performance Standard 4:	Community Health, Safety and Security
Performance Standard 5:	Land Acquisition and Involuntary Resettlement
Performance Standard 6:	Biodiversity Conservation and Sustainable Management of Living Natural Resources
Performance Standard 7:	Indigenous People
Performance Standard 8:	Cultural Heritage

The infrastructure sector in particular presents a high-risk environment for incidents of **sexual exploitation and abuse, and sexual harassment (SEAH)**. Below are some SEAH risk factors commonly associated with infrastructure projects, and that would typically be addressed by safeguard policies:

- The influx of workers to areas of major construction projects;
- Changes to power dynamics;
- Land acquisition and resettlement;
- Transportation;
- Construction phase; and
- Operation/service delivery phase.

For further details on working with multilateral organisations refer to Schedule 3.

3. The Gender and Inclusion (G&I) Framework

Gender inequality in particular is one of the most pervasive forms of discrimination and a major driver of poverty and a constraint on growth.

There is increasing global consensus and evidence to demonstrate that gender equality and women's economic empowerment contribute to global economic growth and prosperity. McKinsey estimates that \$12 trillion could be added to the world economy by 2025 through greater female economic empowerment.

Schedule 4 - Sustainability and inclusive growth frameworks

Gender equality and women's economic empowerment impacts on organisational performance, agricultural productivity, and generation of tax revenues for investment and public services. A country's overall competitiveness and productive labour force participation increases as the gender gap is closed, and where women and men are equally able to maximise economic opportunities. Elimination of barriers against women working in certain sectors or occupations could increase labour productivity by as much as 25% in some countries through better allocation of their skills and talent.

Integrating Gender and Inclusion (G&I) into project planning is essential for accelerating progress towards the 'Pledge to Leave No One Behind', enshrined in the 2030 Agenda for Sustainable Development. It is key in achieving the Sustainable Development Goals (SDGs), particularly SDG 5 (Gender Equality and Women's Empowerment) and 10.2 (Promote universal social, economic and political inclusion).

This framework, developed by Caroline Moser and the UK's Department for International Development (DFID)'s Infrastructure and Cities for Economic Development (ICED) facility, is a tool for assessing and determining the right level of ambition for projects or programmes. It illustrates three different levels of impact and ambition for social impact.



To align with environmental and social standards, all projects should meet level one and respond to the basic needs and vulnerabilities of affected groups as a minimum requirement. However, the framework also helps you think through your project's potential gains – increasingly, international finance institutions are looking for opportunities to create additional benefits for communities, and address issues of gender and inclusion.

Schedule 4 - Sustainability and inclusive growth frameworks

By spotting opportunities to design your project in a way that builds people's assets, skills and access to jobs, you can meet level two: 'empowerment'; and if you are able to challenge and/or shift discriminatory practices, harmful behaviours or barriers to entry for marginalised groups, you can meet the highest level, three: 'transformation'. Guidance is available on how to apply the framework to different infrastructure sectors.¹²⁹

Other resources may be useful for incorporating gender in the business case and project planning stages, for example, World Bank primer on Gender Equality, Infrastructure, and PPPs.¹³⁰

The global standards for sustainability reporting.

GRI Standards create a common language for organisations – large or small, private or public – to report on their sustainability impacts in a consistent and credible way. This enhances global comparability and enables organisations to be transparent and accountable: <https://www.globalreporting.org/standards/>

¹²⁹ PIDG-Gender-Ambition-Framework
<https://www.pidg.org/wp-content/uploads/2019/03/PIDG-Gender-Ambition-Framework-070219-FINAL.pdf>

¹³⁰ <https://olc.worldbank.org/content/primer-gender-equality-infrastructure-and-ppps>

G20 Principles

The G20 Principles set out below are designed to improve development of business cases. These principles are consistent with the Five Case model approach set out in this Guidance. This means that compliance with the Five Case approach will enable you also to comply with this G20 global good practice.

Prepared by the Infrastructure Working Group¹³¹

The introduction of robust and transparent infrastructure planning and pipelines, improved business cases and project stage gate controls, and the development of business case methodologies, have led to more productive infrastructure being built.

The following **Principles for the Infrastructure Project Preparation Phase** could be considered when preparing national and regional infrastructure projects. The principles consist in a list of critical aspects to consider under the following dimensions:

- Project rationale;
- Options appraisal;
- Commercial viability;
- Long-term affordability; and
- Deliverability.

These five key dimensions and their respective headline questions present a way to achieve a high standard of business case development. Each of the five principles is aligned with the corresponding case used in the Five Case Model. The G20 is clear that, to be effective, these principles are expected to be more influential when supported by sound governance and public leadership, implemented in a transparent and accountable manner, and sponsored from the outset by government bodies (such as ministries, development agencies, centralised or specialised authorities, etc., according to the country framework) at different levels of administration, with the capacity to move through the entire process.

The idea behind these principles is that every infrastructure project or programme will benefit from having a reasonable and structured justification (that is, business case analysis) or proposition to explain why it is needed and how it can be taken forward. The systematic implementation of good business case analysis can help bridge the infrastructure gap by building a pipeline of projects that are bankable and that satisfy

¹³¹ For more detail see: <http://www.oecd.org/g20/topics/infrastructure/>

Schedule 5 - G20 Principles

investor requirements. This helps to create delivery confidence by ensuring and demonstrating that projects have been robustly scoped, and realistically planned from the outset and over the entire life cycle, with the associated risks taken into account.

A good business case methodology provides a framework for thinking around three issues:

- Where are you now?
- Where do you want to get to?
- How are you going to get there?

It provides:

- a structured format to allow government authorities at all levels to develop their proposals, and explain and justify any project or programme;
- a framework to enable an approving body to decide whether or not to allow the project or programme to go forward;
- a process for preparing projects for market; and
- a record of transparent decision-making.

The implementation of these principles can be greatly supported by project preparation tools and instruments that are already operational. Given the increasingly digitalised global economy, and the importance of good access and quality of infrastructure data, a multilateral online infrastructure project preparation software platform can be particularly instrumental in improving consistency, quality, transparency and accountability of business case analysis. A compendium of existing resources for project preparation support is provided in Appendix I.

Project rationale

Underpinned by sound governance and public leadership, the project rationale establishes the need for the project, placing it within an overall strategic context, and outlining the project scope and objectives. In short, it should present the 'case for change'.

Critical issues to address include:

- establishing the rationale for the project, and placing the project within an overall strategic context (for example, national, regional and local long-term plans); this should confirm project sponsors and government parties in their roles;
- outlining the project scope and objectives, and the problems the project aims to solve or the benefits it should bring;
- defining the key risks, constraints and dependencies relating to the project (for example, have planning, external approvals and issues related to cross-border projects been taken into account?); and

Schedule 5 - G20 Principles

- ❑ defining the positive and negative externalities generated by the project, as well as potential linkages and alignment with other infrastructure projects and sectors, regional planning and other programmes, networks, and national and local policies.

Options appraisal

The options appraisal should demonstrate that all relevant options have been considered involving the relevant stakeholders (including the private sector) at the national, regional and local level, and that social cost benefit analysis (SCBA), social cost-effectiveness analysis (SCEA) or multi-criteria decision analysis (MCDA) has been conducted in an appropriate manner, on a further shortlist (derived from all relevant options), to determine the option which offers best value for money over the entire life cycle of the project (including its maintenance), taking externalities into account. In addition, for public-private partnership (PPP) infrastructure projects, it should demonstrate that using private finance optimises value for money for the government, by comparing it to the same solution using public capital.

Critical issues to address are:

- ❑ Have you established critical success factors against which you can test your options?
- ❑ Have you considered all relevant options to create a longlist and shortlist?
- ❑ Have you subjected your shortlist to SCBA (if cost and benefits can be converted into monetary value) or SCEA (if benefits cannot be valued or the information required is too difficult to determine) in order to establish a preferred option? If comprehensive MCDA is used instead, does it incorporate SCBA or SCEA as an input, and if not, are there grounds for not performing them (lack of information, large pipeline of projects, and insufficient resources to perform the analysis, etc.)?
- ❑ Are all the key modelling assumptions clearly articulated, backed up by sound sources and reflective of market conditions?
- ❑ Are cost and schedule estimates in line with the required output specifications and based on established national/international benchmarks? Are social, environmental, and carbon costs monetised where possible?
- ❑ Have risks been identified and quantified, and a reasonable adjustment made for 'optimism bias'?
- ❑ Have you tested resilience against natural disasters, climate change, and other force majeure risks?
- ❑ Have you tried to take account of non-financial risks and benefits in your shortlist evaluation?
- ❑ Have all relevant stakeholders been addressed, including the private sector and affected local communities?
- ❑ Does the project help achieve universal access to basic services, such as electricity and energy, water and sanitation, waste removal, transport, housing, healthcare and education?

Schedule 5 - G20 Principles

- How does the project improve accessibility and inclusiveness for the most disadvantaged social groups?
- Do you have a robust justification for your preferred option?
- What are the weights one should attribute to the different aspects above, in order to derive the preferred option?

Commercial viability

Showing **commercial viability** involves demonstrating that the project is feasible and deliverable for investors and contractors, as well as for the government and citizens;

that the supplier market has been tested; and that the procurement strategy and contract are well developed, with an appropriate risk allocation.

Critical issues to address are:

- Have you reviewed different contract options and chosen the one which offers best value for money? Is the contract bankable? In case it is not, and the project targets low-income users, carries positive social externalities, or is viable from a socio-economic perspective, do these factors justify public sector support?
- Have you tested that the proposal is commercially feasible and that the supply market is likely to be interested in it?
- What is your procurement strategy?
- Do you have a risk matrix that allocates risks to the party best able to manage them? Is this risk allocation stated in the contract?

Long-term affordability

Long-term affordability analysis should ascertain the likely life cycle costs, adequate and affordable maintenance funding and financing of the project. Accordingly, it should (a) demonstrate that the project is affordable and cost-effective over its life, taking account of the public funding allocated to the project and allowing contingencies for unexpected occurrences; and (b) make clear what amounts are funded from public sources and what amounts are sought by way of other funding sources, or are payable by users of the facility. Debt sustainability and transparency of project financing will also be taken into consideration.

Critical issues to address are:

- Have you accurately assessed the project costs?
- Have you accurately assessed all project revenues?
- Have you identified finance and funding sources?
- Have you built relevant financial models?

Schedule 5 - G20 Principles

- Have you performed a sensitivity analysis over the estimated financial results and rate of return?
- Are credit enhancement and risk mitigation products available to support project financing?
- Are there readily available and affordable mechanisms for interest rate and foreign currency hedging, if necessary, for the project?
- Have you tested affordability from a macroeconomic/fiscal sustainability perspective?

Deliverability

Deliverability analysis should demonstrate that arrangements are in place to ensure the successful delivery and maintenance/operational management of the project, respecting existing environmental and social safeguards. It should show that the project is properly staffed and resourced over its lifetime, with appropriate governance arrangements, advisers and timetable, so that it can be procured on time, and successfully operated, as well as monitored.

Critical issues to address are:

- Have you put in place project management and governance arrangements?
- Do you have a risk management plan, including an environmental and social risk assessment, and its corresponding mitigation plan?
- How is responsibility assigned or delegated amongst the public sector and shared with private partners? How can each institution help with the project preparation?
- What is your assurance and approval structure?
- What advisers will you appoint, and have you considered this expense in the budget?
- What project management methodology will you use?
- Do you have a detailed project plan and timetable?
- Are conflict assessment and resolution mechanisms in place?

Schedule 5 - G20 Principles

In 2019, the G20 endorsed the Principles of Quality Infrastructure Investment¹³² (QII) which complement the Principles for Project Preparation. The QII address the importance of mobilising capital to bridge the global infrastructure investment gap, and harness the positive benefits and impacts of new infrastructure.

Each of the 6 Principles, listed below for reference, can effectively be integrated into the process of developing of a business case using the Five Case Model.

Principle 1: Maximising the positive impact of infrastructure to achieve sustainable growth and development

Principle 2: Raising economic efficiency in view of life cycle cost

Principle 3: Integrating environmental considerations in infrastructure investments

Principle 4: Building resilience against natural disasters and other risks

Principle 5: Integrating social considerations in infrastructure investment

Principle 6: Strengthening infrastructure governance

¹³² https://www.mof.go.jp/english/international_policy/convention/g20/annex6_1.pdf

High-level explanation of the Project Development Routemap and Building Information Modelling

Schedule 6

The Project Development Routemap

Alongside the Five Case Model, the UK has developed a structured and tested methodology to help people responsible for delivering projects to focus on the capabilities they need to set up for successful delivery – called the Project Routemap

The value of the tool has been demonstrated in the UK where it has been used on its most important infrastructure programmes, worth over £300 billion. From 2020, it has been mandatory for all major public projects in the UK to use Routemap. It is also used extensively in the private sector, especially for large, complex projects of national importance. Although it can be used at any stage in the project development cycle, it is especially useful in the initiation phase.

Routemap applies learning and best practice to address many of the common challenges faced by projects before they advance too far into development, and suggests practical solutions to enable a project to move forward, improving delivery confidence.

An international version of the methodology has been developed, called the Project Development Routemap. It is seeing increased use by governments across the world, including in Asia and Latin America. It is available at: <https://www.gov.uk/government/publications/project-development-routemap>

What is Routemap?

Routemap is a practical tool, which targets the initiation phase of the project lifecycle to:

- ❑ align the capability of the project delivery teams with the complexity of the project being delivered;
- ❑ apply learning and best practice, to address common challenges which projects face, before they advance too far into development (minimising overspend, delays, and issues later in the project lifecycle which can lead to sub-optimal outcomes);
- ❑ work collaboratively with stakeholders, to find practical solutions to address issues as early as possible in the project life cycle, improving delivery confidence;
- ❑ provide material to feed into the development of a robust business case, or evidence for project assurance activities; and
- ❑ build a database of benchmark project information.

How does it work?

Routemap provides a clear process, supported by assessments and best practice modules, to support sponsors and clients to enhance capability. It considers capability across people, processes, systems, governance and ways of working. The process covers the entire project system – from sponsor through to the supply chain and asset managers.

It is not intended to be prescriptive; rather it is a reflective process. It does not lead to a single solution, but ensures that the 'right' questions are asked at the right time, and that the key risks and opportunities are identified, including for environmental and social sustainability. Routemap helps to address capability challenges through three key stages.

- ❑ **Set up** – determine the scope and timing of the Routemap, which can be project wide or targeted to specific capabilities;
- ❑ **Diagnose** – gather information to understand the challenges and the gap in capability; and
- ❑ **Action planning** – collaborate to develop practical solutions to address the gap in capability.

Why is it important?

Projects that improve infrastructure are critical to a nation's success. The UK has mandated the use of Routemap for all major public infrastructure projects as part of the project preparation approach.

The Routemap targets the crucial, early stage project thinking, to set projects up for success. The early investment of time and resources will be repaid many times over in the delivery phase. Studies have shown that projects that focus enough attention on the early stages are much more likely to achieve their intended outcomes.

Complex projects can test the limits of organisational capability, but if applied in the crucial early stages of project development, Routemap will ensure that best practice, learning from the most common causes of project failure, and principles for project success are incorporated. This will result in benefits ranging from the selection of the most appropriate delivery model, to clearer governance arrangements, appropriate risk allocation, and accelerated decision-making.

Who is it for?

Routemap is aimed primarily at public sector sponsor and client organisations that deliver infrastructure projects. It provides particular value where a proposed project is either new in its nature to the participating organisations, is being delivered in a different way, or is on a significantly bigger scale than those previously undertaken. It is also an educational tool for the project team, helping to build up a cadre of people who can, in turn, review other projects – thus transferring expertise across government.

Will it work internationally?

Yes, a properly developed international model has been proven to be effective. This is because the questions that it poses are the same around the world (though the answers may be different).

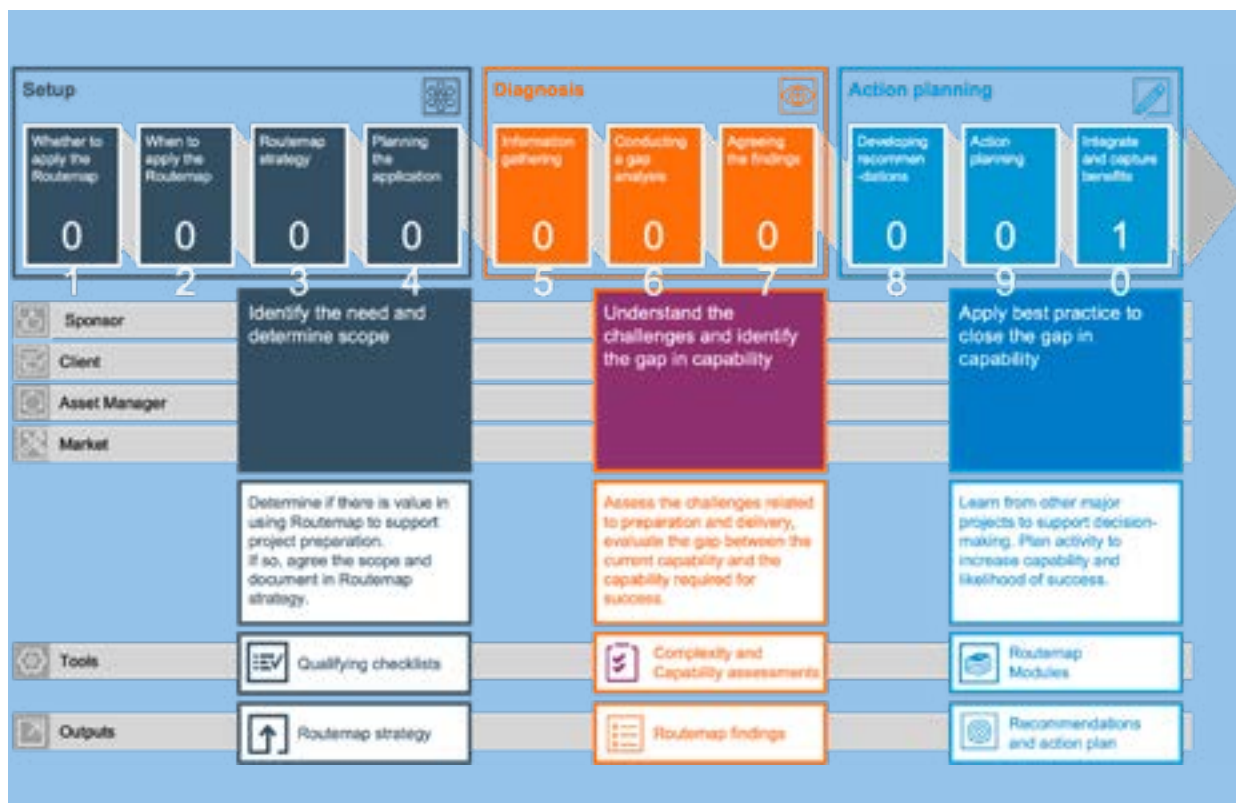
What does it contain?

Capability assessments

- ❑ Sponsor – strengthens understanding of the requirements for the sponsor’s capability during the investment and delivery planning process, to keep the project viable and aligned with strategic objectives.
- ❑ Client – considers the ability of the client organisation to engage effectively with an appropriately selected supply chain, and to manage the delivery outputs and outcomes.
- ❑ Asset manager – helps identify key operational and maintenance requirements and constraints to be considered; and
- ❑ Market – reviews the market’s ability and appetite to respond to the requirements.

The diagram below shows how these four areas for capability align in the development of infrastructure projects:

Diagram 16 – Project Development Routemap



Schedule 6 - High-level explanation of the Project Development Routemap and BIM

Routemap is supported by seven modules that provide organisations with advice on enhancing capability in the following areas:

- Requirements
- Governance
- Execution strategy
- Organisational design and development
- Procurement
- Risk management
- Asset management

Each module contains best practice advice and lessons learned from other projects and programmes. These can be used alongside the Routemap process or as standalone guidance, to identify potential risks and improvement in project capability development.

The modules are not a complete guide to project development, nor a substitute for business case development. Instead, they provide considerations to challenge your thinking and to launch your project on the path to success. The project team will need to consider their project's individual characteristics and context and identify what will be most helpful to them.

Building Information Modelling

An overview of BIM

Building Information Modelling (BIM) is defined as the use of a shared digital representation of a built asset to facilitate design, construction and operation processes to form a reliable basis for decisions. At its core, BIM is all about the use, creation, exchange and management of information in a digital format. BIM can, and often does, involve the use of new technology for information management and 3D modelling.

BIM is 'digital construction' – it brings technology and techniques similar to what we have seen in the digitalisation of manufacturing, into the construction industry. For public infrastructure, it helps to deliver better value for public money; de-risks project spending; and radically improves project and client whole-life outcomes.

In the UK, BIM contributed to a saving of 15-20 per cent on public construction costs under the government's Construction Strategy.

Benefits of using BIM in infrastructure projects

BIM has helped to deliver significant benefits in many countries, including monetary, safety, efficiency, and reputational benefits. It offers the potential to deliver additional benefits in operations, support efficiency through standardisation, and drive digital take-up across the construction and estates industry.

Schedule 6 - High-level explanation of the Project Development Routemap and BIM

Governments in Europe, Latin America and Asia are encouraging the use of BIM in public infrastructure projects, to drive cost efficiency savings, transparency and construction sector productivity. BIM can help to address many issues relating to the built environment throughout the design, construction, and operational stages, from helping to address the infrastructure gap through to meeting new targets in sustainability, carbon, and energy.

BIM is the most impactful trend to improve construction performance. Industry reports indicate the digitalisation of construction could deliver savings of 13-21 per cent globally by 2025.

BIM's benefits are described in detail in PwC's 'BIM Benefits Methodology' report¹³³ for the Centre for Digital Built Britain at Cambridge University.

Applications of BIM

For infrastructure and buildings, from new builds and renovations to small one-off projects and large-scale developments, BIM achieves:

- ❑ technological change to construction and operations;
- ❑ reduction in errors, delays and cost-overruns;
- ❑ de-risking of projects;
- ❑ greater visibility and use of data;
- ❑ a structured approach to information management; and
- ❑ a standardised workflow for project delivery.

History of BIM

The UK has developed an open and international methodology for the encouragement of BIM practices, to improve the delivery of national public infrastructure. The UK collaborates with governments, providing strategy and technical assistance to public officials of partner countries.



The UK methodology enables in-country benefits for the public and private sector, improving the quality of the built environment and creating opportunities for growth through the adoption of international standards and best practice. The latest version of the UK methodology is the UK BIM Framework.¹³⁴ The UK BIM Framework sets out the approach for

implementing BIM in the UK using the principles for managing information provided by the ISO 19650 series of standards.

¹³³ <https://www.cdbb.cam.ac.uk/news/2018,JuneBIMBenefits>

¹³⁴ <https://www.ukbimframework.org/>

Schedule 6 - High-level explanation of the Project Development Routemap and BIM

The UK BIM framework includes:

- the published standards called upon to implement BIM in the UK;
- the UK BIM Guidance Framework; and
- useful links to other resources.

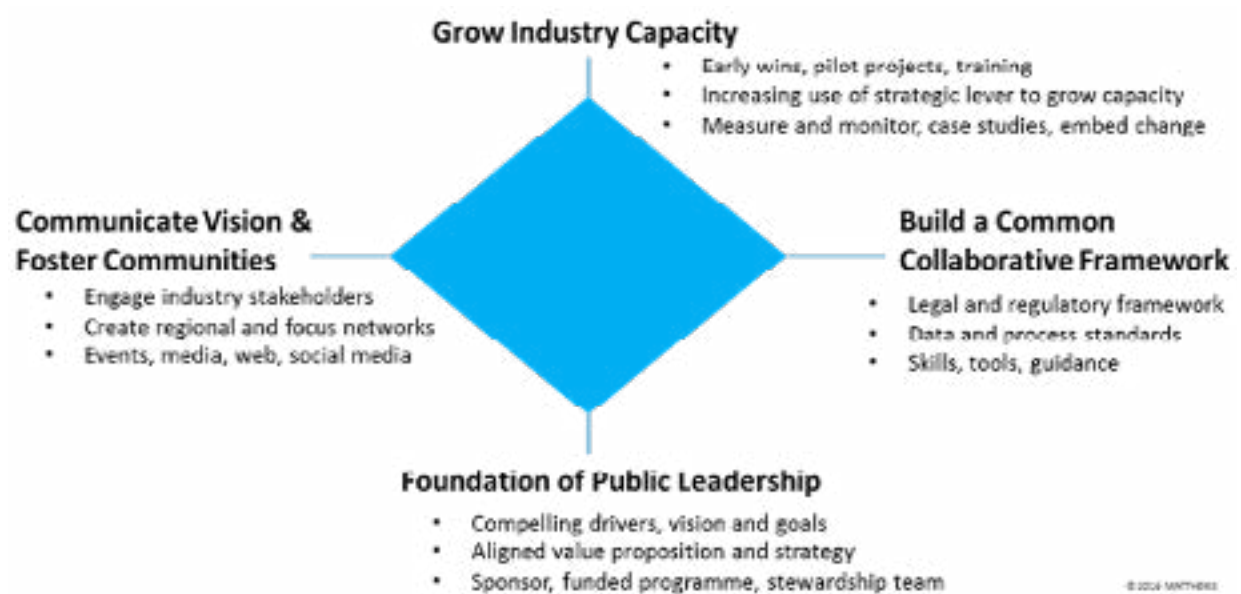
Access to BIM and international use

To support the internationalisation of BIM, the UK has developed guidance that explains how governments and public infrastructure procurers can adopt BIM based on the international standards and best practice approach.¹³⁵ This guide draws on three reusable tools:

- a strategic framework that describes how to design and implement a national BIM programme;
- a package of internationally developed ISO standards for digital methods of design, construction and operations; and
- checklists and roadmap guidance for the international public sector client to consider.

¹³⁵ <https://www.iso.org/news/ref2364.html>

Diagram 17 – Framework for Building Information Modelling (BIM) adoption in the public sector



The international BIM standards provide a common platform for procuring digital construction and operations services across different countries. They provide an open and non-proprietary definition of BIM that can be used to procure project services. And, crucially, these standards provide a way to open markets to trade, and for the use of digital techniques that de-risk projects and improve the quality of infrastructure.

Summary of actions required for each Business Case

Schedule 7

This Summary can act as a checklist for anyone reviewing a business case.

Early Business Case

Strategic Case – Early Business Case

- ❑ **The project rationale and organisational overview** – provide a concise description of project rationale and brief description of the organisation(s) that will be affected by the proposal.
- ❑ **Strategic aims** – provide a brief description of the national and local strategies, and policies driving investment.
- ❑ **Objectives** – provide a clear articulation of the SMART project objectives and related outputs and outcomes.
- ❑ **Existing arrangements** – provide a factual description of the existing services and relevant infrastructure.
- ❑ **Gap between existing arrangements and service requirements** – describe the gap between the existing arrangements and the service requirements, including both the problems in coverage, quality, cost and efficiency, and the opportunities.
- ❑ **Business needs** – identify the improvements and changes that are required to close the gap, and for the project to fulfil its objectives.
- ❑ **Potential scope** – provide a high-level description of the potential project scope, to address the business needs and fulfil the project objectives.
- ❑ **Main benefits** – describe the main high-level benefits which the proposed project will achieve, and the category of benefit to which they belong, including level of ambition on the Gender and Inclusion Framework.
- ❑ **Main risks** – describe the main high-level risks identified (including environmental and social risks).
- ❑ **Constraints and dependencies** – describe the constraints and dependencies that may limit the potential benefits.

- ❑ **UN Sustainability Development Goals** – describe how the project will help the government to achieve UN SDGs, having prioritised which goals and targets are relevant to the project, and align to outputs and benefits. If the project is using a Theory of Change and Results Framework the selected SDG indicators can be included for reporting purposes.
- ❑ **Social** – provide a summary of the social analysis, including key findings of how the project will improve socio-economic opportunities for women and/or disadvantaged groups. Provide a statement on compliance with applicable social standards (for example, IFC Performance Standards).
- ❑ **Environmental** – provide a description of how the project will achieve environmental improvements and promote compliance with applicable environmental and carbon/climate standards.

Economic Case – Early Business Case

- ❑ **Critical success factors** – describe the elements critical to project success, which are used to assess the suitability of longlist options.
- ❑ **Business as Usual** – provide a description of ‘Business as Usual’, including details on the scope, solutions, deliverer and funding and financing.
- ❑ **Wide range of options (with Red, Amber, Green ratings)** – describe the options generated from using the Options Framework (assessed against the critical success factors) with a narrative to explain why you have chosen to discount certain options. This is the longlist.
- ❑ **Final list of options** – describe the final list of options from the viable (Green and Amber) options from your matrix (see Table 9) – detailing how scope, solutions, deliverer, implementation and funding and financing have been linked together. This is the shortlist.
- ❑ **Preferred approach** – describe the ‘preferred approach’ (usually the option that is rated Green for all options).
- ❑ **Indicative costs** – of the shortlisted options are estimated, along with benefits and risks, to assess potential affordability.
- ❑ **Environmental and social impact assessment, technical and other studies** – describe the list of studies that need to be considered when pursuing certain options from the shortlist.

Commercial Case – Early Business Case

- ❑ **Possible contractual arrangements** – provide a high-level description of potential contractual arrangements that could be used for the ‘preferred approach’ established in the Economic Case.

Schedule 7 - Summary of actions required for each Business Case

- ❑ **Possible bidders** – provide a summary of potential bidders, and an assessment of whether it will be possible to generate sufficient interest to run a meaningful competition.
- ❑ **Procurement options** – provide a high-level description of the procurement options, and how you will make the process equal, transparent and fair, and meet relevant G20 Principles.

Financial Case – Early Business Case

- ❑ **Affordability** – provide a high-level assessment of project affordability, clarifying any limitations of the assessment, and highlighting any risks/ issues the project board needs to consider, especially any funding gap.
- ❑ **Potential sources of finance** – provide a summary of the conclusions of engagement with potential sources of finance, and assessment of risks/ issues the project board needs to be aware of.

Management Case – Early Business Case

- ❑ **Project team** – provide a description of the team (including advisers), and how the team may need to develop to deliver the Intermediate and Full Business Cases; an initial budget, including estimates for external advisory costs.
- ❑ **Project plan, including assurance and approvals plan** – provide a timeline showing key milestones and actions. Summarise the results of the Routemap if you have undertaken one.
- ❑ **Stakeholder engagement** – provide a summary of the initial stakeholder engagement plan, and results of any early engagement exercises completed, together with an assessment of any key issues which the project board needs to be aware of.
- ❑ **Change Management** – provide a summary of the initial change management plan, and assessment of any key issues which the project board needs to be aware of.
- ❑ **Benefits realisation plan** – provide a summary of the initial benefits realisation plan, and assessment of any key issues which the project board needs to be aware of.
- ❑ **Risk management strategy and plan** – provide a summary of the initial risk management strategy and plan, and assessment of any key issues which the project board needs to be aware of.

Intermediate Business Case

Strategic Case – Intermediate Business Case

- review and update, the Strategic Case from the Early Business Case as appropriate.

Economic Case - Intermediate Business Case

- **Review the shortlist** – describe any changes made to the shortlisted options.
- Conduct an economic (quantitative) appraisal of each of the shortlisted options, setting out its:
 - **Economic benefit** – provide a table of quantifiable benefits for each (applying the discount rate and optimism bias, along with a description of the rationale for applied optimism bias).
 - **Economic costs** – show the categories of costs/values, for each (with the discount rate and optimism bias applied, and a description of the rationale for applied optimism bias).
 - **Economic risks** – provide a table that shows calculations for determining the ‘risk cost’ for each option.
 - **Net present value (NPV) and benefit-cost Ratio (BCR) calculations** – showing the calculation of NPV and the BCR for each option.
- Conduct a qualitative analysis of each of the shortlisted options, setting out:
 - a qualitative assessment of the risks and benefits of each option.
- **Compare NPV, BCR and qualitative scoring** – show the NPV, BCR, Qualitative Scoring and ranking of each option, with a rationale for the ranking of options.
- **Sensitivity testing** – apply sensitivity testing and switching values to the leading options.
- **Preferred option** – confirm the preferred option and provide a detailed description of it.
- **Review of environmental and social impact assessment, technical or other studies** – describe how the environmental and social impact assessment, technical or other studies need to be updated to reflect the preferred option.

Commercial Case – Intermediate Business Case

- ❑ **Finalise Commercial Approach** – provide a summary of the commercial approach for the preferred option and description of why it has been chosen.
- ❑ **Allocate risks** – provide a summary of how the risks of the preferred option will be allocated between project parties, and how this allocation maximises value for money.
- ❑ **Project specification and Heads of Terms** – provide a summary of the project specification and contract Heads of Terms, and underlying principles.
- ❑ **Market engagement** – provide a summary of the market engagement process, conclusions and actions (for example, adjustments to the heads of terms), and an explanation of the confidence that a competitive tender can be held.
- ❑ **Procurement plan** – provide a summary of the proposed procurement plan, its compliance with World Trade Organization principles and relevant legislation, and how it will achieve strong competition and a good outcome for the authority.
- ❑ **Engagement with MDBs (if applicable)** – provide a summary of relevant discussions held with MDB(s), outcomes and potential risks to the authority.

Financial Case – Intermediate Business Case

- ❑ **Financial sources** – provide a summary of updates to the analysis of financial sources undertaken at the Early Business Case stage, including risks and issues of which the project board needs to be aware of.
- ❑ **Financial model** – provide a summary of the estimated costs and revenues of the preferred option, the assumptions made in the financial model, and of the conclusions drawn, highlighting risks and issues of which the project board needs to be aware of.
- ❑ **Affordability testing** – provide confirmation that the preferred option is affordable, any risks to affordability, and propositions as to how any gaps in affordability may be addressed.

Management Case – Intermediate Business Case

- ❑ **Delivery management and governance structure** – provide a summary of the delivery, management and governance arrangements for the project, and any key issues which the project board needs to be aware of.
- ❑ **Use of advisers** – provide a summary of adviser costs; any key issues which the project board needs to be aware of.
- ❑ **Project plan, including assurance and approvals plan** – provide a summary of the project plan and assurance and approvals plan, highlighting key risks where delay/additional cost could arise, and mitigations being put in place; any key issues that the project board needs to be aware of. Provide a summary of the results of the Project Development Routemap findings, recommendations, and complexity and capability assessments, if you have undertaken these.
- ❑ **Project budget** – provide a detailed budget for the cost of the project team (including advisers) and any assets that will be required for delivery of the business case and/or project.
- ❑ **Stakeholder engagement** – provide a summary of how stakeholder engagement plans have been developed since the Early Business Case stage; a summary of the plan; a summary report of engagement undertaken and outcomes; a log of how the preferred option has been amended to reflect your engagement; any key issues which the project board needs to be aware of.
- ❑ **Change Management** – provide a summary how change management plans have been developed since the Early Business Case stage; a summary of the plan; a log of how the preferred option has been amended to reflect the plan; any key issues which the project board needs to be aware of.
- ❑ **Benefits register** – provide a summary of the benefits realisation plan and any key issues which the project board needs to be aware of.
- ❑ **Risk management strategy and plan; risk register** – provide a summary of the updated risk management strategy and plan, and of the risk register; any key issues which the project board needs to be aware of.
- ❑ **Evaluation plans** – describe how the benefits of the project will be evaluated after its completion.
- ❑ **Sustainable development** – summarise how sustainable development (including Gender and Inclusion) considerations have been identified and addressed in the Authority’s plans, using the SD-SDG Criteria Framework – clarifying what has been prioritised and what has not.

Full Business Case

Strategic Case – Full Business Case

- review and update the existing case as needed.

Economic Case – Full Business Case

- Review of the Economic Case – describe how cost information gained from bidders has been used to reassess the shortlisted options, and confirm that the preferred option remains the best option.
- Preferred bidder – provide a detailed account of the decision-making process in choosing the preferred bidder.

Commercial Case – Full Business Case

- Procurement process – provide a summary of the procurement process.
- Contractual arrangements – provide a summary of the contractual arrangements agreed with the preferred bidder, and any changes to the draft contract agreed at the intermediate business case stage, together with reasons for the changes and noting their impacts.

Financial Case – Full Business Case

- Confirmation of affordability – confirm that the deal negotiated with the prospective preferred bidder is affordable; provide a summary of differences, with the affordability analysis undertaken at the Intermediate Business Case stage, and any risks and issues of which the project board and executive/programme board need to be aware.

Management Case – Full Business Case

- Finalisation of Management Case Plans – provide a summary of changes to the plans since the Intermediate Business Case stage, and of any key issues of which the project board needs to be aware. These cover project management, change management, benefits realisation, risk management, and contract management.
- Provide a summary of how project evaluation plan has been updated and responsibilities assigned.

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Environmental and social impact assessment review checklist

Schedule 9

The ESIA is scoped in **Action 7**, commissioned in **Action 16**, and reviewed in **Action 27**.

It is often also referred to as the Environmental, Social, and Health Impact Assessment (ESHIA).

ESIA refers to a collection of technical studies into all aspects of a project relating to environmental, social, and health considerations. The studies will quantify and qualify the benefits, risks, constraints, dependencies, stakeholders, and opportunities that are included in the project business case.

The ESIA process is useful in framing the project in relation to the Sustainable Development Goals, as opportunities to address the project's priority SDGs can be identified. The studies can also identify opportunities for the project to make tangible contributions beyond the core objectives, for example: to restore natural habitat and promote biodiversity in the vicinity of the infrastructure; or improve water management in the relevant catchments; or to use the new or improved infrastructure to preserve and promote the cultural heritage and areas of historic importance.

The project's environmental and social experts will help to scope the studies. Countries will have their own frameworks and/or guidelines for ESIA. If the project is being developed in partnership with an MDB, they will also have their own requirements and criteria for these studies.

To illustrate the process of scoping an ESIA, a selection of the International Finance Corporation performance standards are listed below, as these cover all the main considerations of a typical ESIA. The full standards can be accessed at:

https://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At-IFC/Policies-Standards/Performance-Standards

Environmental and social impact assessment review checklist

International Finance Corporation (IFC):

Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts

Policy and contextual review

A review of the country's policy and legal framework needs to be carried out with a regard to gender, both in terms of protection of rights and promoting development. It will identify whether there are specific departments with responsibility for gender at local and central government level.

In carrying out a review of the environmental, social, political and economic situation of the country in which the project is located, in other words the contextual review, it is essential that there is a comprehensive gender analysis that will bring an understanding of the societal structure and the different experiences of affected groups.

Area of influence

In determining the area of influence of the project and its associated facilities, consideration will be given to gender and the differential livelihood patterns of affected groups. It will thus consider movement patterns, and access to and use of resources according to gender.

An area of influence is determined not only by the footprint of a project and its interaction with key facilities, but also by the surrounding land use, and the livelihood patterns of affected groups.

NB: Whilst some infrastructure, such as a road or railway system, may have an area of influence that is fairly determined, that of a project such as an offline grid provision can be quite dispersed.

Cumulative impact

Where an area of influence is likely to experience cumulative impact, the review of government spatial plans and local economic development plans should identify how these cumulative impacts will be experienced differently by men and women.

How will influx be managed? How will an increase in population impact on key facilities such as markets, schools and hospitals, and what implications will this have for affected groups' livelihoods?

Project options/alternatives

Gender should form a key component of the analysis of project alternatives. How do the project options impact on affected groups?

Baseline socio-economic information

The baseline socio-economic information collected for the environmental and social impact assessment needs to be gender and age disaggregated, so that there is a clear understanding of the context of women and men's livelihoods, and the interaction between the two.

The baseline socio-economic context will collect information on the existing situation using both quantitative and qualitative methods. From the outset, it is important that the method of data collection should be gender sensitive, so that both women and men are consulted. For project-affected communities, these methods must be accessible to all and ensure that all affected groups can equally, easily and fully participate in the data collection and consultation exercise.

Stakeholder analysis

Stakeholder analysis carried out for the environmental and social impact assessment should be gender sensitive and inclusive (that is, should include analysis for different groups of vulnerable and marginalised men, women, the elderly, people living with disability, youth, caste, etc.).

NB: This is particularly important where there are number of different types of institutional stakeholders with different interests and capacities to analyse and integrate gender in the project.

Different stakeholders will have their own procedures and time frames, and these will need to be incorporated.

An important issue is how to engage with young people and other potentially vulnerable groups.

Performance Standard 2: Labour and working Conditions

The environmental and social impact assessment will review labour issues related to the project, utilising disaggregated information to enable an understanding of the gender dimension. It will assess the employment context for women in the country of operation; it will also assess the client's own policy and track record. Finally, it will look at the opportunities made available by the project during construction and operation, and whether there are specific measures in place to enhance job opportunities for women.

The environmental and social impact assessment will review the measures and processes in place to safeguard the health and safety of female, as well as male, workers.

Key issues to be explored by the environmental and social impact assessment are that of child labour, bonded labour and forced labour – areas in which vulnerable groups are at risk.

NB: Where relevant, and where the client can be influential, the review of labour and employment should extend to the client's first tier supply chain at a minimum.

Performance Standard 4: Community health and safety

The project's impact on community health and safety needs to take account of men and women's different exposure to health risks, as a result of their different socio-economic roles, and involvement in different economic and domestic activities in the community.

Performance Standard 5: Land acquisition and involuntary resettlement

Where economic displacement and or resettlement is required, it is essential that from the outset the process of design and development of the resettlement action plan/livelihood restoration plan (RAP/LRP) is carried out in a way which demonstrates a comprehensive understanding of the gender dimension of resettlement, and thus enables mitigation measures to be developed to address women's needs and provide targeted support in livelihood restoration. This involves the collection of disaggregated data, ensuring that women and men are properly consulted and their views incorporated.

Performance Standard 7: Indigenous peoples

If the environmental and social impact assessment identifies that there are indigenous groups within the area of influence, then an indigenous people's plan must be prepared for the project. The plan must carry out gender-sensitive analysis for this specific group.

Sustainable finance and the Five Case Model

Schedule 10

Summary

To address infrastructure gaps in a sustainable way, countries need to attract finance from a variety of sources, including private investors. Under the broad banner of 'sustainable finance', private investors seek bankable projects that contribute to sustainability-linked outcomes, in addition to investment returns. At the project preparation stage, governments can undertake valuable work that can give confidence in both the bankability and sustainability of infrastructure projects.

This schedule covers two topics:

- First, it gives an overview of sustainable finance frameworks in relation to infrastructure projects; and
- Second, it discusses ways in which the business case, using the Five Case Model approach, can articulate and improve the sustainability credentials of infrastructure projects, and increase the prospects of accessing sustainable finance.

1. Introduction – The sustainable infrastructure gap and private finance

Around the globe there is a pressing shortage of much-needed infrastructure to facilitate the economic prosperity and social development of growing populations. In their Global Infrastructure Outlook, the Global Infrastructure Hub estimates the shortfall in infrastructure investment over the next twenty years in Africa is \$1.7 trillion; in Asia, the estimated gap is \$4.6 trillion. However, in order to meet the global challenge of climate change, this vital infrastructure needs to be developed in a sustainable way and enable the transition to a decarbonised economy.

Significant flows of funding and finance from the international community are needed if all countries are to develop sustainable infrastructure. Developed countries and development finance institutions will continue to play a key role in financing projects. However, it is recognised that private finance must also be mobilised if countries are to achieve their simultaneous goals of developing vital infrastructure, addressing climate change, and delivering broader sustainability outcomes.¹³⁶

¹³⁶ G20, Roadmap to Infrastructure as an Asset Class (2018): https://www.oecd.org/g20/roadmap_to_infrastructure_as_an_asset_class_argentina_presidency_1_0.pdf

Schedule 10 – Sustainable finance and the Five Case Model

Private finance investors are increasingly concerned about addressing climate change and sustainability considerations – this shift in thinking has been accelerated by the COVID-19 pandemic.¹³⁷ In order to give international investors confidence in the bankability and sustainability of public infrastructure projects, governments need to align the information provided on these investment opportunities with established ESG frameworks.

2. Environmental, social, and governance reporting

Environmental, social and governance (ESG) issues can affect the long-term performance of investments, and should be considered in asset allocation and risk decisions. For decision makers and officials looking to source sustainable finance, there is a wide range of tools, criteria and frameworks available to evaluate sustainability risks.

Key frameworks for reporting on corporate performance include the Global Reporting Initiative (GRI), and the Carbon Disclosure Project (CDP) specifically for carbon reporting. More recently, frameworks such as the Task Force on Climate-related Financial Disclosures (TCFD) and Sustainability Accounting Standards Board (SASB) have been developed to assess the potential impacts of climate change on investments. In 2020, the EU produced a taxonomy for sustainable activities – a “classification system, establishing a list of environmentally sustainable economic activities”.

The range of standard reporting frameworks can be burdensome and reduce comparability. In September 2020, five key reporting organisations: the GRI, CDP, Climate Disclosure Standards Board (CDSB), International Integrated Reporting Council (IIRC) and Sustainability Accounting Standards Board (SASB), announced collaboration towards a single set of comprehensive and global reporting standards.

The large number of frameworks shows that rigorous disclosure and reporting of activities are critical for companies and investors who want to progress towards sustainable and climate-positive activities. For investors to achieve their climate change ambitions, they need to have clear assurance and evaluation practices in place.

Table 57 below details a selection of the various frameworks for relating projects to sustainability and climate change objectives. As the table shows, these frameworks operate at different levels. Whereas the Sustainable Development Goals are overarching and high-level, agreed globally through the United Nations, BREEAM (Building Research Establishment Environmental Assessment Method) is a formal sustainability assessment method for infrastructure and buildings that uses the Sustainable Development Goals as its guiding framework. Both have a role to play in assessing the sustainability of infrastructure projects.

¹³⁷ For example, see Blackrock, Larry Fink CEO Letter (2021): <https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter>

Table 57 – Significant ESG frameworks

Purpose of framework	Key frameworks	Where to consider in 5CM
Supporting international agreements	<ul style="list-style-type: none"> <input type="checkbox"/> Sustainable Development Goals (SDGs) <input type="checkbox"/> The Paris Agreement (for Nationally Determined Contributions (NDCs)) <input type="checkbox"/> Kyoto Protocol (for Certified Emission Reductions (CERs)) <input type="checkbox"/> G20 Principles for Quality Infrastructure Investment 	<ul style="list-style-type: none"> <input type="checkbox"/> Strategic Case <input type="checkbox"/> Economic/ Financial Case <input type="checkbox"/> Management Case
Safeguarding and provision of concessional loans	<ul style="list-style-type: none"> <input type="checkbox"/> Equator Principles <input type="checkbox"/> IFC Performance Standards <input type="checkbox"/> Development Banks Environmental & Social Safeguard policies 	<ul style="list-style-type: none"> <input type="checkbox"/> Economic Case, Management Case
Defining climate positive activities and issuing bonds	<ul style="list-style-type: none"> <input type="checkbox"/> Climate Bonds Initiative (CBI) <input type="checkbox"/> EU Taxonomy <input type="checkbox"/> EU Guidelines on reporting climate-related information 	<ul style="list-style-type: none"> <input type="checkbox"/> Financial Case
Raters, asset managers and investors)	<ul style="list-style-type: none"> <input type="checkbox"/> Principles for Responsible Investment (UN) <input type="checkbox"/> SASB (Sustainability Accounting Standards Board) <input type="checkbox"/> TCFD (Taskforce on Climate Related Financial Disclosures) <input type="checkbox"/> CDSDB (The Climate Disclosure Standards Board) <input type="checkbox"/> Example raters: Dow Jones Sustainability Index, Ftse for Good 	<ul style="list-style-type: none"> <input type="checkbox"/> Financial Case, Commercial Case

Purpose of framework	Key frameworks	Where to consider in 5CM
Setting sector standards	<ul style="list-style-type: none"> <input type="checkbox"/> CoST (Construction Sector Transparency Initiative) <input type="checkbox"/> BREEAM, (Building Research Establishment Environmental Assessment Method) <input type="checkbox"/> CEEQUAL (Civil Engineering Environmental Quality) <input type="checkbox"/> PAS 2080 - (Publicly Available Specification for Carbon Management in Infrastructure) <input type="checkbox"/> SURE (Standard for Sustainable and Resilient Infrastructure) <input type="checkbox"/> GRESB (Global Real Estate Sustainability Benchmark) 	<ul style="list-style-type: none"> <input type="checkbox"/> Commercial Case, Management Case
Assessing corporate performance, transparency to stakeholders	<ul style="list-style-type: none"> <input type="checkbox"/> CDP (Carbon Disclosure Project) (Can also be applied to cities) <input type="checkbox"/> GRI (Global Reporting Initiative) <input type="checkbox"/> UN Global Compact <input type="checkbox"/> Integrated Reporting (IR) 	<ul style="list-style-type: none"> <input type="checkbox"/> Commercial Case <input type="checkbox"/> Management Case
Supporting infrastructure projects	<ul style="list-style-type: none"> <input type="checkbox"/> GI Hub - Inclusive Infrastructure and Social Equity <input type="checkbox"/> UNECE People First Public-Private Partnerships Evaluation Methodology for the Sustainable Development Goals <input type="checkbox"/> IADB What is Sustainable Infrastructure? A Framework to Guide Sustainability Across the Project Cycle <input type="checkbox"/> SuRe Standard for Sustainable and Resilient Infrastructure 	<ul style="list-style-type: none"> <input type="checkbox"/> Strategic Case Management Case

3. Sustainable finance and sustainable infrastructure

‘Sustainable finance’ and/or ‘Green finance’ apply ESG frameworks and concepts to traditional financing instruments. Broadly speaking, it comprises green equity (indexes, funds, labels and certifications), lending, grants, and bonds. Public infrastructure projects involving private finance, will typically use a mixture of project-specific lending (loans), blended finance and bonds.

Schedule 10 - Sustainable finance and the Five Case Model

Many banks, including multilateral, national development, and commercial banks, provide green loans or credit lines for clients and projects that contribute to the banks' overall green goals. Eligibility for green loans is usually tied to the compliance with eligibility criteria. Such criteria can be accompanied by taxonomies listing technologies or products that can be considered as green, and specific indicators may also be used.

Blended finance uses any combination of public and private debt, equity and risk management instruments (for example, guarantees) to mobilise and reduce the cost of capital. For example, blended finance can involve public/development finance and philanthropic funds (that is, using a mixture of concessional and market rates to raise capital), or development banks and/or export credit agencies (for example, UK Export Finance). These can provide guarantees and credit-enhancements to reduce the risk to private sector investors, therefore reducing borrowing costs and risks. Insurance products to increase resilience to climate change may also be considered as part of the portfolio. The UK's Green Finance Strategy provides many examples of how blended finance has been used in the UK to improve the risk-return profile of 'green' investments.

Bonds are issued by governments and corporations when they want to raise money. Bonds pay investors a fixed rate of return over a specific timeframe. Once issued, bonds can be traded by those who bought them. If sovereign bonds are to be recognised as 'green' or 'sustainable', then the issuing government needs to demonstrate that the proceeds are being used in line with these definitions. The EU Taxonomy provides a framework for green and sustainable bonds, and is also useful when considering project alignment and contribution towards strategic goals, such as Nationally Determined Contributions agreed at the Paris Agreement.

One of the most prominent and widely used frameworks for the certification of bonds relating to climate change mitigation is the Climate Bonds Initiative (CBI). In order to issue a linked 'Certified Climate Bond', project activities must conform to the CBI's Climate Bond Standard. The CBI, in their own words, "identifies the assets and projects needed to deliver a low carbon economy, and gives GHG emissions screening criteria consistent with the 2-degree global warming target set by the COP 21 Paris Agreement." Whilst the standard includes some obvious technologies, like wind and solar electricity generation, it also lays out how broader infrastructure projects, such as freight rail, may be eligible for certification by complying with certain criteria.

Though such frameworks might seem stringent, the spectrum of financing options for projects that lead to sustainable outcomes has broadened significantly in recent years beyond just climate finance and green finance. This has expanded in response to the COVID-19 crisis, as many institutional investors recognise the need to address social fragilities and inequalities. This means that governments that may have previously been unable to meet strict criteria of 'green' or 'climate' financial markets for the development of their more conventional infrastructure projects now have the potential to align projects to financial instruments for positive social and environmental/climate outcomes.

Governments issuing sustainable bonds

National and sub-national governments are underrepresented in the sustainable bond market, but increasingly, ambitious countries are creating sustainable finance frameworks in line with many of the tools above and issuing on bond markets to fund projects, from major metro expansions to localised school building programmes. These following examples provide valuable lessons for other countries who may be considering sustainable finance instruments for infrastructure development.

Thailand

In 2020, Thailand issued Sustainability Bonds of 50 billion Thai Baht (USD \$1.66 billion) – with bonds issued by both the Thai Ministry of Finance and the National Housing Authority. For the Ministry of Finance bonds – THB 10 billion of these bonds have been allocated to the construction of a proposed new mass rapid transit line in Bangkok. These bonds were certified post-issuance by the Climate Bond Initiative. The rest of the Ministry of Finance's bonds are going to social impact projects with broader sustainability benefits, like public health initiatives. The National Housing Authority's bonds are certified Social Bonds worth THB 6.8 billion, they are being used to finance affordable housing and sustainable communities.

Mexico

In Mexico, the federal government has issued \$890 million worth of SDG Bonds. Rather than use the frameworks described above, the Mexican government secured the direct endorsement of the UN Development Programme on the alignment of these bonds with the SDGs. The proceeds will be allocated to projects targeted at the most vulnerable and marginalised populations and areas in the country, like new schools, hospitals and rural roads. The government of Mexico will identify these projects through the use of subnational geospatial data on individual projects.

The International Capital Markets Association (ICMA), an industry body representing over 600 companies, has defined a set of widely-recognised principles, for green bonds, Social Bonds, and Sustainability Bonds, where the proceeds are spent on projects with measurable positive social outcomes (social), or on a mix of social-positive and climate-positive activities (sustainability). As demonstrated in Box 1, countries could follow the example of Thailand and issue 'social' bonds for infrastructure with clear, demonstrable social benefits – like social housing.

Though there is not a developed market yet, some in the financial sector have also raised the potential importance of 'Transition Bonds' (Transformation Bonds), to enable organisations with carbon-intensive activities to finance the 'greening' of their processes. In the words of one investor "we have to admit that a decarbonized world won't be reached by solely focusing on companies which are already 100 per cent 'green'. Furthermore, many sustainable companies still depend on energy and resource intensive materials

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and processes.”¹³⁸In future, governments may be able to tap into this categorisation to fund the greening of carbon-intensive infrastructure development, but further work needs to be done to formally build this class of bond. Recently, the CBI, together with Credit Suisse, has sought to bring together a clearer standardised definition of what transition finance should look like.

¹³⁸ Marius Pratsch, DZ Bank, Environmental Finance: The 2020s – The decade of Sustainable Bonds (2020)

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