



# Project Development Routemap

for Infrastructure Projects

International Handbook



International version  
of **UK Government's**  
Project Routemap

Rationale	Governance	Systems Integration	Execution Strategy	Organisational Design & Development	Procurement	Risk Management	Asset Management	Handbook
<b>Ra</b> 01	<b>Gv</b> 02	<b>SI</b> 03	<b>ES</b> 04	<b>OD</b> 05	<b>Pr</b> 06	<b>RM</b> 07	<b>AM</b> 08	<b>Hb</b> 00



Infrastructure  
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**UK Government**

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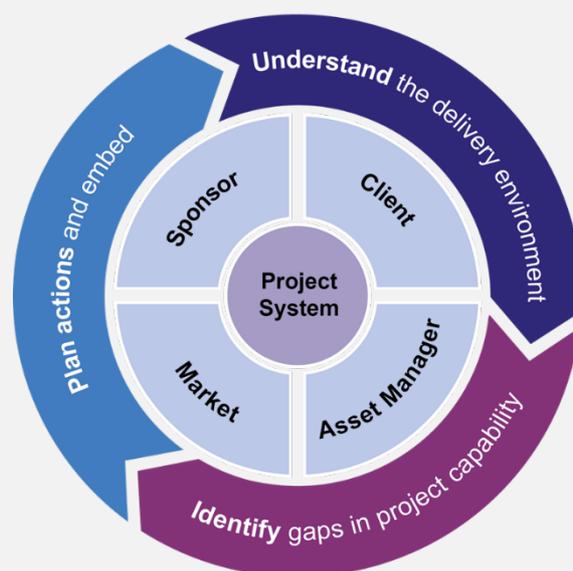
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# Preface



The UK Infrastructure and Projects Authority (IPA)<sup>1</sup> is proud to present this international handbook on the Project Development Routemap, for infrastructure projects.

Projects that enhance and expand access to infrastructure are critical to achieving inclusive, sustainable growth and reducing poverty. However, infrastructure projects often encounter problems in their early stages. Poor project development constrains project delivery and limits the benefits it can drive from investment.

Projects that focus enough attention on the early stages are much more likely to achieve their intended outcomes. Although setting up projects for success can take more time at the start, this will be repaid many times over in the delivery phase.

The Project Development Routemap (Routemap) is a structured and tested methodology used to set up projects for success. It ensures best practice and learning about the most common causes of project failure are considered at crucial early stages of development. In this handbook, we use the term *project* to encompass projects, programmes and portfolios.

Routemap principles are core to any infrastructure project, and especially helpful where project teams undertake complex projects that test the limits of their organisational capability. It is a structured approach that brings stakeholders together, to improve project-specific capabilities, enable governments and supply chains to maximise value for money and, where appropriate,

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<sup>1</sup> The IPA is the centre of expertise for infrastructure and major projects, sitting at the heart of government and reporting to the Cabinet Office and HM Treasury in the United Kingdom.

increase opportunities for international investment. It gives confidence to people developing projects, those approving them, and those investing in them.

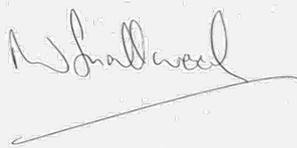
Since its launch in 2012, Routemap has been applied in the UK to projects totalling over £300bn, with significant and sustained impact on public policy, professional practice and economic benefit.<sup>2</sup> This international adaptation was first launched in 2020 and has been increasingly applied to support the development of major infrastructure projects across the globe.

Routemap aligns with the G20 Principles for the Infrastructure Project Preparation Phase, the United Nations Sustainable Development Goals (in particular, supporting environmental and social sustainability) and was identified by the Global Infrastructure Hub as a leading practice in good project preparation. Routemap has evolved recently to reflect the principles underpinning leading practice in addressing Environmental, Social and Governance (ESG) criteria and to recognise the importance major infrastructure projects will play in building on commitments to meet the Paris Agreement.

This international guidance was produced as part of the Global Infrastructure Programme,<sup>3</sup> sponsored by the UK's Prosperity Fund<sup>4</sup> to provide practical instruction on the Routemap. It builds on both UK and international experience and is tailored to the needs of audiences in a broad range of countries.

The IPA would like to thank the United Kingdom's Foreign, Commonwealth and Development Office and embassies, and the governments of Colombia and Indonesia. Together, they have provided invaluable assistance in the development of the Routemap for international use.

We hope this guidance is useful, practical and will improve the quality of infrastructure development in your country.



Nick Smallwood  
CEO, Infrastructure and Projects Authority

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<sup>2</sup> The Project Development Routemap has been adapted from the UK Project Initiation Routemap, now called Project Routemap: <https://www.gov.uk/government/publications/improving-infrastructure-delivery-project-initiation-routemap>.

<sup>3</sup> The Global Infrastructure Programme was a UK cross-government programme delivered by the Foreign, Commonwealth and Development Office, the IPA and the Department for Business Energy and Industrial Strategy. The programme aimed to enable the provision of sustainable and resilient infrastructure as a critical enabler for economic development in middle-income countries.

<sup>4</sup> The Prosperity Fund supported the UN Sustainable Development Goals and the 2015 UK Aid Strategy by promoting growth and prosperity in developing countries.

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# How to use this Handbook

This handbook explains what the Project Development Routemap (Routemap) is, and how to use it. It shows you the process you need to follow to conduct your own Routemap on infrastructure projects and is supported by case studies from real projects. You should read each section sequentially to get a full understanding of the methodology, its benefits, and the ten steps in the process.

We have divided the handbook into sections:

**Section 1: *Introducing Routemap*.** This section describes what the Routemap is, when to use it, the key benefits that it offers, and who will find it useful.

**Section 2: *The Routemap methodology*.** This section introduces the Routemap's principles and core components. All those involved in the project should read this section including those commissioning Routemap, senior decision makers and other project stakeholders.

**Section 3: *Applying Routemap – The 10-step process*.** This is the detailed guide on Routemap and runs through it step by step. This section will be useful for those responsible for Routemap planning and facilitation.

**Appendices** – The appendices contain useful templates and guidance for the Routemap process, including:

- **Project Development Routemap assessments.** [Appendix A](#) contains the *complexity and capability assessments*. It will be useful for facilitators and participants in the 10-step process.
- **Routemap templates.** [Appendix B](#) has a blank *Routemap Report template*, which you will gradually complete throughout the course of the Routemap process. [Appendix C](#) has a *template Routemap Implementation Plan* to help you track your progress through the process, and [Appendix G](#) has the *Action Planning template*. These will help those facilitating Routemap to document the outputs of the 10-step process.
- **Guiding questions.** [Appendix D](#) includes sample interview questions and key documents to help the facilitators explore potential gaps in capability. These prompts should help to complete steps 5 and 6 of Routemap.
- **Supporting information.** [Appendix E](#) provides key information on sustainability requirements for developing infrastructure projects, notably environmental and social considerations. [Appendix F](#) specifies how the Routemap could support you in developing your business case, aligning it to the *5 Case Model* business case development process detailed in the *Infrastructure Business Case: International Guidance (2022)*.

**Routemap Modules** – We have developed eight Routemap modules to accompany this handbook. They give guidance on the most common challenges for projects and explore good practice to identify and address gaps in capability. The modules cover:

- Rationale
- Governance
- Systems Integration<sup>5</sup>
- Execution Strategy
- Organisational Design & Development
- Procurement
- Risk Management
- Asset Management

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<sup>5</sup> The Systems Integration module has been designed for UK audiences, but we have included it in this suite of materials due to its relevance for international infrastructure development

# 1. Introducing the Project Development Routemap

Infrastructure investment is complex. For most organisations, developing viable projects that benefit the economy, societies and the environment is a major undertaking. Project development spans a range of activities that are essential to infrastructure projects which deliver value for money.<sup>6</sup> Inadequate support at the project development stage can result in significantly increased costs or critical projects being cancelled.

Routemap is a structured and tested methodology used to set up projects for success. It ensures that best practice and learning about the most common causes of project failure are considered at crucial early stages of development. It provides a collaborative way for stakeholders to work together, towards practical solutions to address gaps in project capability.

If you follow the process set out in this handbook, with the appropriate support and commitment from across the project team (and perhaps with some external support), you will eventually have a detailed action plan in your *Routemap Report*. This will help you to set up your project for success by building capability across sponsors, clients, asset managers and the market.

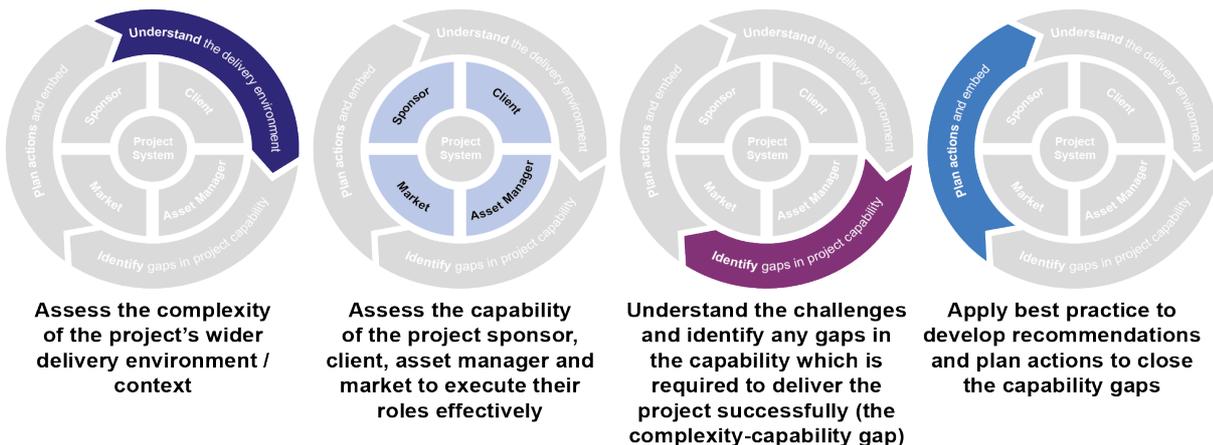
<sup>6</sup> Certain unique characteristics increase the importance of value for money on infrastructure investments, including long timeframes, their role in poverty reduction, and commodity dependence. Value for money does not equate to only pursuing lowest cost options, but instead getting the desired quality and outcomes at the lowest price.

Routemap was developed by UK Government in collaboration with industry, academia and international governments, and supports the design and development of sustainable infrastructure projects. It is a process that helps to align projects to the G20 principles of quality infrastructure,<sup>7</sup> internationally recognised standards like the International Finance Corporation Performance Standards,<sup>8</sup> and the United Nations Sustainable Development Goals. Following the Routemap approach can also make it easier for projects to deliver positive environmental and social impacts:

- **Environmental sustainability** – with rapid environmental change and global temperature rises, decision makers must ensure infrastructure is both resilient to climate change and natural disasters, and is low impact by using best practices and switching to clean energy, latest technologies and sustainable materials.
- **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. It also supports the health and well-being of individuals and communities.

### What is the Routemap?

Routemap is a structured and collaborative process to help you:



Routemap 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.<sup>9</sup> You can apply the Routemap to any infrastructure project. It provides:

- A methodology that supports good project development by applying learning and good practice from other major projects
- Diagnostic tools to identify:
  - gaps in capability and provide evidence for decision making
  - strategic risks and challenges related to project delivery through assessing the project's wider context, including environmental, social and governance risks

<sup>7</sup> In the G20 Osaka Summit in 2019, the G20 Finance Ministers and Central Bank Governors endorsed a set of voluntary, non-binding principles that reflects the G20's common strategic direction and aspiration for quality infrastructure investment. [https://www.g20-insights.org/related\\_literature/g20-japan-principles-quality-infrastructure-investment/](https://www.g20-insights.org/related_literature/g20-japan-principles-quality-infrastructure-investment/)

<sup>8</sup> See Appendix E for a full description of the importance of the IFC Standards.

<sup>9</sup> See p.16 for further details on the roles of the Sponsor, Client, Asset Manager and Market

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- A collaborative way for key project stakeholders to work towards practical solutions, which can feed into business case development and move projects forward.

*Note: Identifying some capability gaps may be sensitive and stakeholders may feel that they are being criticised. It is important to remember that Routemap helps project teams to have the best possible chance of success. They may be undertaking complex projects that test the limits of their organisational capability, so you can expect that the process will uncover challenges. It is a collaborative, constructive process designed to support project teams to build consensus.*

### What is it not?

Routemap does not:

- Lead to a single solution. Instead it recognises that there are characteristics common to both successful and unsuccessful project delivery
- Substitute for good project management skills and techniques. It is a capability development tool
- Measure individual or overall institutional capability on a stand-alone basis. It looks at the required capability for a specific project which may come from a number of different institutions
- Replace existing assurance or review processes, nor does it provide a pass/fail test as might be seen in some assurance processes. It works alongside these to achieve the planned improvements

### What are the benefits of using Routemap?

In the UK, many government projects and private companies have benefited significantly from using Routemap. The sustained benefits have included:

- Avoiding costs, resulting from delays from poor planning or unclear authority
- Selecting the appropriate approach for delivery
- Fulfilling policy
- Identifying environmental and social risks and opportunities early on, to enhance sustainability
- Clear organisational delegation and decision making
- Performance continuity
- Producing evidence for approval and assurance

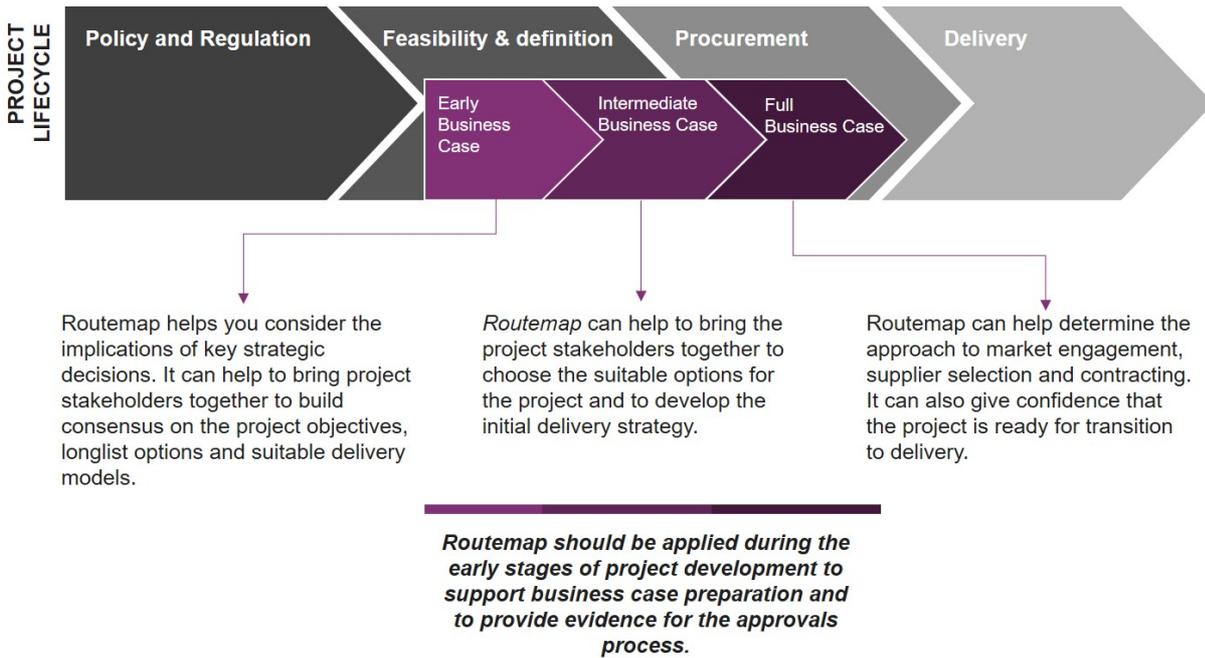
### When to use Routemap?

Routemap is intended to address issues early in the project lifecycle. It is especially useful when you are:

- delivering something new
- working on a larger scale than usual
- working in a different way
- part of a new team lacking in experience of delivering similar projects
- trying to learn from other projects and sectors to improve delivery
- experiencing a substantial change to a project during its lifecycle, e.g. it has been reset
- working through critical, undecided aspects of the business case
- preparing to transition from one project phase to another.

One way of implementing Routemap is by integrating it into the strategic planning and business case development of a project. This means that you can bring in best practice and lessons from other major projects, from the outset. For example, you can use Routemap alongside your business case development, e.g. *5 Case Model* business case development process, contained in the *Infrastructure Business Case: International Guidance (2022)*.<sup>10</sup> You will find further information in Step 2 and a full description of how these methodologies can be aligned in Appendix F, which is summarised in Figure 1.

Figure 1: When to apply Routemap in the business case development process



### Who is Routemap for?

Routemap is primarily for public and private sector organisations that plan, prepare and deliver infrastructure projects. These may be PPP or publicly funded projects. It is for senior managers responsible for these projects, including project owners and directors, project managers and directors of planning and procurement. Multilateral development banks (MDBs) may also choose to sponsor Routemap, to provide confidence in the projects they aim to support. This handbook provides practical guidance for these project teams, on how to apply the Routemap methodology.

<sup>10</sup> Infrastructure and Projects Authority Infrastructure Business Case: International Guidance, 2022: <https://www.gov.uk/government/publications/the-green-book-international-guidance>

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The key roles that support the Routemap methodology are:

**Commissioning Body:** The government body, official or independent authority commissioning Routemap. It approves the deliverables to enable progress through the Routemap. This should be the appropriate decision-making body that will make the Routemap outputs more effective and sustainable. The Commissioning Body may be from the project sponsor or client organisation.<sup>11</sup>

**Routemap Lead:** The person(s) responsible for setting the scope of Routemap and planning the detail. The best person to take on the role of Routemap Lead will vary depending on the context, scale and type of project. To identify the Routemap Lead for your project, you should consider whose involvement will drive the best value for money, taking into account their knowledge of the project, influence with key stakeholders and other responsibilities. This may be the Project Director and/or Project Manager leading the development of the business case.

**Routemap Support:** The people supporting the Routemap Lead to engage with stakeholders, review project documentation, conduct the assessments, and contribute to the gap analysis.

**Note:** *You could undertake a Routemap as a self-assessment. A client organisation or commissioning body could facilitate in this case. This approach would avoid costs being payable to external facilitators. However, there is a risk that those who are heavily involved in the project are less likely to be fully objective. Routemap will have more value if it is carried out as an independent assessment, facilitated by an independent individual, authority or third party, like an independent government agency or an external consultancy firm. This may involve external costs but has the advantage of being independent from start to finish.*

**Participants:** The project stakeholders who provide information, complete the assessments and attend interviews and workshops. Participants will be representatives from, or provide insight on, the sponsor, client, asset manager and market organisations, e.g. officials from the relevant organisations, delivery consultants, contractors or specialist advisors. It is useful to select participants from both leadership and operational levels as this may uncover divergent views and perspectives. It is important to ensure a gender balance, as far as possible. Participants may also be selected from organisations external to the project, e.g. regulatory agencies, trade bodies, community leaders or NGOs.

There will likely be other key stakeholders who may not participate in Routemap but are influential in incorporating its outputs into project development. It is important to identify and engage appropriately with these stakeholders.

**Subject matter experts:** Specialists like external consultants, specialist units or industry experts, who can provide relevant experience from previous projects. The subject matter experts use their expertise and knowledge to guide participants on best practice (as found in the modules), and how to incorporate this into project deliver

<sup>11</sup> See Section 2, Figure 3, for an explanation of the areas of responsibility within a project.

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## Sustainability in infrastructure

### The UN Sustainable Development Goals

The UN General Assembly adopted the Sustainable Development Goals (UN SDGs) in 2015. This focussed the international community on achieving sustainable development by 2030, and implementing the Paris Agreement, which is key to this target. The framework has 17 interdependent economic, environmental and social global goals, each of which has targets and measurement indicators.

Quality infrastructure development can have a strong impact throughout the UN SDGs. In particular:

- Goal 3 – Good Health and Wellbeing
- Goal 4 – Quality Education
- Goal 6 – Clean Water and Sanitation
- Goal 7 – Affordable and Clean Energy
- Goal 8 – Decent Work and Economic Growth
- Goal 9 – Industry, Innovation and Infrastructure
- Goal 11 – Sustainable Cities and Communities
- Goal 12 – Responsible Consumption and Production

During the design and setup of an infrastructure project, project teams should consider which of the UN SDGs are relevant to the project and which of the UN SDG targets the project could facilitate progress against. Project teams should also consider the ways in which the project could potentially work against the UN SDGs and what measures could be taken to mitigate this.

### The Paris Agreement

At the 21st meeting of the United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties in Paris in 2015, 195 parties (194 countries and the European Union) reached a landmark agreement to combat climate change. This agreement to “limit the temperature rise this century well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5°C” became known as the Paris Agreement.

The Paris Agreement requires each party to define and work towards nationally determined contributions (NDCs) which are national targets for reductions in greenhouse gas emissions. NDCs generally contain unconditional and conditional (on the provision of international climate finance) goals to reduce emissions by a certain per cent against business-as-usual activities. NDCs also include the scope of the emissions reductions target, which may be certain sectors of the economy, and the methodology used for calculating emissions.

NDCs can provide insight into a country’s climate ambitions and the sectors it is prioritising through which to achieve these goals. For example, Mexico has an unconditional target of 22% emissions reduction by 2030, and a 36% target conditional on international financial and technological support. The sectors that the NDC covers include transport, electricity generation, buildings, oil and gas and industry among others.

The UNFCCC also acknowledged the financing needs of developing countries to be able to commit to achieve emissions reductions. As a result, developed countries pledged to

provide US\$100bn a year in climate finance to developing countries for mitigation actions. This climate finance has not yet been met, so there is significant climate finance still available to developing countries to invest in projects which foster sustainable development and contribute to national emissions reductions.<sup>12</sup>

### Building on the Paris Agreement

In 2021 the COP 26 summit took place in Glasgow, UK. A new global agreement – The Glasgow Climate Pact – was reached amongst attending nations. This agreement will set the agenda for the next decade regarding reducing CO2 emissions and use of coal in order to try to keep the global temperature rises with 1.5C. The agreement pledged to significantly increase money to help poorer countries cope with the effects of climate change and make the switch to clean energy. Further pledges were made by over 100 countries relating to stopping deforestation by 2030 and to cutting methane emissions, which are also contributing to human-generated global warming.

COP27 in Sharm El Sheikh, Egypt, notably saw governments establish new funding arrangements and a dedicated Loss and Damage Fund, to assist vulnerable countries impacted by climate disasters.

### Environmental and social impacts of infrastructure projects

Wide-ranging environmental and social impacts, both positive and negative, can be derived from infrastructure projects.

Positive **environmental impacts** or benefits include:

- More energy efficient infrastructure
- Increased provision of, and access to, renewable energy
- Infrastructure development with minimised or mitigated risks and impacts to biodiversity and ecosystems
- More sustainable use of natural resources and prevention of pollution related to infrastructure development

Potential negative environmental impacts or risks include:

- Increased greenhouse gas emissions
- Destruction and degradation of natural habitats
- Introduction of invasive species
- Generation of hazardous and non-hazardous waste materials

Positive **social impacts** or benefits include:

- Increased access to affordable infrastructure, e.g. affordable housing
- Creation of revenue generation and skills development opportunities for small businesses
- Job creation that provides equal employment opportunities and improved livelihoods
- Reduction in geographic divides in quality of infrastructure and capital investment

Potential negative social impacts or risks include:

- Unethical or illegal labour practices such as child labour and modern slavery
- Poor health and safety standards
- Safety and security risks to vulnerable project affected persons

- Land acquisition and involuntary resettlement

**Responsible Investment and ESG criteria**

As the world has realised the positive and negative impacts that infrastructure projects can have, financial institutions that fund them have turned their attention to assuring that their investments make a positive impact.

In 2017, the UN Environment Programme Finance Initiative released the Principles for Positive Impact Finance, a framework to help the financial sector assess its contribution to the achievement of the UN SDGs. The principles recognise that today’s financial institutions not only manage their portfolios’ environmental and social risks, but also actively seek to make a positive impact on the economy, society and the environment through their financing/investment activities. The principles are:

1. Define positive impact finance
2. Ask institutions to identify the positive impact of their financing/investment activities and implement processes to monitor the achievement of intended impacts, and
3. Ask institutions to disclose their positive impact financing/investment activities, along with the methodologies used to determine these.

Responsible investors frequently use Environmental and Social Governance (ESG) criteria to ensure project requirements are prioritised throughout the project lifecycle, evaluate investment opportunities and also to influence corporate decisions as shareholders.

ESG criteria not only cover how a project will deliver economic, environmental and social value, but also include requirements relating to robust governance and transparent reporting on these topics. Together, these give investors the confidence and assurance that value is maximised and risk/harm minimised.

More information on sustainable infrastructure development can be found in Appendix E and throughout the Routemap handbook and modules.

<sup>12</sup> Further information on sources of climate finance can be found in the following resource: Act Alliance. (2018). A Resource Guide to Climate Finance: An orientation to sources of funds for climate change programmes and action. Available from: <https://reliefweb.int/report/world/resource-guide-climate-finance-orientation-sources-funds-climate-change-programmes-and>

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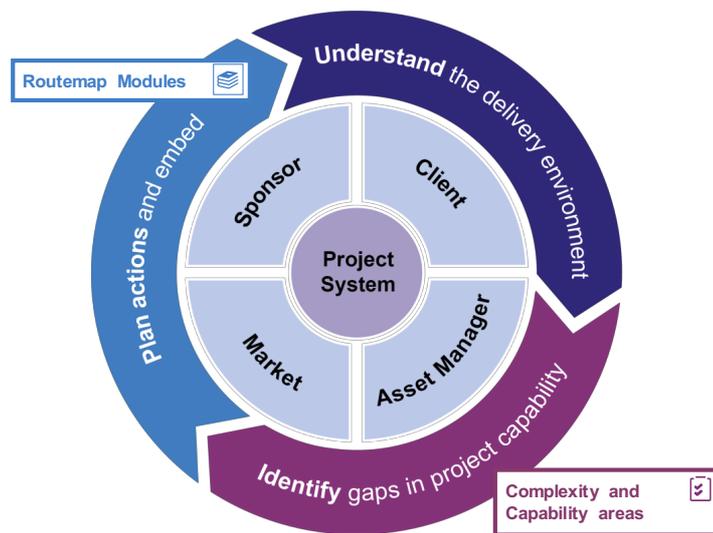
## 2. The Project Development Routemap Methodology

The Routemap methodology includes tools and good practice to improve the development and delivery of infrastructure projects. Here is an overview of these tools and practices.

Figure 2: Routemap overview

Routemap is a structured and collaborative process to help you:

- Assess the complexity of the project's wider delivery environment/context.
- Assess the capability of the project sponsor, client, asset manager and market to execute their roles effectively.
- Understand the challenges and identify any gaps in the capability which is required to deliver successfully (the complexity-capability gap).
- Apply best practice to develop recommendations, and plan actions to close the capability gaps.



Here, we explain the core tools and good practice of the Routemap methodology:

- the **complexity assessment** – to understand the project’s wider delivery context
- the **capability assessments** – to evaluate the roles of the project sponsor, client, asset manager and market (more details in Section 3 and Appendix A)
- the Routemap **modules** – technical guidance which can support you throughout the Routemap application, and action planning in particular (see Appendix D, and the module documents which accompany this handbook)

These core components come together in a 10-step process, detailed in Section 3. Following this will help you to set up Routemap, diagnose the gaps in capability, and plan actions to close these gaps.

### Routemap assessments

Routemap has two key assessment tools. The *complexity assessment* helps you to judge the complexity and strategic risk of a project, and the *capability assessments* to review the capability of key areas of responsibility involved in developing and delivering it. These assessments identify gaps in delivery capability and opportunities to use good practice to maximise value for money,<sup>13</sup> social and environmental impact.

You can find the full assessments in Appendix A, we have summarised them here. We provide guidance on how to complete the assessments in **Step 5, Information gathering**.

### Complexity assessment<sup>14</sup>

The complexity assessment builds an overall picture or *profile* of the challenges and strategic risks to the delivery of an infrastructure project. It helps you to understand the impact of wider factors on the project, e.g. the political, environmental and social context in which the project is to be delivered. It does not assess the project’s technical complexity in detail.

Understanding the complexity of the project’s wider context is especially important where it is new, on a larger scale, or being delivered differently to previous projects.

The complexity assessment considers 13 factors, each of which can impact the successful delivery of a project. Evidence has shown these to be recurring predictors of delivery success. Participants will review the project against each factor and decide if the potential impact of each factor is low, medium or high.

<sup>13</sup> Focussing on value for money considerations helps to develop better understanding (and better articulation) of costs and results. DFID’s ‘4E’ value for money framework includes equity and sustainability considerations to support more informed, evidence-based choices. <https://www.gov.uk/government/publications/dfids-approach-to-value-for-money-vfm>

<sup>14</sup> The complexity assessment is based on the UK National Audit Office (NAO) Delivery Environment Complexity Analytic (DECA). <https://www.nao.org.uk/report/deca-understanding-challenges-delivering-project-objectives/>. This has been adapted for international use, and now includes an additional factor (business environment).

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**Complexity factors** 

- 1 **Strategic importance:** Does the project support national or regional policy, strategy and plans, including UN Sustainable Development Goals and nationally determined contributions to the Paris Agreement?
- 2 **Stakeholders:** What is the nature of the groups or individuals with an interest in the project?
- 3 **Requirements and benefits:** Is it clear between the sponsor and client what is to be delivered (including environmental and social requirements) and how this will lead to meeting the strategic objectives?
- 4 **Stability of overall context:** Will the scope, structure and political economy remain stable during project development?
- 5 **Financial impact and value for money:** How financially significant is the investment for the organisations involved, and are the expected benefits proportional to the projected costs?
- 6 **Execution complexity** (including technology): How difficult is the project to deliver due to factors that include: technology, approach and timescales?
- 7 **Interfaces:** Is there a high number of different organisations/bodies involved in delivery?
- 8 **Range of disciplines and skills:** To what extent are specialist skills required for delivery, and are they available within the organisation? These might include technical modelling, social development, environmental and/or communication skills.
- 9 **Dependencies:** Is the project critical to the delivery of other projects, programmes or areas of work, or dependent upon other projects for its own success?
- 10 **Extent of change:** Does the project involve a significant change in the way the organisation conducts its work, or is it business as usual?
- 11 **Organisational capability: performance to date:** Do the organisations involved in delivery of the project have successful track records?
- 12 **Business environment:** Is the national/regional business environment conducive to achieving successful project outcomes and value for money?
- 13 **Interconnectedness:** How well do the organisations involved understand the links and connections between the complexity factors above?

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**Example: Using the complexity assessment**

**The project**

Network Rail is the public body that owns and manages rail infrastructure in the UK. The European Train Control System (ETCS) programme planned to upgrade the existing rail trackside signalling system to an in-cab signalling system.

**How the Routemap helped project development**

The ETCS Programme team completed the complexity assessment. All the complexity factors were rated either *high* or *medium-high*, so they agreed the overall complexity profile was **high**.

**The results**

This complexity assessment enabled the team to fully understand the risks involved in delivering a programme of this magnitude. This helped identify actions to reduce complexity, e.g. reducing dependencies or improving stability through political/funding commitment.<sup>15</sup>

Table 1: Sample complexity assessment output

Complexity Factor	Rating L/M/H
Strategic importance	H
Stakeholders/Influencers	H
Requirements and benefit articulation	M/H
Stability of overall context	H
Financial impact and value for money	H
Execution complexity (including technology)	H
Interfaces/relationships	H
Range of disciplines and skills	H
Dependencies	M/H
Extent of change	H
Organisational capability: performance to date	M/H
Interconnectedness	H

<sup>15</sup> The ETCS programme Routemap used the NAO’s Delivery Environment Complexity Analytic (DECA), which has since been adapted for this guidance document. The DECA does not include the ‘Business Environment’ factor.

## Capability assessments

You need to clearly understand the capabilities of the parties involved in delivering a project. This is to confirm they have (or will have) the capabilities they need. Assessing the difference between the current and needed capabilities helps you to understand the project's **capability gap**. The capability gap can show you where additional activity or effort could improve project development.

Routemap assesses organisational capability<sup>16</sup> across four areas of responsibility: **sponsor, client, asset manager and market**. Organisational capability refers to organisations (or parts of organisations) involved with the project and not individuals, as most barriers to effective practice are rooted in systemic issues and not individual action.

Each capability assessment details the characteristics of the current and required capability relating to the project, including capabilities to manage environmental and social risks, and to mainstream gender considerations.

The assessments are specific to the project to which Routemap is being applied, and not representative of overall organisational maturity.

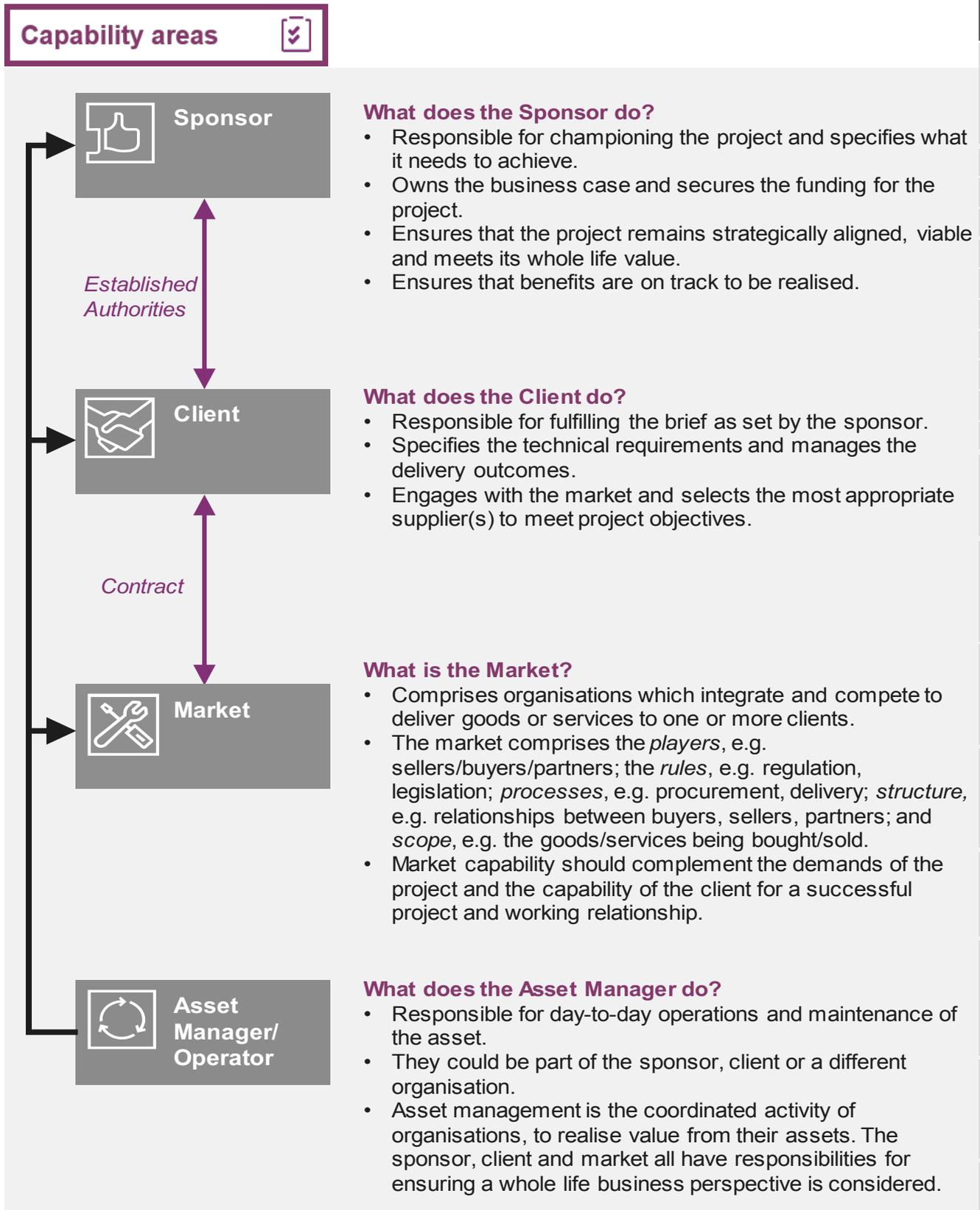
The characteristics are grouped into three sets:

- **Type 1 characteristics (limiting)** – hold an organisation back, regardless of other good practice. You must either address them, or allow them to continue understanding the possible consequences
- **Type 2 characteristics (adequate)** – found in organisations that are performing acceptably. The organisational arrangements may be in place but not fully optimised
- **Type 3 characteristics (optimised)** – indicative of an effective and efficient organisation, optimised for delivery of the project. Not all projects will require these characteristics to be successful.

*Note: These three sets of characteristics are not a progressive scale; an organisation can demonstrate some characteristics of all three sets, at the same time.*

<sup>16</sup> Organisational capability is an organisation's ability to manage and focus resources, such as employees, processes, and assets effectively, to deliver and realise its objectives.

Figure 3 – Areas of Responsibility



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## What do the capability assessments achieve?

### Sponsor capability assessment

This helps you to understand what capability the sponsor requires during the investment and delivery planning process, to keep the project viable and aligned with wider strategic objectives.

The *types* of characteristics in this assessment reflect different capability levels in sponsor organisations:

**Type 1 (limiting):** Sponsor provides insufficient direction and strategic guidance. The ownership of benefits is fragmented and subject to conflicting sponsor/client priorities. They have immature processes and systems.

**Type 2 (adequate):** Sponsor provides direction and policy guidance. They demonstrate active stakeholder management. Sponsor informs and works with the client to manage strategic risks.

**Type 3 (optimised):** Sponsor invests in strategic planning and has assured governance structures and processes. Sponsor undertakes structured evaluation of requirements and sets demanding but realistic efficiency targets. They actively seek out best practice and incorporate it into their policy/strategy

### Client capability assessment

This investigates the client organisation's ability to engage effectively with a supply chain and to manage the delivery outcomes for potential delivery models.

The *types* of characteristics in this assessment reflect different capability levels in client organisations:

**Type 1 (limiting):** The delivery environment is not stable. The client has an unrealistic or no formal plan, with immature processes and systems. There is no evaluation of impact or performance.

**Type 2 (adequate):** Client is organised and coherent. They provide direction and policy guidance. Client has a repeatable methodology and evaluation but is focused on objectives rather than outcomes. Processes are evaluated but not improved

**Type 3 (optimised):** Client is capable of specifying the requirements to external participants and managing the delivery outcomes. They achieve maximum value from the supply chain through relationship management. They are adaptive and operate a sustained system, focused on learning and continuous improvement.

### Asset Manager capability assessment

This shows the key requirements and constraints for operating and maintaining the asset. It also assesses if the sponsor and client organisations are able to undertake their responsibilities relating to asset management.

The *types* of characteristics in this assessment reflect different capability levels in asset management:

**Type 1 (limiting):** The ownership of assets is fragmented and subject to conflicting sponsor/client priorities, with immature processes and systems. There is no link to strategic goals.

**Type 2 (adequate):** There is a clear link to strategic goals and policy. There is a clear responsibility for assets and management of strategic risks.

**Type 3 (optimised):** There is an investment in strategic planning. Asset management includes assured governance structures and processes. There is a structured evaluation of asset performance and demanding but realistic efficiency targets are set. Best practice is incorporated into policy/strategy.

### Market capability assessment

This examines the broader market's ability and appetite to respond to requirements over the life of the infrastructure, including support from consultants, delivery partners, contractors and suppliers.

The *types* of characteristics in this assessment reflect different capability levels in the market:

**Type 1 (limiting):** The market has insufficient capacity or capability to meet the project's needs or has instabilities that are likely to be detrimental to the project's success.

**Type 2 (adequate):** The market has sufficient capacity and capability to support the project's needs or has viable plans to enhance any shortfall.

**Type 3 (optimised):** The market is mature and innovative. It is likely to deliver efficiencies in addition to meeting the project's needs.

## Example: Illustrative programme structure

### The project

Here is an example of a project organisation structure, from a UK Department for International Development (DFID)<sup>17</sup> programme in Sierra Leone: Improving access to safe water in Freetown.

The Freetown water supply was in a critical situation. It relied principally on a single source, the Guma Dam. Over 90% of the total water supply to Freetown came from the Guma Dam and the Guma Water Treatment Plant. The Guma Dam was built in the early 1960s to provide water to around 800,000 people. The population of Freetown was now significantly bigger than this, at almost 2 million. This inadequate municipal water supply forced the population to seek water from other sources, which seriously increased the risk of disease and other hazards to health.

DFID designed this programme to improve the living situation for the citizens of Freetown, through improving the water infrastructure and so improving public service delivery of water.

### Sponsor

DFID was the contracting authority. They owned the business case and secured the funding. They were responsible for ensuring the project was strategically aligned and would meet its whole life value.

### Client

Government of Sierra Leone (GoSL), specifically the Ministry of Water Resources and the Guma Valley Water Company (GVWC) managed the delivery outcomes of the Freetown Water Supply Rehabilitation project. They were responsible for the collection, treatment and distribution of water across Freetown.

### Asset manager

The Guma Valley Water Company was responsible for the day-to-day operations and maintenance of the asset, after construction.

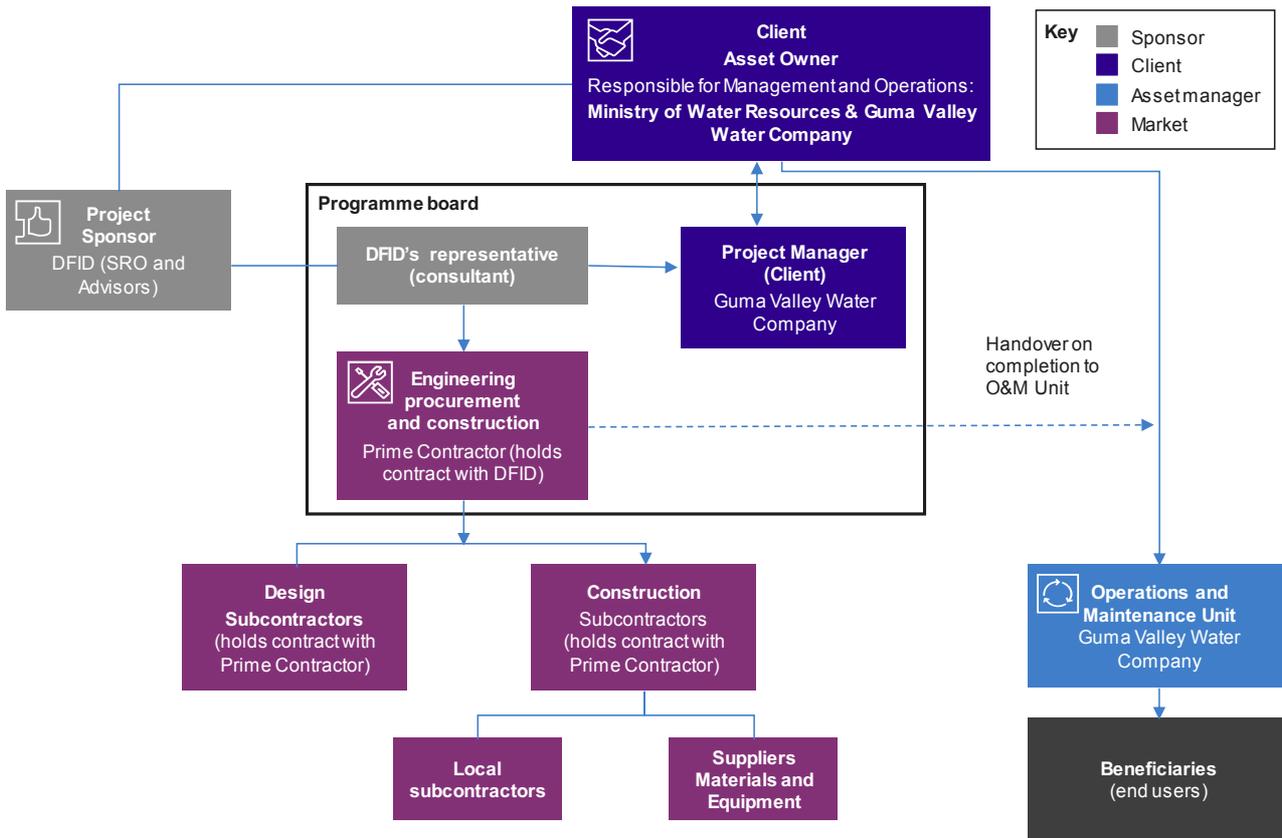
### Market

The market was made up of sellers, e.g. the prime contractor, the subcontractors and suppliers for materials; the buyers, e.g. GoSL; and the rules, processes and structures that shaped how these players interacted.

The diagram in Figure 4 shows the programme governance. DFID awarded one main contract to the prime contractor. The prime contractor coordinated and worked with multiple subcontractors which provided different aspects of the infrastructure development, i.e. design and build. Note that this was an unusual procurement arrangement with DFID as the contracting agency. DFID took this approach to provide a rapid response as part of the President's post-Ebola economic recovery programme.

<sup>17</sup> DFID is now part of the UK Foreign, Commonwealth and Development Office

Figure 4: Illustrative programme structure



**Example: Using the capability assessments**

**The project**

Transport for London (TfL) is a local government body responsible for the transport network in London.

TfL designed the Stations Stabilisation Programme (SSP) to bring 70 underground stations up to a modern standard, improving customer journeys and ensuring fewer station closures whilst they made the improvements. The programme was a key component in London Underground’s plan to deliver reliability and efficiency by maximising productivity, reducing defects and creating efficiencies in the supply chain.

**How Routemap improved project development**

The SSP had to deliver significant efficiency savings. It planned to do this by applying a new client model for construction management. Routemap enabled the programme team to consider the current and required capability, to adopt the new client model and to engage the supply chain differently. Routemap also highlighted the potential risks if TFL did not allow enough time to properly implement and embed the new model into its ways of working.

**The results**

Routemap provided confidence in the new client model but identified that the programme team needed to plan further for the transition to the new approach. This included changes to the number and type of resources required and also adjustments to the governance arrangements. Although this would impact delivery timescales, upfront investment in building capability would allow the programme to realise its full value in the later stages.

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## Routemap Modules



The Routemap modules provide practical advice to help set up projects for success. They highlight good practice; lessons learned and advice to identify and address gaps in capability; and support action planning in eight commonly challenging areas.

The modules contain prompting questions (referred to as considerations). The considerations are grouped beneath pillars which summarise the principles of good practice for that particular module. The considerations help you understand the root causes of capability gaps and suggest improvements. You may not need to review all the considerations, just use the most relevant ones for your project. The modules also contain real life case studies, useful models and suggested further reading.

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. The Routemap modules are:

- **Rationale:** Describing the expected benefits from the project, how these are managed to achieve a successful outcome, and aligning the project with policy and organisational objectives.
- **Governance:** Using authority and accountability so you can make key decisions with confidence throughout the project, aligning project objectives with corporate strategy, and disclosing information through reporting and assurance. This module includes an illustration of the relationship between the target operating model, the delivery model, the client model and the procurement model.
- **Systems Integration:** Making multiple systems work as one, focusing on the interactions between new and pre-existing natural, built and digital systems, and the critical role of people in making these interactions work.<sup>18</sup>
- **Execution Strategy:** Setting up the project and defining the processes to realise the benefits, fulfil the requirements, adhere to governance needs, manage risk, and set delivery strategy.
- **Organisational Design & Development:** Improving the organisational design so it works for the current state and can transition to meet future needs. This includes determining the boundaries for in-house and external resource provision.
- **Procurement:** Engaging the market, determining the risk allocation between the client and the supply chain, managing work packages, and identifying the procurement route and form of contract.
- **Risk Management:** Identifying, evaluating and managing factors that could reduce or increase the likelihood of achieving the project and its benefits.
- **Asset Management:** Ensuring that the project not only delivers working assets at handover into operations, but also sustainable, longer term benefits and managed asset risks through the life of those assets.

<sup>18</sup> The Systems Integration module has been designed for UK audiences, but we have included it in this suite of materials due to its relevance for international infrastructure development.

You will produce a great deal of information through the Routemap process. You may find it useful to organise this by the module themes, as you will need to revisit the information repeatedly throughout the process.

**Example: Using the Routemap modules**

**The project**  
 Sydney Water is Australia’s largest water and wastewater service provider, covering an area of over 12,000 square km. Through the Partnering for Success (P4S) initiative, it designed a new delivery model for planning, design, construction, maintenance and asset management services for a \$10bn programme over 10 years.

**How Routemap improved project development**  
 Through P4S, Sydney Water identified an opportunity to drive efficiency, innovation and increase value through a new procurement method and contracting approach. It used the pillars of the *characteristics of good procurement* (in the Routemap Procurement module) to develop this new approach. Sydney Water was able to establish a clear view for the future state that would best deliver the programme objectives and sponsor requirements, whilst incorporating global industry best practice. It also used the *considerations for good procurement* (in the Routemap Procurement module) to identify actions that were required to successfully develop and implement the new P4S model.

**The results**  
 The Routemap modules helped Sydney Water design a new delivery model that aligns governance frameworks and delivery strategies, to simplify the supply chain, drive better outcomes for customers and optimise value. Through following Routemap, Sydney Water was able to manage the complexity of the P4S programme and develop a robust delivery model that adequately considers the challenges and risks of the programme through to delivery.

**The 10-step process**

The core components outlined in this section come together in a 10-step process, detailed in Section 3, which describes how to set up the Routemap, diagnose the gaps in capability and plan actions to close the gaps.



In **Setup**, these steps help you decide if you need to apply Routemap for the project, and if so, how best to plan it.

In **Diagnosis**, the Routemap Lead will collect information from the participants, using the two assessment tools. They will analyse this information in a structured way, to diagnose any issues with the project and seek agreement on these findings from project stakeholders.

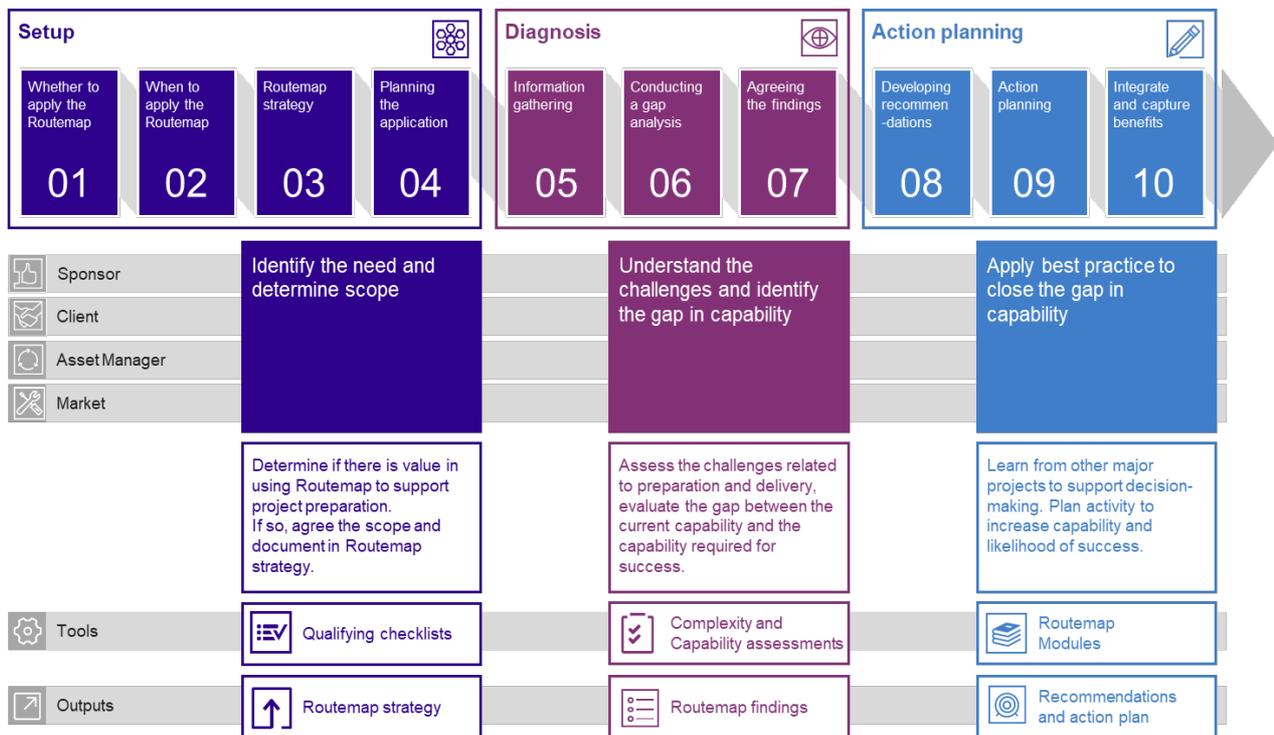
In **Action Planning**, participants will design actions to overcome the issues. In the final steps, the Routemap Lead will develop a plan to implement these actions, and then integrate this plan into existing project processes.

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# 3. Applying the Project Development Routemap – The 10-Step Process

Here, we take you through the tasks and activities in the 10-step process, so you can apply the Routemap methodology to your own project. This section provides a structured way of planning and undertaking the Routemap, so it will be most useful for Routemap Leads.

Figure 5: Routemap 10-step process



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### Taking a flexible approach

The 10-Step process is flexible and you can apply it in different ways. When first applying Routemap to a project, you may find it helpful to follow the full 10-step process. Once you become more experienced in Routemap, and understand how the tools and practices fit together, you may wish to target the specific elements of the methodology that you think will be most useful. Three ways in which you can apply Routemap are:

- **Full project review** – this is especially beneficial for novel and complex projects in early stages of development. It is the best way to get a comprehensive understanding of the most important capabilities needed for your project to succeed
- **Modular deep dive** - applying Routemap in a targeted way, to enhance capability in a specific area of the project, such as governance. Undertaking this approach requires you to already have a clear idea of the particular area of capability requiring enhancement
- **Tracking project capability** - using the Routemap assessments periodically, to track maturity of the project capability and the complexity of the delivery environment

### Timescales

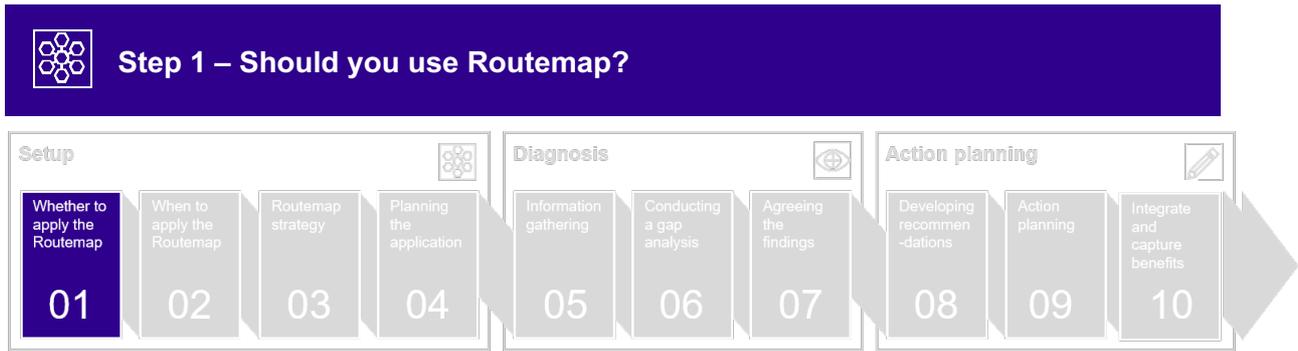
The time and effort required to complete a Routemap will depend on:

- The project’s characteristics
- The amount of project information to be reviewed
- The number of stakeholders to be engaged
- The nature of the findings
- How many improvement opportunities you identify, and how complex they are

When running Routemap, you should allow enough time so you can deliver a robust and comprehensive assessment, without imposing artificial deadlines. Often, the most difficult aspect of delivering Routemap is securing the time of the participants. For this reason, the full Routemap process can take anywhere between two weeks (particularly if you choose to facilitate participant input mainly through workshops) and a few months. Undertaking a modular deep dive or tracking project capability will likely take less time.

See Step 3 and Step 4 for more support on planning your Routemap application.

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**Overview of Step 1**

**Aim:** To determine which projects might benefit from Routemap

**Key roles:** The Routemap Lead and the Commissioning Body

**Inputs:** Use the *Qualifying checklists* to understand the value in using Routemap for the project

**Output:** A decision on whether to proceed with Routemap and continue to Step 2

All project teams can benefit from applying the Routemap, but it is important to think about how complex the project is, and its scale, before you go ahead. These checklist questions help you to identify which projects would benefit most from the Routemap process.

Answer the questions in the *Qualifying checklist 1*. If any answer is ‘yes’, proceed to *Qualifying checklist 2*. If all the answers are ‘no’ in that list, applying the Routemap principles and tools could still be helpful to this project, but may not be the best use of resource at this time.

*Qualifying checklist 2* signals areas which need development or may pose a risk to successful delivery. If any answer is ‘yes’, go to Step 2. If all answers are ‘no’, applying the Routemap principles and tools could still be helpful to this project, but may not be the best use of resource at this time.

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Figure 6 Qualifying checklists

**Qualifying Checklist 1 – is investment in a Routemap good value?**

Tick 'YES' to any to proceed:

- Is the project delivering something new or on a larger scale than those *routinely* undertaken by the organisations involved in planning, preparation and/or delivery?
- Does project planning, preparation and/or delivery require the organisations involved to do something different or differently?
- Have the organisations involved (including in the supply chain or market) historically failed to deliver the expected outcomes on projects that they have planned, prepared and delivered? Have they overrun on time or cost?
- Has there been a substantial change to the project during its lifecycle, e.g. has it been reset?
- Are critical aspects of the business case undecided?

**Qualifying Checklist 2 – are there areas that the Routemap can support?**

Tick 'YES' to any to proceed:

- Is the purpose of the project and what it needs to deliver unclear, or not agreed?
- Will the project have wide-ranging positive or negative economic and/or social and/or environmental impact?
- Are critical aspects of funding, governance, requirements or procurement undecided?
- Are there known areas of misalignment between key project stakeholders, e.g. a difference in views regarding delivery strategy?
- Does the project require significant resources or capability development? This includes management capability.
- Is affordability or achieving value for money a concern?
- Is the market capacity and/or appetite unproven?
- Will the project require a large labour force influx for the construction phase?<sup>19</sup>
- Will the project require land acquisition, or any resettlement or relocation of local communities?
- Are there communities, including indigenous people, in the project's areas of operation? This includes key access and transportation routes to/from the project site.

<sup>19</sup> This can often come with significant safeguarding risks and is linked to the social risks component of the IFC performance standards. Please see Appendix E for further details.

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**Overview of Step 2**

**Aim:** To determine when will be the best point in project development to implement Routemap

**Key roles:** Routemap Lead and Commissioning Body

**Output:** A decision on when to apply Routemap

The Routemap is most effective at driving positive change in the early stages of project development, where the ability to influence project success is greatest and the cost of making changes is lowest. This is equally applicable to economic, political, financial, environmental, social and technological considerations. However, it can also be applied at later stages, as this step outlines.

The Commissioning Body and Routemap Lead need to agree the timing and secure the necessary resources for the exercise.

This table will help you decide when you could usefully implement Routemap within the wider infrastructure project development, delivery and approvals cycle of a business case. You can find further detail on Routemap’s alignment with the 5 Case Model in the *Infrastructure Business Case: International Guidance (2020)* in Appendix F.

Table 2: Deciding when to use Routemap

Stage	When to use the Routemap
Early Business Case development – understanding the implications of key strategic decisions	<p>If you apply Routemap in early business case development, you can influence key strategic decisions, explore options and test how achievable your goals are. But you may not have all your key stakeholders in place at this point.</p> <p><b>Project example</b></p> <p><b>Situation:</b> The UK’s Environment Agency (EA) is a public body responsible for protecting and improving the national environment. It is committed to reducing the risk of flooding and coastal erosion and is investing £2.6bn in a programme of work.</p> <p><b>Task:</b> It was considering a different commercial and procurement approach for its flood defence investment programme.</p> <p><b>Action:</b> The EA used Routemap at an early stage. It benefitted from applying the process to build evidence to support its preferred approach.</p>

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Stage	When to use the Routemap
	<p><b>Result:</b> The EA informed its commercial and procurement strategy for the programme using Routemap. It helped to assure that the team was pursuing the right solution, before going for approval. In conjunction with this, the Routemap generated action plans for the development of organisational capability to apply the new approach.</p>
<p>Intermediate Business Case development – evaluating options and preparing to proceed to procurement</p>	<p>If you apply Routemap during intermediate business case development, it can focus a discussion on project implementation, and give confidence that the project is ready to proceed to procurement.</p> <p><b>Project example</b></p> <p><b>Situation:</b> Transport for London’s <i>Station’s Stabilisation Programme</i> aimed to improve its assets, based on their ‘Fair for 10 years’ asset management strategy.</p> <p><b>Task:</b> The strategy involved refurbishing a series of stations to improve customer experience, using a new client model.</p> <p><b>Action:</b> Using Routemap allowed the programme to better understand the capability required to engage with their supply chain in a different way. It also highlighted the potential risks if TFL did not allow enough time to properly implement and embed the new client model into its ways of working.</p> <p><b>Result:</b> Routemap provided confidence that the new client model was fit for purpose. It demonstrated how the supply chain would need to align with their strategy, highlighted opportunities to improve programme governance and the number and type of resources that would be needed for the new client model.</p>
<p>Full Business Case development – readiness to sign the contract</p>	<p>Applying the Routemap methodology later in project development helps inform the market engagement and the supplier/partner selection and contracting process. But it gives you less ability to influence strategic outcomes.</p> <p><b>Project example</b></p> <p><b>Situation:</b> Anglian Water is the private sector-regulated supplier of water and wastewater services in the East of England. It serves six million industrial, commercial and domestic customers.</p> <p><b>Task:</b> In planning for the re-procurement of their strategic alliance, Anglian Water sought greater alignment and integration between the business and its supply chain.</p> <p><b>Action:</b> Anglian Water used Routemap to support preparation for the next programme of work with the alliance. As part of the action planning phase, the project team mapped the entire supply chain from strategic subcontractor to equipment suppliers. This highlighted the different capabilities needed to deliver the new ways of working and included capabilities outside the traditional water industry supply chain.</p> <p><b>Result:</b> Routemap resulted in a procurement programme that could assess and develop cross-market capability and introduce new supply</p>

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Stage	When to use the Routemap
	<p>chain partners more easily. Routemap helped the stakeholders to identify appropriate commercial models for each part of the supply chain and laid foundations for better collaboration and incentivised contracts.</p>

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## Step 3 – Develop the Routemap Strategy



### Overview of Step 3

**Aim:** To develop the Routemap strategy scope and approach.

**Key roles:** Routemap Lead and Routemap Support liaising, with key stakeholders including participants. Commissioning Body for approval.

**Input:** Work through section one of the *Routemap Report template* to determine the scope of the Routemap, who will be involved, how and when.

**Output:** An approved Routemap strategy, documented in the *Routemap Report template*.

Routemap is flexible. It can be scaled to fit the challenges and specific needs of the project, programme or portfolio. For example, you could look at related projects within a portfolio to identify strategic capability gaps, a project in its entirety or just at a specific procurement within a project or programme.

Building on **Steps 1 and 2**, the Routemap strategy sets out:

- **What** it will be applied to, and **why**, i.e. the scope
- **Who** needs to be involved
- **How** it will be applied

All relevant stakeholders should be involved in developing the strategy so that they can explain the process to their respective organisation(s). They also need to appreciate why and how Routemap will be applied, including resource requirements, timescales and work involved.

The Routemap Lead may wish to review the *characteristics of good practice* in the **modules** while drafting the scope. This will help to build an understanding of what good practice looks like and identify potential gaps in capability, which can be explored through the areas of interest.

The ***Routemap Report template*** in Appendix B helps you document each output produced from **Step 3** onwards. Section 1 of the *Routemap Report Template* documents the Routemap strategy:

- **What and why – scope of the Routemap**

The ‘scope’ should set the boundaries of the Routemap exercise and confirm why it is necessary and what it will achieve. The responses to the qualifying checklists (**Step 1**) will help with documenting the *why*.

The scope should also set out the particular ‘areas of interest’. These are both opportunities and concerns, which will be explored throughout the Routemap application. The areas of interest should be developed through conversations with key stakeholders and a review of key project documents. A list of useful documents to review is set out here.

### Useful documents – document review

Here are some examples of key project information that your Routemap team could consider when defining Routemap’s areas of interest. Reviewing these will help you to identify specific improvement opportunities and potential concerns.

- Business case (if a business case is being or has been prepared)
- Project specification
- Project requirements
- Project delivery plan
- Vision, objectives and targets
- Risk register and/or strategy
- Organisation chart
- Procurement strategy
- Project timescales/project plan/programme
- Project cost estimates
- Financial feasibility study
- Technical feasibility study
- Environmental and social studies and documentation related to environmental permissions/permits/authorisations, e.g. Environmental and Social Impact Assessment (ESIA), Environmental and Social Management Plan (ESMP), Gender Assessments and Action Plans
- Wider strategic programme plan – business or government
- Any lessons learned or other reports

You can find additional examples and recommendations of the types of documents to review, per module area, in Appendix D and the *useful documents* section in the **modules**

The Routemap Lead and Commissioning Body should consider how much time and what resources are available, and so be realistic about the scope of the Routemap exercise. They may prefer to prioritise one or two key areas for the project; or take a broader (but less detailed) view of the project by looking at five or six areas.

### An example scope statement

“Routemap will cover the activities required to deliver the objectives of PROJECT A. This includes developing and constructing PROJECT A and its dependencies with PROJECT B. Routemap does not include considerations related to the national strategy for PROGRAMME C.”

### Example areas of interest

**Rationale:** Routemap will confirm whether there is a common understanding of the purpose of the project and how the project requirements align with wider priorities, value for money and environmental and social considerations.

**Frameworks to support the execution strategy:** Routemap will explore how achievable the delivery of this project is and will take legislative considerations into account.

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**Governance:** Routemap will test the boundaries of in-house and external resources. It will test how clear the roles, responsibilities and delegated authorities are, as well as the decision-making processes, and how capability will be assessed and assured. Routemap will test how information flows from Project B to Project A, and how the dependencies are managed.

**Risk management:** Routemap will explore the risk management approach and how risk is identified, valued and mitigated across the organisations.

**Asset management and operations:** Routemap will help with contract monitoring arrangements and determine how the project works with the contractor, including any escalation process.

**Financing and procurement:** Routemap will consider the funding mechanism and the structure of the work packages.

Once it has been drafted and approved by the Commissioning Body, the scope should be shared with relevant stakeholders. In particular those who will participate directly in Routemap (see below).

- **Who – Participants**

The Routemap scope informs who should be involved in the Routemap. The key areas of responsibility for the project (from which participants should be drawn) are the sponsor, the client, the asset manager, and market representatives (if appropriate). *Refer to Section 1 for role descriptions.*

You should also consider any other relevant participants – it is good to involve a range of perspectives, both at the strategic and working level. These could include the specialist organisations involved in the options analysis for the business case’s *Economic case*,<sup>20</sup> e.g. technical consultants, environmental and social impact advisors, gender mainstreaming advisors and representatives from regulatory bodies. You should be conscious of potential sensitivities relating to the participants, and so the list of participants should be approved by the Commissioning Body.

- **How – Routemap techniques**

To undertake Routemap, you need to engage participants so you can collect information about the complexity of the delivery environment and capabilities of key project organisations. Participants will also need to agree what actions are required to address the issues and opportunities that will be identified in the findings (**Step 7**). You should document the techniques for engaging with participants.

**Assessments and information gathering (Step 5)**

Participants need to complete the **Routemap assessments** in Appendix A, as a minimum. The Routemap strategy outlines how to complete the assessments, and how you will gather any additional information, to better understand stakeholder perspectives. The Assessments can either be completed:

- Individually by each participant (and collated by the Routemap Lead)
- At a workshop

<sup>20</sup> The options analysis is a core part of the *5 Case Model* approach to developing business cases. Full details of this are in the *Infrastructure Business Case: International Guidance (2020)*. You can also find an applied example in the Appendix F.

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In addition to the assessments, gathering further information as part of **Step 5** will help you understand more about potential areas for improvement. **Interviews** are a useful way to help identify areas of consistency and misalignment. You can do these with a selection of participants.

## Interviews

If you conduct interviews with participants, you can explore their responses to the Routemap assessments in more detail and get in-depth views on risks and opportunities related to the project development. Through the interviews you can identify similarities and discrepancies between perspectives, and gain insight into potential challenges that may arise in delivery.

When you are selecting participants for interview, you should include people from a range of stakeholder groups. Participants from the sponsor, client, asset manager and market organisations (or those responsible for developing the requirements to be procured) should be interviewed. To gain insights into environmental and social issues that may affect project development, they should also be conducted with the relevant experts from the organisations.

If you have time and resources, it is useful to interview more than one person from each organisation, e.g. someone in leadership and someone operational. This can uncover divergent views and perspectives, e.g. the strategic concept may be very different to what is actually being implemented. It is also important to ensure that there is an equal gender balance amongst those being interviewed, as far as possible.

You should consider including civil society and others representing environmental and social interests. These may include NGOs and/or civil society groups, community leaders, women's organisations or disabled peoples' organisations. These organisations could be local to the project, or national bodies. Canvassing these perspectives early on will ensure that accurate perspectives of those potentially impacted by the project are understood, as well as any opportunities or challenges for project development.

Each Routemap participant should preferably be interviewed alone, and in a language he or she feels comfortable expressing themselves in, to encourage an open and honest discussion. It is important to build a welcoming and trusting interview environment to enable this. With permission of those being interviewed, you may make an audio recording of these, to ensure you are able to capture comments correctly. Any recordings should be treated confidentially. If you include quotes in your reporting, these should be anonymised and unattributable to the interviewee.

You should always adhere to the principle of Free, Prior and Informed Consent (FPIC) when conducting dialogue with stakeholders and affected parties from indigenous populations. This principle aims to ensure that indigenous peoples' rights are respected in project design and implementation. The principle requires thorough consultation with indigenous people prior to implementation, and their participation in the decision-making process.<sup>21</sup> This is based on United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), and the Convention on Biological Diversity and the International Labour Organization Convention 169. Again, any recordings must be subject to consent and treated confidentially.

<sup>21</sup> The Food and Agricultural Organisation has developed a manual for project practitioners on FPIC which is available here: <http://www.fao.org/3/a-i6190e.pdf>

If you intend to interview your participants individually, then they should complete their assessment forms beforehand, so you can analyse the responses and then explore them in more detail during the interview. If you intend to complete the assessments through workshops, you should interview some of the key participants beforehand, so that the Routemap Lead and Routemap Support have relevant context to facilitate group discussions.

### Agreeing findings, recommendations and action planning (Steps 7, 8 and 9)

Once you have captured the **findings (Step 7)** then the participants should work together to agree capability gaps and develop recommendations to address them (**Step 8**), and plan the improvement actions (**Step 9**). Workshops are an ideal way to do this.

#### Workshops

Running workshops can be an effective way to build consensus, reach a balanced view on how an organisation operates and shorten the Routemap timescale.

You can use half-day, one-day or two-day workshops throughout the Routemap process:

- To collectively undertake the Routemap Assessments ([Step 5 – information gathering](#))
- To agree the findings ([Step 7 – agree the findings](#))
- To develop recommendations ([Step 8 – develop recommendations](#))
- To plan actions ([Step 9 – action planning](#))

It may be helpful to divide the participants into groups, e.g. representing the views or requirements of the sponsor, client, asset manager and market; or the area to be discussed e.g. governance, procurement etc. It is better to have more than one person from each organisation in each group, e.g. someone in leadership and someone operational. This will help recommendations or proposed actions flow from strategy into practice. Try to gender-balance each group if possible, and include at least one environmental and social specialist, or someone who has been briefed on these issues ahead of the workshop, to ensure a comprehensive range of information is considered.

The Routemap Lead should consider these things to help select the right techniques:

- How much time and resource it requires
- The level of input required from participants to fulfil the aims and purpose of the Routemap
- If participants are comfortable sharing their opinions in a group with others that may challenge their views, or with senior people present. Would they prefer to perform tasks separately, e.g. completing the assessments on their own?

#### Timescales

The duration of the Routemap depends on participant availability, the techniques you are using, logistics, and upcoming project milestones. For this reason, the full Routemap process can take anywhere between two weeks and a few months.

Agreeing outline timescales for activities and communicating those with the participants in advance means they will understand what to expect, and when they will need to engage. Deciding at which points the Routemap Lead needs to seek approvals from the Commissioning Body should also be agreed in advance, so the process is not delayed.

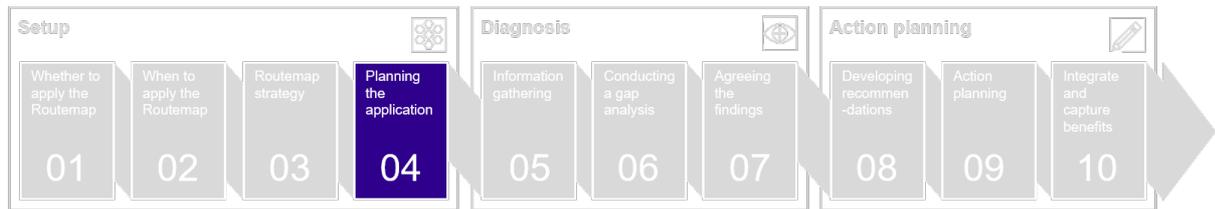
The completed Routemap strategy should be approved by the Commissioning Body.

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The **Implementation Plan (Step 4)**, will help you to plan in detail and monitor the Routemap exercise.

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## Step 4 – Plan how to implement the Routemap Strategy



### Overview of Step 4

**Aim:** To plan the Routemap implementation.

**Key roles:** Routemap Lead liaising with participants. Commissioning Body will need to approve.

**Input:** Work through the *Implementation Plan template*, to plan Routemap tasks.

**Output:** An approved Implementation Plan for Routemap application.

An **Implementation Plan** helps to drive and monitor progress of the Routemap. It should capture all Routemap activities in detail, so the time and resource requirements are clear.

There are tasks to complete in throughout the Routemap. You'll find these under each process step in this Handbook.

For each task:

- Agree **who** is responsible for undertaking that task
- Determine **when** it needs to be completed
- **Monitor** progress against each task as Routemap progresses

You can use the *Routemap Implementation Plan template*, in Appendix C, to develop your plan. It is pre-populated with the tasks for each process step, but you can amend as required.

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Figure 7: Routemap Implementation Plan template extract

**Introduction**

*Insert any relevant background information, e.g. project stage, commissioning body, project history.*

**Implementation plan – Planning and monitoring the Routemap**

Refer to the approach outlined in the Routemap Strategy and edit the following table to assist you in planning and monitoring the Routemap.

Application Step/task	Related template/ supporting material	Who	By when	Progress
<b>Step 3 – Routemap strategy</b>				
Complete the document review	Document list in Step 3			
Prepare the Routemap strategy	Routemap Report template			
Obtain approval for the Routemap strategy	Routemap Report template			
<b>Step 4 – Plan how to implement the Routemap strategy</b>				
Complete the first draft of the implementation plan (planning and monitoring table, assessment schedule, interview schedule, workshop schedule, application requirements)	Implementation Plan template			
Obtain approval for the implementation plan				
Implementation plan review and monitoring				
<b>Step 5 – Information gathering (if this step is to be done in a workshop, consider the additional/alternative tasks required)</b>				
Briefing of Routemap Support and participants	Refer to Routemap strategy			

The Routemap Lead should refer back to the **Routemap Strategy (Step 3)**, and check that all the tasks are relevant. For example, you may have decided not to interview people, so you will not need to complete those tasks.

The Commissioning Body needs to approve the Implementation Plan, including the timescales. You will need to monitor progress against each task in the approved Implementation Plan to ensure any problems are identified and addressed.

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### Overview of Step 5

**Aim:** To gather stakeholder perspectives on complexity of the wider context and capabilities of key project organisations.

**Key roles:** Routemap Lead and Routemap Support.

**Input:** Complete the *Routemap Assessments* and gather other information, as agreed in the Routemap Strategy and detailed in the Implementation Plan.

**Output:** Completed *Routemap Assessments* and other information gathered.

This step gives more guidance on:

- How to complete the complexity assessment
- How to complete the capability assessments
- How to interview participants, to explore assessment responses in more detail

You must complete the two Routemap assessments introduced in Section 2 – **the complexity assessment** and **capability assessment**, using the techniques agreed in the Routemap strategy (**Step 3**). You may also have decided to gather additional information through interviews and/or workshops.

*Note: If participants are completing assessments without interviews and/or workshops, they should add comments to their responses to give a better understanding of the issues and opportunities.*

#### How to complete the complexity assessment

There are 13 separate factors in this assessment, each contain qualitative statements which describe the complexity of the wider project context.

In **Step 3**, you will have agreed and documented the approach for completing the complexity assessment and approved the list of participants who will complete the complexity assessment.

The participants will use the *complexity assessment* in Appendix A to review the project against each factor and decide if the potential impact of each factor is low, medium or high.

Capturing the discussions, assumptions, and participants’ reasoning behind the ratings is important, as it can support the **findings (Step 6)**, e.g. by referring to specific examples that evidence the issues and opportunities identified. Including quotes from discussions can strengthen the findings, but these should be anonymised and non-attributable to the speaker.

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Collating and analysing the complexity assessments completed by the participants generates an overall complexity profile for the project. This can help the sponsor and client understand the strategic risks and issues that may need addressing at various points in the project lifecycle. It can also be used as a framework to demonstrate readiness to move from one point of the project lifecycle stage to another.

**Example: Extract of a complexity assessment**

**The project**

Scottish Power is a major energy provider in the UK. The East Anglia ONE project is one of the largest offshore windfarms under construction in the world. It will deliver both jobs and investment in the local community. Once fully operational it will have an installed capacity of up to 714MW. The project faced a number of challenges including:

- A bigger and more complex investment than any previous offshore wind projects
- Establishing a new project team
- An extensive political and stakeholder landscape
- An immature supply chain, deploying innovative and sizable components
- A compressed procurement and engineering timetable
- Installing large components safely and efficiently in a marine environment

**The complexity assessment**

This is an extract of a complexity assessment completed by one of the participants in the East Anglia One Routemap.

*Table 3 Completed complexity assessment extract*

Factor	Rating (L/M/H)	Example comment evidencing chosen rating
<b>Stakeholders</b>	H	<p>The project involves several government departments and statutory bodies as well as NGOs, which have a great deal of influence on the project.</p> <p>Local business groups, landowners, businesses and individuals, who are involved in the project, can all have an influence on project delivery.</p>
<b>Stability of overall context</b>	H	<p>The overall context of project delivery is very uncertain because it relies heavily on changing political will and opinion.</p> <p>We also interact with and rely on many areas of government, which are not aligned with each other.</p> <p>We must also deal with world markets for purchasing our equipment and services, the costs of which can fluctuate significantly.</p>
<b>Range of disciplines and skills</b>	H	<p>The project is pushing the boundaries of the supply chain, both in capacity and capability.</p>

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<b>Organisational capability: performance to date</b>	M	We have built one similar project with a partner and we are building another similar project alone. So we have some evidence of capability to date, and we have a strong organisational culture of learning and sharing experiences between projects.
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### How to complete the capability assessments

Each capability assessment identifies observable characteristics in the sponsor, client, asset manager and market organisations. These may support effective and efficient delivery of the project or may undermine it. The assessments can help determine what the *current* and *needed* capabilities are for successful project delivery.

The assessments are specific to the project to which Routemap is being applied, and not representative of overall organisational maturity.

The characteristics are grouped into three sets:

- **Type 1 characteristics** – hold an organisation back, regardless of other good practice. You must either address them, or allow them to continue understanding the possible consequences
- **Type 2 characteristics** – found in organisations that are performing acceptably. The organisational arrangements may be in place but not fully optimised
- **Type 3 characteristics** – indicative of an effective and efficient organisation, optimised for delivery of the project. Not all projects will require these characteristics to be successful.

In **Step 3**, you will have agreed and documented the approach for completing the capability assessments and approved the list of participants who will complete the capability assessments.

Each of these participants will need to complete the four capability assessments (sponsor, client, asset manager and market):

- Identify what organisation or function is, or should be, fulfilling the role of the sponsor, client and asset manager, and what constitutes the market, e.g. the supply chain
- Review each characteristic and identify:
  - those in only the *current* column that the organisation currently demonstrates
  - those in only the *needed* column that the organisation requires, but does not currently have, to successfully deliver the project
- If a participant is unsure whether a particular area of responsibility demonstrates a characteristic (maybe their role means they are not in contact with that area of responsibility) they can leave that characteristic blank.

Capturing the discussions, the assumptions, and the rationale behind the ratings is important, as it can support the **findings (Step 6)**. It is also important to document characteristics which may be *current*, but are also vital for project development, e.g. if there

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is a change in resources, steps should be taken to ensure that the project does not also lose the capability.

**How to use interviews to gather information**

You may have already specified in your Routemap Strategy (**Step 3**) that you will interview participants to support the Routemap application, and who those interviewees will be.

We said in **Step 3** that you should interview participants after they have completed the assessments. This allows you to discuss and better understand their responses during the interview. You should have consistent interview questions that you use as the starting point for each interview, so you can easily compare and identify areas of difference in responses. You can tailor these questions to the project. The interviewer can also add a small number of questions specific to each interview participant.

**The interview questions must reflect the agreed Routemap Scope from the Routemap Strategy (Step 3).**

If you use a consistent questionnaire, it means that the Routemap Lead does not have to conduct all the interviews and you can use other interviewers (Routemap Support). If you do choose to use a team of people to do this, you must make sure that there is a way for them to share and compare opinions and perspectives on the additional information gathered. It is important that the interviewee feels comfortable to speak openly and honestly to the person conducting the questionnaire. Refer to the interview guidance provided in **Step 3** for more support.

Table 4 has a list of sample interview questions. They are grouped by module area, as these are common challenges for infrastructure projects. The questions give a semi-structured interview. Open-ended questions allow for a discussion with the interviewee rather than a closed question and answer format. Depending on the areas of interest in scope, the Routemap Lead may also find the **guiding questions and documents** in Appendix D useful for developing more questions. Working through the *considerations* tables in the **modules** can also help you to validate the effectiveness of existing arrangements.

*Table 4: Example interview questions*

Rationale
What is the purpose of the project?
What is the vision for the project? Is it clear? Is it shared by everyone involved, including potential project affected persons?
Who are the main stakeholders? <i>Include those impacted by the project, and their roles and interests.</i>
What are the expected benefits and SMART outcomes of the project? <i>This includes environmental and social benefits and SMART outcomes.</i>

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Has contribution to sustainable development and achievement of the country's nationally determined contribution (NDC) to the Paris Agreement been considered in the design of the project?

Who is responsible for delivering these benefits? Is this clear and understood?

Have the requirements been clearly documented and articulated to the party responsible for delivering them?

Are there any negative impacts expected from the project?

*This includes impacts to surrounding communities, and the environment.*

Who will be responsible for designing mitigation measures for these?

## Governance

What are the governance arrangements for the project?

Where does accountability for managing project risks lie?

*This includes environmental and social risks.*

Are all parties clear on what they are accountable for?

What is the approach to assurance?

Has assurance for environmental and social sustainability aspects been adequately built into the governance structure?

Is there sufficient capacity for ongoing monitoring of environmental and social risks and mitigation measures?

Will any of the governance arrangements need to change through the life of the project? How and when might this need to happen?

What are the finance and funding arrangements for the project?

Are there specific and adequate contingency budgets to respond to issues that may arise from the project?

Does the project's governance structure include clear accountability and lines of authority for addressing environmental, social and gender inclusion issues at each level? *E.g. director/board level, senior management, delivery staff etc.*

## Organisational Design & Development

What is the delivery model for the project?

Why was this approach selected?

Have the risks associated with the delivery model been assessed and outlined in detail in the key project documents? *E.g. within the environmental and social impact assessment and environmental and social management plan.*

Is there a plan for ensuring the required capabilities will be available throughout the project lifecycle?

What consideration has been given to understanding whether the organisational design will need to change through the life of the project? How and when might this need to happen?

<b>Execution Strategy</b>	
How will the project be delivered? What is the approach? Is this clear and does everyone understand it?	
Have project affected persons and representative groups been consulted in the development of this approach?	
What is the current status of the project/at what stage in the project lifecycle is it?	
Are there currently any environmental and social impacts or issues that have been brought to your attention? What are they?	
What are the next project milestones?	
Are they as planned and on target?	
How will project performance, including environmental and social performance be monitored and managed?	
Has baseline data been gathered for environmental and social performance indicators to be measured against?	
Has a detailed environmental and social impact assessment and environmental and social management plan been prepared for the project? What environmental and social standards and mitigation measures are being applied?	
How will the project delivery teams interact with project affected persons? Is there a stakeholder engagement plan in place?	
Have appropriate environmental permits/permissions/authorisations and free, prior and informed consent from affected indigenous peoples been obtained if required? Is there a gender action plan in place to ensure gender mainstreaming in the design and execution of the project?	
Is there a grievance mechanism in place to receive and address external communications, including queries and complaints, from affected persons?	
<b>Procurement</b>	
What is the market capacity and capability to support the project? Has this been investigated?	
Have specific capacities and capabilities relating to upholding environmental and social standards and gender mainstreaming been investigated?	
What approach has been taken to market engagement?	
Have the expected environmental and social standards been clearly communicated to the market?	
What are the principles that will determine packaging strategy and supply chain requirements?	
Are there procurement policies and procedures in place to ensure that suppliers and contractors adhere to the environmental, social and gender standards established for the project?	

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Does the procurement documentation (terms of reference, qualification criteria, evaluation criteria etc.) incorporate requirements relating to sustainable development? *E.g. does the required expertise and capability align with expected environmental and social standards?*

### Asset Management

Who will own the completed asset and who will be responsible for maintaining it? Is this clear and understood?

Is the asset manager aware of the full spectrum of risks and mitigation measures, at handover stage?

Has the asset manager taken on full responsibility for the ongoing implementation and oversight of the environmental and social risks, and corresponding mitigation measures, outlined in the environmental and social management plan?

Have efforts have been made to ensure there a sense of ownership in those to whom the asset will be handed over to?

What is the level of strategic engagement between the sponsor and asset management teams? Is this sufficient?

Have opportunities for maximising environmental and social benefits, e.g. local employment and related skills training, benefit share schemes etc. from the project, been identified and implemented?

How will compromises between parties be managed?

### Risk Management

What are the key challenges and risks to the successful delivery?

How will these be managed and mitigated?

What are the key environmental and social risks associated with the project and its outcomes?

Who is responsible for identifying and managing these risks at each stage of project development?

What are the expected environmental and social standards/safeguards with which the project will align?

Will the project involve any land acquisition, resettlement or relocation of local populations?

Which social groups are likely to be affected by the project development? Who is responsible for managing grievances and has a plan for this been developed?

Who will be responsible for ensuring project affected persons are consulted throughout the process? Has an engagement and consultation plan been developed for these groups?

Have risks related to child labour, modern slavery, sexual exploitation, abuse and harassment been outlined in the environmental and social impact assessment?

Have the potential impacts on value for money and successful project delivery been investigated?

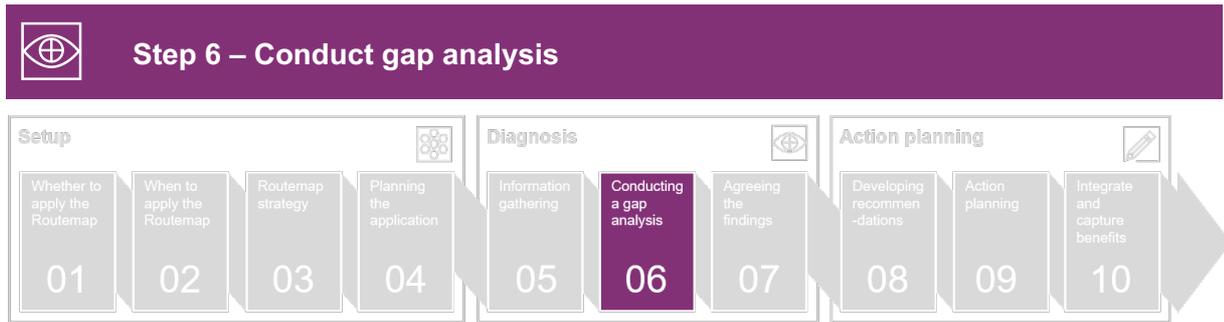
During **Step 6**, you will analyse all the information you collected in **Step 5**. Therefore, it is important to document the interview responses in a way that allows you to compare them

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across all the participants. This will mean you can identify common themes, areas of misalignment, issues and opportunities.

*Note: If you ask permission from the interviewees, you may audio record the sessions so they can be transcribed, or the interview team can revisit and recheck their note.*

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### Overview of Step 6

**Aim:** To identify opportunities to improve project development.

**Key roles:** Routemap Lead (and Routemap Support if required). Subject matter experts to guide.

**Note:** For this step, you may benefit from the advice of an expert who has analytical skills, with knowledge of good practice in infrastructure project development.

**Input:** Analyse the information collected through Step 5, then identify and document the capability gaps and opportunities.

**Output:** A proposed set of *findings* in the *Routemap Report template*.

In the previous steps, you have collected a large amount of information. Now you need to collate, cross-check and analyse it, to identify differences between the current and required capabilities (the capability ‘gaps’). This will give you an overall picture of the shortfalls and opportunities for development. To complete Step 6, you will need strong analytical skills. The output of this step will be a key section of the Routemap Report (the *findings*). You may find it helpful to consult with subject matter experts, throughout this step.

Figure 8: The complexity/capability gap analysis



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The tasks in the complexity/capability gap analysis include:

- Collating the participant **complexity assessments** to create a project **complexity profile**
- Collating the participant **capability assessments**
- Summarising the assessment results, and cross-checking these with the additional information you have – document review and interview/workshop notes – to identify the **complexity/capability gap**
- Identifying the **Routemap findings**, which express the gap between current and good practice and the areas for improvement. The findings also highlight areas of existing good practice

### 1. Creating a complexity profile

The complexity profile summarises the challenges of project implementation, and improves team understanding of the strategic risks that may arise at different points in the project lifecycle. It also gives you an overall complexity rating for the project.

Stakeholders provide a low/medium/high rating for each of the 13 complexity assessment factors. They may have different views and give different ratings, depending on their own perspective. The assessments are collated to highlight different perspectives, areas of risk, and an overall picture of the project’s complexity.

Figure 9: The complexity profile

Factor	Assessment Data			Profile
	Low	Medium	High	
Strategic importance	0	1	17	H
Stakeholders/influencers	0	6	12	H
Requirements and Benefit Articulation	10	7	1	L
Stability of overall context	1	12	6	M
Financial impact and value for money	0	5	13	H
Execution Complexity (including Technology)	1	7	10	H
Interfaces/Relationships	0	9	9	M/H
Range of disciplines and skills	0	3	15	H
Dependencies	3	10	5	M
Extent of change	1	12	5	M
Organisational capability: performance to date	3	13	2	M
Business Environment	0	6	12	H
Interconnectedness	6	10	2	M

The assessment data columns show the number of people who scored each factor at each level of complexity. The profile column gives the overall complexity rating for each factor, which is the level of complexity indicated by the most participants.

This sample project is of high strategic importance, and complex due to the number of stakeholders, the financial investment required and the breadth of technology options.

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The ‘assessment data’ columns show the number of people who scored each factor at each level of complexity. The ‘profile’ column gives the overall complexity rating for each factor, which is the level of complexity indicated by the most participants.

If the number of ratings for a particular factor is the same, or very close, between two low/medium/high ratings, you can assign an overall rating of low-medium or medium-high, e.g. ‘Interfaces/Relationships’, in Figure 9.

The Routemap Lead must judge if the *overall* project complexity is low, medium or high. Rather than taking an average of the factors, you must consider the different importance of each factor; some factors will carry more weight in certain projects than others. Your interview and workshop discussion notes will help you understand the relative importance of each factor. For example, five highs, three mediums and four lows may look like a fairly even spread across the factors. However, averaging these might give too little importance to the high factors when identifying the capability gap later in the Routemap process. It’s important to record and explain why you have made decisions on how the factors are weighted, e.g. by referencing interview/workshop discussion notes.

In the example in Figure 9, there were equal numbers of high and medium ratings. However, the interview and workshop notes identified the particular significance of some of the factors which had been scored *high*, notably its strategic significance, so this project was assigned an overall complexity of *high*.

## 2. Collating the capability assessments

You need to collate the capability assessments (completed either individually or in workshop groups). They will also show you common themes, characteristics that may be blockers to success (Type 1), and good practice that you can build on (Types 2 and 3).

The collated assessments provide a cross-stakeholder perspective of potential gaps between current capabilities and those you need to manage the complexity and deliver the project. On reviewing the collated responses, the Routemap Lead must make a judgement on the capability of each area of responsibility. This judgement is based on the number of responses, supported by feedback from any interviews and workshop discussions.

Figure 10, below provides an example of a collated set of Asset Manager capability assessments for a particular project. The numbers in the ‘current’ and ‘needed’ columns represent how many people observed each characteristic. The shaded boxes highlight characteristics that were observed by one third, or more, of the people involved in completing the assessment (thus indicating a trend in perspectives).

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Figure 10: Collated Capability Assessments  
**Collated Asset Manager Capability Assessment**

Characteristics with scores of six and above are highlighted

Asset Manager Characteristics	Current		Needed	
	Numbers		Numbers	
	Total	Total	Total	Total
<b>Type 1 characteristics (limiting)</b>				
There is no clear lifecycle asset management strategy in the asset manager organisation.	1		n/a	
The project requirements, business case and design indicate a lack of future thinking and/or inadequate links to a corporate asset management strategy.	0			
Poor decision-making, governance structures and processes undermine asset strategy.	2			
Management reacts to situations and circumstances in an ad hoc manner and there are badly defined roles and responsibilities.	3			
There is a failure to ensure that the project delivers working assets at handover into operations and does not offer sustainable, longer term benefits	0			
There is a failure to manage the asset risks through the life of those assets.	0			
Customised solutions are developed to address specific challenges rather than adopting standard approaches.	0			
There is limited use of asset information in developing project requirements.	1			
There are no, or inadequate, lifecycle parameters – such as asset reliability, availability, cost of maintenance, or operability – defined in the requirements.	0			
There is no strategic engagement with the asset operators and/or supply chain to ensure that the project solution is defined, developed, constructed and managed appropriately during the operational stage through to handback.	1			
Poor understanding of required activities to manage ongoing environmental and social risks and benefits, e.g. community consultation, labour and worker rights, inadequate skills to execute required activities.	0			
There is an inappropriate transfer of risks. For example, transferring risk to the market when it cannot own the risk, leading to inadequate safety and security risk management for the users of the service, once the infrastructure is operational.	0			
It is unclear who is ultimately accountable for making key decisions.	0			
There is mistrust and/or poor communication between key organisations.	2			
There is an over reliance on technology without addressing underlying organisational issues.	0			
There is a focus on following process to the detriment of outcomes and associated asset management goals.	3			
Unnecessary bureaucracy compromises delivery.	3			
There is a low level of awareness of market capability and capacity.	0			
Poor development and retention of asset management capability leads to inadequate asset management (and, in turn, to sub-optimal whole-life value).	2			
<b>Type 2 characteristics (adequate)</b>				
There is a whole life asset strategy that delivers the right assets and capability to meet requirements and achieve the benefits in the short, medium and long term.	12		1	
Assets are grouped to ensure that delivery, operation and maintenance is effective and efficient.	6		5	
Asset performance is measured and monitored to support decision making and in line with the environmental and social management plan.	11		0	
Assets are designed, operated and maintained with a range of future needs in mind and in line with the environmental and social management plan, with ESG-related KPIs.	7		2	
Climate risk is considered in asset risk management. Project/asset climate mitigation plan is in place.	5		5	
There are formalised whole life asset management processes, functions and roles.	10		2	
There is a plan for operational readiness that ensures smooth handover of the asset from project delivery to operation, which includes reassessment of environmental and social risks.	10		2	
There is active stakeholder and community engagement with a wide range of stakeholders including project affected persons.	6		6	
Asset management capability requirements are set out in a competency framework. Staff with asset management responsibilities are involved in the project.	12		1	
Data usage and information management is encouraged.	12		1	
<b>Type 3 characteristics (optimised)</b>				
Use of assets aligned to organisational goals. This leads to optimal management of physical assets over their lifecycle, to achieve the stated business objectives.	12		5	
Continuity of performance through asset life is achieved.	11		4	
There is effective governance, leadership and change management of decision making for whole life management of assets.	10		3	
Investment in assets is effective (producing the desired benefits, e.g. reliability, required levels of service) and efficient (providing good value for money) as it is underpinned by reliable information.	10		2	
A holistic organisational view of assets is taken.	9		3	
There is an effective operational readiness strategy, for the newly created/developed asset in place.	8		3	
Asset management capability has been developed based on a recognised approach to assessment and development.	7		3	
Training for asset management staff includes a component on environmental and social risk management.	6		3	
There is informed data usage and knowledge management leading to optimal performance of the assets.	6		3	
Contract incentives are aligned to the sponsor's whole life asset requirements.	5		3	
There is a clear operational plan for measurement and delivery of asset performance, including performance against environmental and social standards.	3		8	
Climate risk is embedded into the organisational asset risk management strategy, with appropriate climate mitigation plans at the asset level. There is performance reporting to monitor the effectiveness of these plans at project level.	3		8	

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Based on the responses to the capability profile, and taking into account feedback in interviews and workshops, the current asset manager capability is between Type 2 and Type 3. The needed capability to deliver the project successfully is also between Type 2 and Type 3. So, there is a relatively good level of existing asset management capability, to deliver this project.

### 3. Identifying the complexity/capability gap

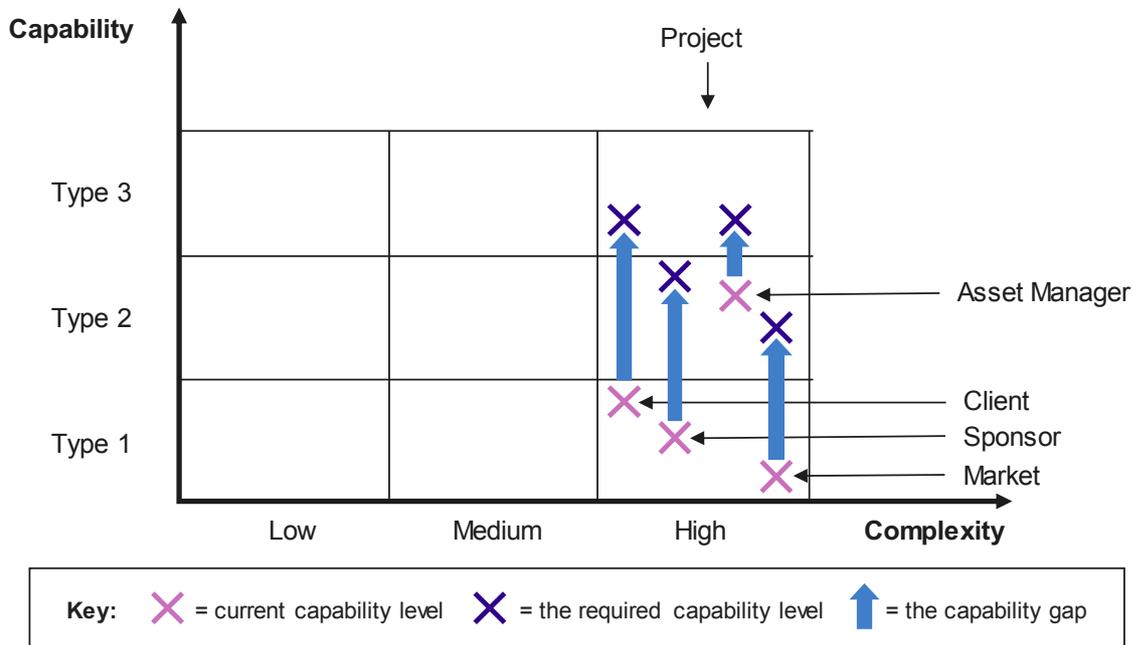
The additional Information gathered from the document review, interviews and workshops (including records of discussions, thinking and assumptions behind the ratings), help the Routemap Lead build a rich picture of the current and required capability levels across the project.

You should cross-check the analysis of additional information with the outputs of the assessments. The additional information will either support the outputs of the assessments or challenge them – which may warrant further discussion with participants. Unexplained differences in the assessments of different participants may also warrant follow up discussions.

You need to analyse this to identify common themes, emerging capability gaps and specific challenges to inform the **Routemap findings**.

The graphic below can be used to help stakeholders visualise the complexity-capability gaps.

Figure 11: Complexity/capability gap analysis chart



In this example, the current asset manager capability is nearly at the required level. However, the current client capability sits in Type 1, so there is a larger gap in capability for this area of responsibility. There is also a significant gap in capability for the sponsor and market. This means the project needs to either improve capability for these areas of responsibility or reduce complexity.

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#### 4. Identifying the Routemap findings

The Routemap findings document the complexity/capability gap as a series of statements, or *findings*. These statements identify areas of existing good practice (to be continued) and issues or opportunities relating to successful delivery.

**At this stage you should not attempt to develop solutions, this comes later in the Action Planning Phase.**

Experience of using the Routemap shows there are key areas related to project development where complexity-capability gaps often occur. Best practice on these areas is included in the **Routemap modules**. The pillars of effective practice and typical findings sections of the modules may help you to articulate your own Routemap findings.

Grouping the findings by the same areas as the Routemap modules will help you to organise this information. You may find it helpful to use the following questions when grouping your findings:

- Are the responses consistent?
- Are there differences between individuals or organisations?

Appendix D provides a series of useful lists of questions and documents extracted from each of the modules. Comparing these lists to the information you have collected may help you to identify any gaps. The modules expand on these lists and can help you to better define these gaps and build a picture of the ideal future state for the project. For example:

##### Rationale

- Is there a common understanding of the project vision and expected outcomes, and whether these can be achieved?

##### Governance

- Is there an established governance and decision-making structure in place?
- Will it enable the project team to deal with the project's complexity or might it limit their ability to do this?

##### Execution Strategy

- Is the approach to delivery clear?
- Do participants recognise the complexity or capability misalignment, and have a plan to deal with it?

##### Organisational Design & Development

- Do participants clearly understand what organisational and cultural changes are necessary to deliver the benefits?
- How are the key entities structured? Are the boundaries and interfaces for internal and external resources clear?

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## Procurement

- Are participants agreed that the procurement approach, and route to market, will maximise value for money?

## Risk Management

- Does the accountability for risk match the organisation’s capability or appetite to manage risk? For example, ability to maximise sustainable benefits, affordability achieving best value, and ensuring market appetite?

## Asset Management

- Will the asset management approach support the project to meet its expected outcomes and benefits, in the short, medium and long term?

## Systems Integration

- Have all the systems to be delivered by the project been defined? Including how they will be operated together with existing systems within and outside of the asset manager’s control?

## Example Routemap findings

These are sample findings from different projects. Your Routemap findings will be specific to the project being reviewed and will reflect the areas of interest in the Routemap scope. It can be helpful to add specific project context to your findings, such as names of policies or stakeholder organisations. Below are examples of good practice and areas for improvement.

Table 5: Examples of good practice

Example findings reflecting existing good practice that should continue
The short-term and long-term visions for the project are clear to those involved, and they share an understanding of the desired outcomes.
Internal lessons learned have been investigated and incorporated into project delivery.
The project forms part of the national strategy.
There is good use of Asset Information in developing project requirements.
There is clarity regarding who has authority for different types of project decisions.

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Table 6: Example areas for improvement

<b>Example findings reflecting areas for improvement</b>	
Participants do not clearly understand the level of new capability the client needs, to deliver the project.	
The client and supply chain organisations do not have experience of successfully implementing the proposed procurement model, so they may need capabilities they currently do not have.	
National ambitions and priorities regarding sustainable development have not been taken into consideration in the design and development of the project.	
The accountability for risk does not match the organisation’s capability or appetite to manage the risk.	
Project team forecasts for time, cost and benefits are not supported by realistic plans and controls, so participants have low confidence that they will meet their forecasts.	
There is no strategic engagement with the operators, so the project solution may not be defined, developed, constructed and handed over appropriately.	
There is limited use of asset information in developing project requirements, and Building Information Modelling (BIM) is not built into project development activity.	
There is a risk that the bidding process will not result in the optimal service provider, e.g. there is a focus on lowest bid.	
The project team lacks capacity to mitigate and manage potential environmental and social risks, e.g. potential safety risks to project affected communities.	
The project team lacks clear understanding of project contribution to sustainable development and how to maximise environmental and social benefits of the project.	
There is no system for managing the interfaces between asset operator and maintenance, which could impact asset performance (such as timetabling of access).	
There is no, or lack of meaningful, engagement with civil society and representative groups, e.g. environmental protection groups, community leaders, disabled people’s organisations or women’s organisations, which could result in a lack of understanding of potential impacts to project affected communities.	
The procurement process and market engagement approach does not clearly communicate required standards for environmental and social sustainability, to the market.	
The client and asset manager do not have adequate environmental, social and gender specialists to manage related risks and benefits across the project development cycle.	
There is insufficient budget for the implementation of environmental and social risk mitigation measures, to enable speedy responses to address unforeseen environmental and social issues associated with the project.	

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### Overview of Step 7

**Aim:** To obtain feedback and approval of the proposed findings.

**Key roles:** Routemap Lead to facilitate with Routemap Support. Commissioning Body and any other relevant stakeholders for approvals.

**Input:** Circulate and seek approval of findings.

**Output:** Approved findings, documented in the *Routemap Report template*.

Project teams often report that reviewing the *findings* can feel like holding a mirror up to the project. It is important to note that some findings may be sensitive, and stakeholders may feel that they are being criticised. You should remind people that the findings are a snapshot of the project at a particular moment in time and that the purpose of Routemap is to help the project team to have the best possible chance of success. Routemap often helps teams undertaking complex projects that test the limits of their organisational capability, so you can expect that the Routemap development process will uncover challenges.

Those responsible for commissioning and overseeing the Routemap must agree the findings before you can move to the next step. All parties need to be clear about the project’s current status, and agree which areas need improvement. The Routemap Lead is responsible for:

- obtaining feedback on the findings
- ensuring that participants and key stakeholder views on the findings are heard and have been properly considered
- ensuring the findings are comprehensive and accurately reflect the feedback received

When agreed, the findings should be documented in the *Routemap Outputs* section of the *Routemap Report template* (in Appendix B).

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**Example: Using Routemap Modules**

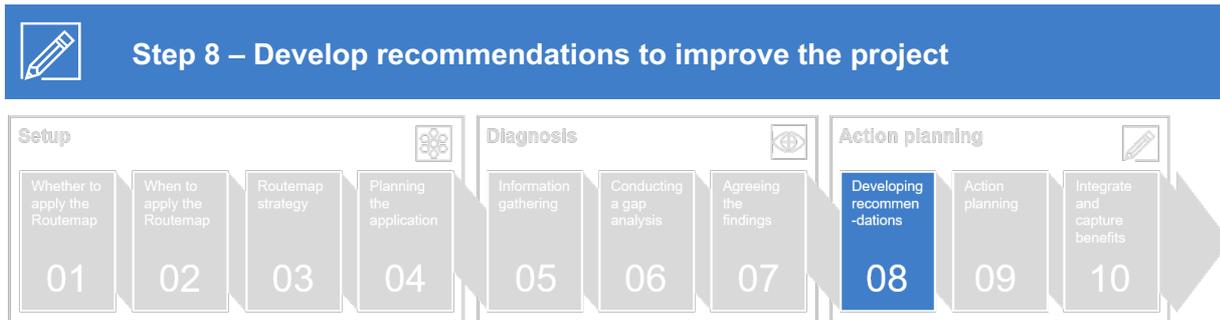
**The Project**  
 East Anglia ONE was a joint venture between Scottish Power Renewables and Macquarie’s Green Investment Group (GIG). It was a £2.5 billion project and the first of four offshore windfarms. It is now fully operational, with the capacity to produce 714MW of clean energy.

**How Routemap improved project delivery**  
 We have already demonstrated that it can be useful to group findings by Routemap module areas. Here are example findings from the East Anglia ONE project, relating to the Organisational Design and Development module area:

**Organisational design and development**  
 There were a number of challenges associated with appropriately resourcing the project, both in terms of capability and numbers, some of which were influenced by factors outside of the client organisation’s control. These included:

- The stop-start funding had caused resource to be reallocated to other projects. This left a lack of resource, once go ahead for the project was given, and had resulted in team members being over-stretched.
- Existing staff with offshore experience were working on other projects.
- Due, in part, to time constraints, there was a risk that new people joining the team did not have the opportunity to integrate properly.
- Corporate governance had impacted on the ability to recruit in a timely manner.
- The Corporate HR training plans and approaches did not support the needs of the project.

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### Overview of Step 8

**Aim:** To develop high-level solutions for improving project development.

**Key roles:** Routemap Lead to facilitate, with Routemap Support. Subject matter experts to guide. Participants to input. Commissioning Body and any other relevant stakeholders for approvals.

**Input:** Develop a series of recommendations that will address the findings.

**Output:** An agreed set of Recommendations documented in the *Routemap Report template*.

The gap analysis highlights good practice and areas for improvement, which you document as the **findings (Step 6)**. The next step is to identify high level solutions, or **recommendations**, that will address the findings. Recommendations should not be detailed – participants will plan how each recommendation will be implemented in Action Planning **(Step 9)**.

The **modules** will help you to develop the recommendations. In particular, the considerations sections will help you to explore the underlying causes of capability gaps, which you have set out in the findings.

### Approach

The Routemap Lead should refer to the Routemap strategy **(Step 3)** and confirm the intended approach to developing the recommendations remains appropriate. A workshop, or series of workshops is often the best way to develop and agree recommendations. In addition to participants, you should invite the Commissioning Body and any other key stakeholders, to ensure the recommendations have senior-level support and are achievable.

You may wish to group workshop participants by area of responsibility, to co-develop recommendations which relate to their roles.

**Subject matter experts** can also be a useful resource to guide the participants to develop recommendations. They can provide a different perspective and introduce real world examples of best practice that they may have used previously.

### Developing recommendations

To move from findings to recommendations, you should:

- Identify which module(s) could support the activity, and group the findings by module area (if your findings resemble the statements in the *typical findings* of a particular module, then that module may help you to strengthen capability). The module

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- considerations* will help participants to understand their underlying causes. You might not need all the modules, and you can decide in which order to use them.
- Review the results of the assessments. This will also help you to develop recommendations (refer back to **Step 6**).
  - Develop at least one recommendation to address each finding and its underlying cause. Sometimes you will address one finding with a range of recommendations, and sometimes one recommendation can address multiple findings.
  - Develop the recommendations in the form of broad, positive statements (you'll undertake the detailed action planning in **Step 9**).
  - Document the statements in the *Routemap recommendations* section of the *Routemap Report template* (see Appendix B).
  - Seek approval of the recommendations from the Commissioning Body.

**Example: Developing a recommendation to address a finding, using the Governance module**

Figure 12: Example of recommendation development



**Example: Using the Routemap Modules**

**The Project**

East Anglia ONE (following on from example in Step 7)

**How Routemap improved project development**

Once the project team had established its findings (**Step 7**), they referred to the typical findings sections of each module to see which modules could provide relevant insight into the issues they faced. The Organisational Design & Development module closely aligned with the findings they identified. They read through the relevant considerations from the module, including:

- Is there strong departmental/corporate oversight? How do you ensure resource is allocated to managing and responding to the oversight of the project?
- How will the organisational design be assured by the department/corporate organisation?
- What corporate policies, are in place that will affect organisational decision making, e.g. HR policies?
- What is the organisation's approach to succession planning and people development?
- Have you identified the functions which should be retained in-house; and defined the functions which should be outsourced?
- How is the size of the team likely to change through the life of the project?
- Is the resourcing strategy appropriate for the importance, complexity and scale of the project?
- What is the best structure for success? Does the structure optimise use of resources?
- How will existing organisational hierarchies impact the project team structure?

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Based on these considerations, the team developed the following recommendations:

- Develop a clear resourcing strategy aligned with corporate requirements, which provides flexibility for different project phases and external factors.
  - Establish a stable core team
  - Identify where flexible resources can be used, e.g. consultants, agencies
  - Put administration support in place to manage these
- Develop the approach to reward, development and incentivisation, taking into account the specific business environment.

The good practice examples and suggested reading contained in each module also provide further useful context and real-world experience from other major projects.

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## Step 9 – Plan how to implement the recommendations



### Overview of Step 9

**Aim:** To develop detailed activities for implementing the recommendations.

**Key roles:** Routemap Lead to facilitate, with Routemap Support. Subject matter experts to guide. Participants to input. Commissioning Body and any other relevant stakeholders for approvals.

**Input:** Development of an action plan.

**Output:** A proposed action plan documented in the *Routemap Report template*.

In this step you will develop a detailed action plan for improving project development.

The Routemap Lead should refer to the Routemap strategy (**Step 3**) and confirm the intended approach to action planning remains appropriate. A workshop, or series of workshops, is often the best way to develop and agree actions. In addition to participants, you should invite the Commissioning Body and any other key stakeholders, to ensure the actions have senior-level support and are achievable.

You may wish to group workshop participants by area of responsibility, to co-develop actions which relate to their roles.

**Subject matter experts** can also be a useful resource to guide the participants to plan actions. They can provide a different perspective and introduce real-world examples of best practice that they may have used previously.

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## Action planning

To move from recommendations to actions you should:

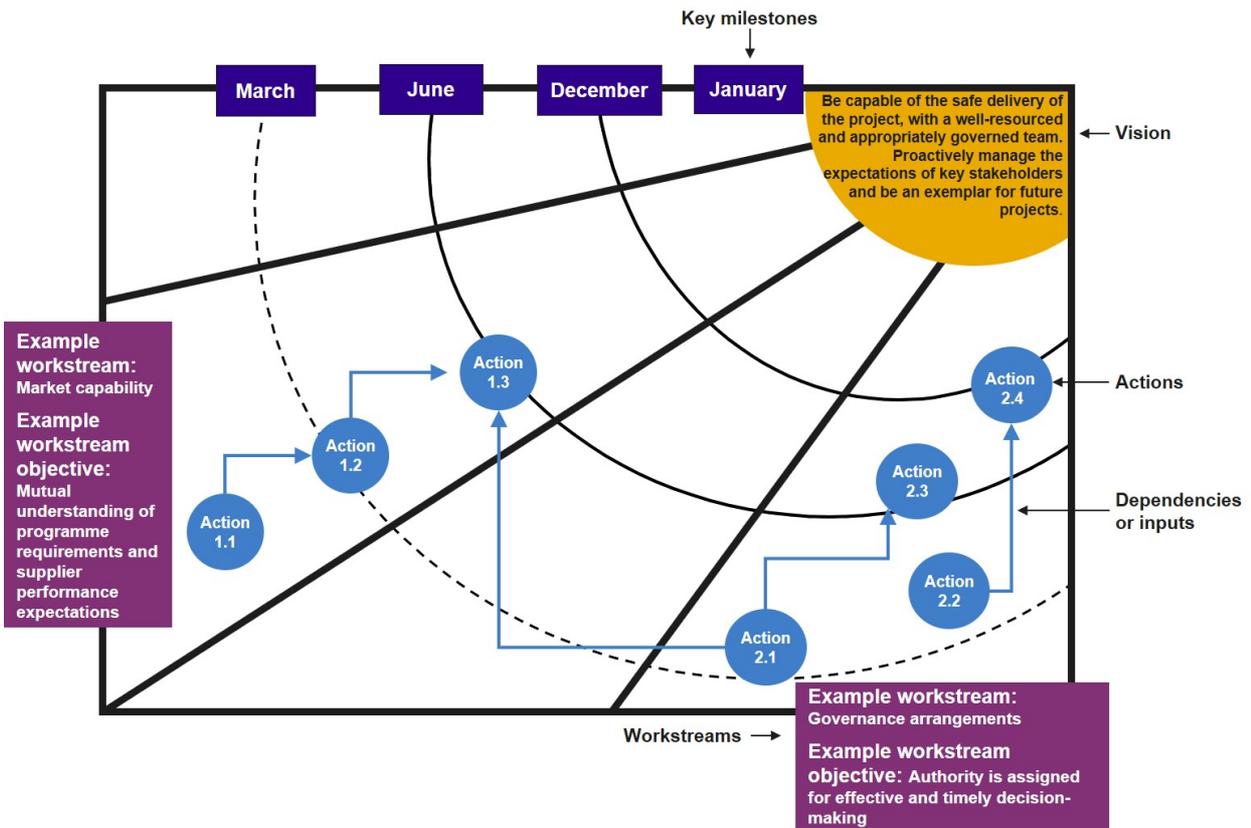
Table 7: Action planning steps

Step	Action	Tips
1	<b>Print a large version of the <i>action planning template</i> in Appendix G</b>	<p>We recommend a minimum of size A0.</p> <p>Use sticky notes to add information to the template, as you progress through the following steps.</p>
2	<b>Develop and agree an overall vision for improving project delivery</b>	<p>The vision should describe, in high level terms, how the project will run once the project has addressed the findings from Routemap.</p> <p>You can do this by reviewing the existing project objectives (from the project documents) and recommendations (<b>step 8</b>), to understand and set out the optimal way to deliver the project.</p> <p>Successful visions should be meaningful to all areas of responsibility (sponsor, client, asset manager and market).</p>
3	<b>Group the recommendations into workstreams</b>	<p>Together, the workstreams will help achieve the overall vision. It may be useful to agree an objective for each workstream.</p> <p>The recommendations will usually fall into a small number of workstreams, e.g. four or five workstreams that build capability across the project team and stakeholders. For example, in Figure 13 the workstream for governance arrangements has an objective of assigning authority for effective and timely decision making within a certain time period.</p> <p>All recommendations should be addressed in the action planning phase and covered in at least one workstream.</p>
4	<b>Establish the key project milestones</b>	<p>These will determine when the improvements in capability are required. You should consider the key project milestones when establishing the timescales for completing the actions.</p> <p>The first milestone represents the immediate future, i.e. actions that should be undertaken to build capability, immediately after the workshop. The milestones are illustrated by the dates across the top of Figure 13 and the associated curved lines.</p>

5	<b>Determine step-by-step actions</b>	Develop actions to implement the recommendations. You can use the <b>modules</b> to help you with this, i.e. the <i>good practice examples</i> and <i>suggested reading</i> . The actions are illustrated by the blue circles in Figure 13. It is useful to provide a description for each action (see Figure 14).
6	<b>Agree the timescales for each action</b>	Consider the key project milestones (see above) when determining the timescales for completing the actions.
7	<b>Capture dependencies</b>	Record where completion of one action is dependent on one or more other actions. These are illustrated by the blue arrows in Figure 13 and recorded under 'dependencies' in Figure 14.
8	<b>Identify high risk actions and actions that are critical to many others</b>	Consider which actions might have a high impact on the project, if they are delayed.
9	<b>Agree workstream owners</b>	Workstream owners should be agreed and assigned in the workshop. If there are time constraints, individual action owners may be assigned after the workshop and documented in the action plan, e.g. Figure 14.
10	<b>Document the actions</b>	Record the actions and key information from above, i.e. timescale, owner, risk level and dependencies, in the Routemap Action Plan section of the Routemap Report after the workshop.
11	<b>Agree actions</b>	Actions should be agreed with key stakeholders who may be absent from the workshop, as appropriate.
12	<b>Seek approval</b>	Seek the approval of the final Routemap Report, including the Routemap Action Plan, from the Commissioning Body.

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Figure 13: Completed action planning template, used to facilitate action planning in workshop



The Action Plan in Figure 14 documents further detail from the action planning workshop and provides a framework to assign owners to individual actions and monitor progress:

Figure 14: Example action plan

Workstream	Action	Description	Timing	Dependencies	Owner	Status	Notes
Market capability Workstream owner: Government agency	A.1.1 Identify key stakeholders	Identify key procurement stakeholders to build understanding of the new approach	March (immediate)	N/A	Jane Doe		
	A.1.2 Issue analysis	Undertake analysis of the issues which might affect procurement and financing	March (immediate)	A.1.1 Identify key stakeholders	John Smith		

Annotations: An arrow points from the text "Workstream and organisation owner" to the Workstream column. Another arrow points from "Activity owner" to the Owner column. A third arrow points from "Progress monitoring e.g. Red/Amber/Green" to the Status column.

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## Step 10 – Integrate improvement plans into project development activity



### Overview of Step 10

**Aim:** To integrate the Routemap action plan into existing project development activity.

**Key roles:** Routemap Lead and Commissioning Body.

**Input:** Circulate the agreed action plan with stakeholders involved in delivering the improvements.

**Output:** An agreed action plan, documented in the *Routemap Report template*.

As Routemap comes to a close, you will need to incorporate the Routemap action plan into existing project plans and other documentation. That way, the actions will become an integrated part of project development. If you keep them separate, it will make them seem like an ‘optional extra’ to the project. You can do this by incorporating the actions into existing project workstreams which aim to:

- Improve project capability, e.g. in project resource plans
- Track project performance, e.g. incorporating target delivery dates for actions into the project schedule, and incorporating risk mitigations into the project risk register
- Shape the project delivery strategy, e.g. in the execution strategy and procurement strategy
- Improve corporate capability, e.g. in corporate recruitment strategies

### Following Routemap

The Routemap Lead will share the *action plan* section of the completed Routemap Report with the project team. The Commissioning Body should review and approve the final, complete Routemap Report and close the Routemap application. It should also ensure the project team integrates the action plan into existing activity and monitor progress.

### Capturing the benefits

You will have documented the anticipated benefits from undertaking Routemap in the Routemap Strategy. You should discuss, capture and share what benefits Routemap has delivered. This way, other project teams can benefit from your experience and what you have learned.

Views to capture this include:

- comparing the early expectations you had, with what was actually achieved
- recording participant and wider stakeholder views of what they learned, and what changed for them/their work through using Routemap.

# Glossary

**Assessment(s):** Refers to either the complexity or capability assessments (or both).

**Asset:** Anything tangible or intangible that can be owned or controlled to produce value and benefit.

**Asset manager:** The asset manager is the organisation (or parts of) responsible for day-to-day operations and maintenance of the asset. The asset manager may be a part of the sponsor or client organisations, or a separate entity. Similarly, the operator and maintainer of the assets may be separate entities.

**Asset management:** Asset management is the coordinated activity within and between organisations, to realise value from their assets.

**Capability:** Routemap uses capability to describe the ability of the sponsor, client, asset manager and market to organise for effective and efficient delivery. It refers to a part of the business and not the individual, as most barriers to best practice are institutional and not individual actions. Stakeholder perception of capability is assessed by capability assessments.

**Capability gap:** The difference between the existing organisational capability and the capabilities required to successfully deliver the proposed project or programme.

**Client:** The client is the organisation that is responsible for undertaking the work to fulfil the sponsor's requirements and deliver the benefits. The client translates the requirements from the sponsor and manages the delivery outcomes. The client selects the most appropriate supplier(s) to meet project objectives. The client organisation may be referred to as the Implementing Agency or the Government Contracting Agency. The client may be internal or external to the department or line ministry.

**Client model:** The client model refers to how the client organisation structures and resources the project execution activities between the client, advisors/partners and supply chain (e.g. in-house vs. external). This is a key consideration in determining organisational design and procurement strategies.

**Complexity:** Project complexity is a measure of the inherent difficulty of delivering a project. This is assessed on factors such as the stability of the wider delivery environment, the level of innovation required, and the number of stakeholders involved.

**Delivery model:** The delivery model refers to the organisational entity that will be appointed to deliver the project, e.g. establishment of a special purpose vehicle. This is a key consideration in determining governance arrangements.

**EBC:** Early Business Case.

**Economic, environmental and social value:** the impact a project has on the economy, environment, and society. This may be global or localised, and may result both from meeting the project's objectives (e.g. improved transport link) and from by-products of delivery (e.g. job creation). It relates to reducing negative impacts as well as increasing positive impacts, and it is important that value delivered against one category is not at the expense of another (e.g. delivering economic development, but at significant cost to local biodiversity).

**Environmental, social and governance (ESG) criteria:** These are key criteria for sustainability reporting, in response to widespread investor and consumer demand. They are also increasingly used to inform investment decision making.

**Equator Principles:** Large infrastructure and industrial projects can have adverse impacts on people and on the environment. The Equator Principles (EP) are intended to serve as a common baseline and risk management framework for financial institutions to identify, assess and manage environmental and social risks when financing projects.

**ESIA:** Environmental and social impact assessment. It is conducted to identify and evaluate environmental and social risks in projects.

**ESMP:** Environmental and social management plan. It contains mitigation measures and actions to minimise the impact of environmental and social risks and to maximise potential environmental and social benefits over the life of a project.

**FBC:** Full Business Case.

**Future state:** This refers to all capabilities a project requires, to deliver its objectives.

**Grievance mechanism:** Processes that can be used by workers, community members and services users to make complaints or report concerns relating to any aspect of the project development process.

**IBC:** Intermediate Business Case.

**Infrastructure:** Infrastructure includes the physical and organisational networks and systems that supply and support reliable and effective domestic and international transport, digital communications, energy, flood protection, water and waste management, health and social services.

**International Finance Corporation (IFC) Performance Standards:** An international benchmark for identifying and managing environmental and social risk. It has been adopted by many organisations as a key component of their environmental and social risk management.

**Market:** A market is a group of organisations that integrates and competes to provide goods or services to one or more clients.

**MDB:** Multilateral development bank. This is an international financial institution set up by two or more countries to encourage economic development, e.g. World Bank.

**Nationally determined contributions (NDCs):** National targets for reductions in greenhouse gas emissions that countries set as their contributions to achieving the Paris Agreement goals.

**NGO:** Non-governmental organisation. A non-profit organisation which functions independently of government, with a social or political purpose.

**ODD:** Organisational Design and Development.

**Political economy:** Political economy focuses on the interrelationships among individuals, governments, and public policy and how these create economic, environmental and social outcomes.

**PPP:** Public Private Partnerships (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 Sponsor (for an Availability based PPP) or by users (for a Concession based PPP). There are many different possible definitions.

**Prime contractor:** The contractor responsible for the day-to-day oversight of a project, including management of vendors and traders and the communication of information to all involved parties throughout the course of the project.

**Procurement model:** The approach taken, and the contracting model used the purchase goods and services from the supply chain.

**Project:** Throughout this document, the term *project* means project, programme or portfolio.

**Project affected person:** A person who has been affected by the project due to loss of land, housing, other immovable assets, livelihood or a combination of these due to project activities. These include protected and/or marginalised groups such as indigenous peoples, women, children, persons with disabilities and informal sector workers.

**Project's area of influence:** This is not only the immediate footprint of the project and facilities, but also the surrounding land use and livelihood patterns of the men, women and youth neighbouring the project.

**Project justification:** The project justification is the collection of strategic benefits and objectives that the project expects to deliver, set against the costs and risks that the project entails.

**Risk:** the uncertainty of outcome, whether positive opportunity or negative threat, of actions and events.

**Risk and reward:** Risk and reward refer to an organisation's strategy, appetite and capability to balance expected returns against the risk that is linked to it. It is often expected that higher potential reward is associated with a linked increase in risk.

**Risk management:** the process for identifying and assessing risks, responding to them and then monitoring their resolution.

**Scenario planning:** A strategic planning method to help predict uncertainties within an organisation. Scenario planning involves predicting what future conditions or events are probable, what their consequences or effects might be and how to best respond to them.

**Safeguarding:** The organisational system in place to prevent harm or unethical behaviour being perpetrated by individuals [engaged in project development and delivery].

**SDG:** Sustainable development goals.

**Senior responsible owner (SRO):** This is the person who is ultimately accountable for a programme or project meeting its objectives, delivering the required outcomes, and realising the required benefits. They own the business case and are accountable for all aspects of governance. They will usually sit in the sponsor organisation.

**Sexual exploitation and abuse (SEA):** Sexual exploitation is any actual or attempted abuse of a position of vulnerability, differential power or trust for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another (UN Glossary on Sexual Exploitation and Abuse 2017, World Bank 2019). Sexual abuse is the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions (UN Glossary on Sexual Exploitation and Abuse 2017, World Bank 2019).

**Sexual harassment:** Any unwelcome sexual advances, request for sexual favours, and other verbal or physical conduct of a sexual nature.

**SEAH:** Sexual exploitation, abuse and harassment (see above).

**SMART:** Specific, Measurable, Achievable/Agreed, Realistic and Timed. Targets should fulfil these criteria in order to be meaningful and increase the likelihood of being successful.

**Sponsor:** The sponsor organisation secures the funding, owns the business case and is responsible for specifying the requirements to the client. In some contexts, the sponsor and client could be from the same organisation.

**Stakeholders:** Individuals or entities that have an interest in a project. They may have a positive or negative influence on project completion. They may be inside or outside organisations that sponsor a project or have an interest or a gain upon successful completion of a project.

**Target operating model:** The end state of how the asset will be: used, funded, owned, operated and maintained.

**Value for money:** 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).

**Vision:** A vision represents ‘a postcard from the future’ or a broad high-level description of where you are trying to get to. It should be aspirational but achievable; inspirational and motivational; and should engage the project team and stakeholders in the collective pursuit of the project objectives.

**United Nations Sustainable Development Goals (UN SDGs):**

Adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity. The 17 SDGs are integrated and recognise that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability.

**Whole life value:** An assessment of a project based on its long-term economic value and its environmental and social sustainability impacts.

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# Appendix A: Project Development Routemap – Assessments

## Complexity Assessment

Factor	Low level of complexity - Level 1	1 Low	2 Med	3 High	High level of complexity - Level 3
<p><b>Strategic Importance</b></p> <p>Does the project support delivery of national or regional policy, strategy and plans, including UN Sustainable Development Goals (SDGs) and nationally determined contributions to the Paris Agreement (NDCs)?</p>	<p>The project is necessary but not critical to the delivery of key strategic objectives (or legal obligations) making it low priority.</p> <p>Failure would not have significant impact outside of the organisation, e.g. through heightened public attention.</p> <p>The project has limited or no alignment with the UN SDGs and country NDCs.</p>				<p>The project/programme is critical to the delivery of key strategic objectives (or legal obligations) with very high expectation of benefits.</p> <p>The project would significantly contribute to the achievement of the UN SDGs and country NDCs.</p> <p>Failure would have major consequences outside the organisation, e.g. through heightened public or media attention.</p> <p>The project has the potential to provide significant environmental and social benefits to the population.</p>
<p><b>Stakeholders</b></p> <p>What is the nature of the groups or individuals with an interest in the project?</p>	<p>There is a low number of individuals in the project's area of influence, who will be directly or indirectly affected by the project.</p> <p>Stakeholders are unlikely to increase or change.</p> <p>Stakeholders include communities and/or project affected persons in the project's area of influence who are willing to engage with and be consulted on project design and development.</p>				<p>Stakeholders have high levels of influence over the project.</p> <p>Stakeholders may have differing or misaligned objectives/expectations.</p> <p>Stakeholders may change.</p> <p>Stakeholders include communities and/or project affected persons in the project's area of influence, who will be affected by the project.</p> <p>Stakeholders are unwilling to engage with or be consulted on project design and development.</p>

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Factor	Low level of complexity - Level 1	1 Low	2 Med	3 High	High level of complexity - Level 3
<p><b>Requirements and benefits</b></p> <p>Is it clear between the sponsor and client what is to be delivered (including environmental and social requirements) and how this will lead to meeting the strategic objectives?</p>	<p>There is a clear understanding of the requirements and expected benefits and these are linked to national policy.</p> <p>A set of agreed environmental and social standards has been agreed on between the sponsor and client.</p> <p>Key performance measurements link to goals, vision and values.</p>				<p>There is ambiguity around requirements and how the expected benefits contribute to the realisation of the goals, vision and values.</p> <p>Requirements and benefits have not been clearly articulated in the project documentation.</p> <p>There is a lack of clarity regarding the required environmental and social standards and/or safeguarding policies with which the project must align.</p> <p>There is no established procedure to assess environmental and social impacts.</p> <p>There is high uncertainty on the intended project impacts and how to ensure these are achieved.</p>
<p><b>Stability of overall context</b></p> <p>Will the scope, structure and political economy remain stable during project development?</p>	<p>There is a high degree of confidence in planning, estimates and the necessary approvals/investment.</p> <p>There is no significant risk or impact of change in the requirements, governance, delivery model or in the political economy.</p> <p>There is strong alignment of legal and regulatory frameworks with internationally agreed standards.</p> <p>There is no risk of social unrest due to external factors e.g. environmental hazards, national/local elections etc.</p>				<p>There is a low level of certainty within key estimates, planning and/or uncertainty over whether necessary approvals will be received.</p> <p>There is a high risk of requirements, governance, delivery model or political economy changing.</p> <p>Legal frameworks are misaligned with internationally recognised environmental and social standards.</p> <p>There is a potential risk of social unrest due to external factors, e.g. environmental hazards, national/local elections etc.</p> <p>There is the potential risk that existing factors could be further exacerbated by the project</p>

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Factor	Low level of complexity - Level 1	1 Low	2 Med	3 High	High level of complexity - Level 3
					development, e.g. pre-existing land disputes between communities.
<p><b>Financial impact and value for money</b></p> <p>How financially significant is the investment for the organisations involved and are the expected benefits proportional to the projected costs?</p>	<p>The investment is not significant relative to usual capital expenditure, or comparable investments. The project is not material to key suppliers and anticipated revenues, efficiencies or returns on investment are not fundamental to the organisations involved.</p> <p>Significant contingency budget is available for managing unforeseen risks.</p> <p>Low levels of environmental and social risks identified.</p>				<p>Investment is complicated and/or significant for the organisations involved.</p> <p>The project is expected to deliver high value for money, efficiencies or returns.</p> <p>Failure of the project could lead to poor value for money and limited benefits for the population.</p> <p>Limited contingency budget is available to manage unforeseen/emerging risks downstream.</p> <p>High levels of environmental and social risks have been identified.</p>
<p><b>Execution Complexity</b></p> <p>(including Technology)</p> <p>How difficult is the project to deliver due to factors that include: technology, approach and timescales?</p>	<p>The project does not include new or untested practices or technologies.</p> <p>Resource for phased implementation or piloting is available if required.</p> <p>The organisations involved have <i>routine</i> experience of all practices, key technologies and methods to be used.</p>				<p>The project requires the use of new/untested practices or technology.</p> <p>There is a wide scope and challenging objectives with limited risk management, such as phased implementation or piloting, due to immovable deadlines and demanding targets.</p>

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Factor	Low level of complexity - Level 1	1 Low	2 Med	3 High	High level of complexity - Level 3
<p><b>Interfaces</b></p> <p>Is there a high number of different organisations/bodies involved in delivery?</p>	<p>The project spans few boundaries throughout its lifecycle (organisational, political, and geographical).</p> <p>Success is not dependent on relationship management or factors outside of the organisations' control.</p> <p>Delegation and decision making is clear and accepted by all parties.</p> <p>The project does not require consultation with communities and/or organisations representing the interest of project affected persons – at any stage in its lifecycle.</p>				<p>The project spans many boundaries throughout its lifecycle (organisational, political and geographical) with internal and external partners.</p> <p>Success is dependent on factors mainly outside control of the organisation, and is dependent on relationship management.</p> <p>Delegation and decision making are not clear or not agreed.</p> <p>Consultation with communities and/or organisations representing the interest of project affected persons will be required on an ongoing basis during the project lifecycle.</p>
<p><b>Range of disciplines and skills</b></p> <p>To what extent are specialist skills required for delivery and available within the organisation?</p> <p>e.g. technical, modelling, social development, environmental, communications</p>	<p>Project delivery involves few specialist disciplines or skill requirements.</p> <p>Low levels of environmental and social risks have been identified which do not require in-depth or specialist skillsets to manage and mitigate.</p> <p>Acquiring the skills for project development and implementation is straightforward and readily available in the market.</p>				<p>Project delivery involves a large number of disciplines and skills and/or there is potential for strain on market capacity and capability.</p> <p>High levels of environmental and social risks have been identified requiring specialist skills for monitoring, management and design of mitigation measures.</p>

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Factor	Low level of complexity - Level 1	1 Low	2 Med	3 High	High level of complexity - Level 3
<p><b>Dependencies</b></p> <p>Is the project critical to the delivery of other projects or areas of work, or dependent upon other projects for its own success?</p>	<p>The project is not critical to delivery of other projects.</p> <p>Delivery of other projects is not critical to the project.</p>				<p>The project is critical to the delivery of other projects.</p> <p>Delivery of other projects is critical to the project.</p>
<p><b>Extent of change</b></p> <p>Does the project involve a significant change in the way the organisation conducts its work, or is it business as usual?</p>	<p>Project development and delivery do not represent a significant change to the organisation.</p>				<p>Project development and delivery represent a fundamental change to the organisation.</p> <p>Project development goes beyond business as usual in order to address emerging areas of risk, including environmental and/or social, or adjust to changes in legislation.</p>
<p><b>Organisational capability: performance to date</b></p> <p>Do the organisations involved in delivery of the project have successful track records?</p>	<p>It is reasonable to expect the organisations involved in delivery to be successful, due to past experience on similar projects.</p> <p>The organisations involved demonstrate successful track record in meeting internationally recognised standards for environmental and social sustainability.</p>				<p>The organisations involved in delivery have not routinely delivered under similar circumstances in the past.</p> <p>The organisations involved do not demonstrate experience in applying internationally recognised environmental and social standards.</p>

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Factor	Low level of complexity - Level 1	1 Low	2 Med	3 High	High level of complexity - Level 3
<p><b>Business environment</b></p> <p>Is the national/regional business environment conducive to achieving successful project outcomes and value for money?</p>	<p>There are clear and market-oriented legal, regulatory and institutional frameworks with strong oversight and productivity assurance.</p> <p>Environmental and social sustainability principles and approaches are well-documented and championed across the sector.</p>				<p>There are significant obstacles in attracting the required capability and private investment.</p> <p>Value for money is compromised by investor/market practice.</p> <p>Legal, regulatory and institutional frameworks are not effective or efficient.</p> <p>There is limited evidence of enforcement of environmental and social standards during project implementation.</p>
<p><b>Interconnectedness</b></p> <p>How well do the organisations involved understand the links and connections between the complexity factors above?</p>	<p>The alignment (both within and between organisations) of policy, culture, practices, technology, people, processes and procedures informs decision making and risk management.</p> <p>There is an integrated and thorough approach to environmental and social issues within/across organisations and evident in project implementation.</p>				<p>The alignment (both within and between organisations) of policy, culture, practices, technology, people, processes and procedures has not been sufficiently considered and/or their implications do not inform decision making.</p> <p>There is a siloed and surface-level approach to environmental and social issues.</p>

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## Capability Assessments

 <b>Sponsor Capability Assessment</b>		
<b>Type 1 - Limiting</b>		
<b>What sponsor characteristics do you recognise?</b>	<b>Current</b>	<b>Needed</b>
Strategic decision making is relatively short term in the context of the overall project timeframe.	<input type="checkbox"/>	<b>N/A</b>
Funding cycles do not match project spending requirements.	<input type="checkbox"/>	
Political interference compromises good practice.	<input type="checkbox"/>	
Sponsor lacks relevant commercial expertise and experience.	<input type="checkbox"/>	
The approach to infrastructure investment is reactive rather than adhering to a long-term plan.	<input type="checkbox"/>	
Insufficient planning results in inefficiency and a failure to maximise opportunity.	<input type="checkbox"/>	
Alternative solutions are not sufficiently considered.	<input type="checkbox"/>	
Projects are assessed/selected without reference to the relevant national plans/strategies, nationally determined contributions to the Paris Agreement (NDCs) or the UN Sustainable Development Goals (SDGs).	<input type="checkbox"/>	
The project rationale is unclear and does not have realistic and justified sustainable development objectives.	<input type="checkbox"/>	
The investment portfolio is ad hoc with projects handled as isolated projects, instead of a portfolio that is aligned to the long term organisational/national needs.	<input type="checkbox"/>	
There is a focus on following process to the detriment of benefit realisation.	<input type="checkbox"/>	
There is little or no reference to a project sustainability strategy or consensus on sustainability standards, climate risk, net zero or governance in relation to sustainability decisions	<input type="checkbox"/>	
Projects are assessed/selected without proper consideration of potential environmental and social risks and opportunities.	<input type="checkbox"/>	
Risk is not allocated to the party best able to manage it.	<input type="checkbox"/>	
It is unclear who is ultimately accountable for making key decisions.	<input type="checkbox"/>	
There is mistrust and/or poor communication between key organisations.	<input type="checkbox"/>	

There is an over reliance on technology, without addressing underlying organisational issues.	<input type="checkbox"/>
Unnecessary bureaucracy compromises delivery.	<input type="checkbox"/>
There is a low level of awareness of market capability and capacity.	<input type="checkbox"/>
High turnover in the sponsor organisation slows sponsor capability development.	<input type="checkbox"/>

<b>Type 2 - Adequate</b>		
<b>What sponsor characteristics do you recognise?</b>	<b>Current</b>	<b>Needed</b>
Sponsor requirements are clearly set out and key risks to their delivery are identified.	<input type="checkbox"/>	<input type="checkbox"/>
Projects are assessed/selected with reference to the relevant national plans/strategies, NDCs and/or the UN SDGs.	<input type="checkbox"/>	<input type="checkbox"/>
An accurate and frequently validated baseline of risks and benefits, including environmental and social impacts, is maintained.	<input type="checkbox"/>	<input type="checkbox"/>
Scenario planning to examine the impact of alternative future situations is undertaken; and/or other approaches to anticipating future needs are adopted.	<input type="checkbox"/>	<input type="checkbox"/>
The need for investment in project development/front end planning is recognised, to ensure that the project is set up to be successful.	<input type="checkbox"/>	<input type="checkbox"/>
The project is justified and a <i>5 Case Model</i> approach has been adopted.	<input type="checkbox"/>	<input type="checkbox"/>
The investment case approach (as set out in the <i>Infrastructure Business Case: International Guidance (2022)</i> ) is reviewed by the appropriate authorities before progressing to delivery.	<input type="checkbox"/>	<input type="checkbox"/>
It is clear who is ultimately accountable for decision making related to each aspect of the project.	<input type="checkbox"/>	<input type="checkbox"/>
There is clear governance for sustainability decisions and visible KPIs for sustainability performance	<input type="checkbox"/>	<input type="checkbox"/>
The 'right' set of projects are identified to form a programme, where 'right' is defined as those that will together deliver the required benefits.	<input type="checkbox"/>	<input type="checkbox"/>
The interface between the sponsor and client organisations has been clearly defined, with means for information sharing and management established.	<input type="checkbox"/>	<input type="checkbox"/>
There is active stakeholder and community engagement (including with project affected persons and representative groups) to capitalise on opportunities for maximising positive, and mitigate against any negative, environmental or social impacts.	<input type="checkbox"/>	<input type="checkbox"/>

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Lessons learned, including feedback from community engagement activities, are fed back into the decision-making process. Lessons learned activities include all stakeholder perspectives related to environmental and social issues.	<input type="checkbox"/>	<input type="checkbox"/>
Key project risks (including environmental and social) are identified and mitigation plans are in place.	<input type="checkbox"/>	<input type="checkbox"/>
The sponsor has access to environmental and social expertise to assist with monitoring, interface with client organisations and at key review points.	<input type="checkbox"/>	<input type="checkbox"/>
The sponsor has clear aspirations and targets around becoming net zero, and uses carbon accounting to assess the carbon impacts	<input type="checkbox"/>	<input type="checkbox"/>
<b>Type 3 - Optimised</b>		
<b>What sponsor characteristics do you recognise?</b>	<b>Current</b>	<b>Needed</b>
The project has an identified senior responsible owner who provides visible and consistent support and ownership of the vision.	<input type="checkbox"/>	<input type="checkbox"/>
There is continuity of investment that gives confidence to all organisations for planning purposes.	<input type="checkbox"/>	<input type="checkbox"/>
It is clear that the project is viable.	<input type="checkbox"/>	<input type="checkbox"/>
The sponsor requirements are clearly defined, the benefits are measurable and include wider considerations for marginalised and vulnerable people.	<input type="checkbox"/>	<input type="checkbox"/>
There are effective and clear decision-making processes that challenge assumptions about previous ways of working.	<input type="checkbox"/>	<input type="checkbox"/>
A proactive approach is adopted, that prioritises the delivery of positive outcomes in line with relevant national plans/strategies, NDCs and UN SDGs.	<input type="checkbox"/>	<input type="checkbox"/>
An agile and adaptive culture is in place.	<input type="checkbox"/>	<input type="checkbox"/>
Investment is aligned with relevant national plans/strategies and UN SDGs.	<input type="checkbox"/>	<input type="checkbox"/>
The sponsor uses adaptive portfolio and programme management to look at the big picture. They leverage/optimize value-adding interdependencies between projects, by flexing timings and their investment profile.	<input type="checkbox"/>	<input type="checkbox"/>
There is a clear programme of stakeholder engagement and support, including with project affected persons.	<input type="checkbox"/>	<input type="checkbox"/>
The sponsor has the autonomy and capability to enable delivery and manage resources.	<input type="checkbox"/>	<input type="checkbox"/>

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Decision making is informed by high quality project information, including performance data, benchmarking and lessons learned.	<input type="checkbox"/>	<input type="checkbox"/>
The sponsor ensures there is a clear operational plan for measurement and delivery of asset performance.	<input type="checkbox"/>	<input type="checkbox"/>

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## Client Capability Assessment

Type 1 - Limiting		
What client characteristics do you recognise?	Current	Needed
There is a lack of clarity and direction causing incomplete or unclear requirements.	<input type="checkbox"/>	N/A
It is unclear who is ultimately responsible for making key decisions.	<input type="checkbox"/>	
Risk management, including of environmental and social risks, does not follow agreed good practice or align with recognised standards.	<input type="checkbox"/>	
International and local standards are adopted without considering the relevance to the project.	<input type="checkbox"/>	
The client does not have internal environmental and social specialist capabilities or seek to engage external specialists as required.	<input type="checkbox"/>	
Customised solutions are developed to address individual issues, rather than adopting standard approaches.	<input type="checkbox"/>	
Competitive procurement processes do not incorporate environmental and social considerations and do not result in desired outcomes from the project.	<input type="checkbox"/>	
There is a highly risk-averse approach, which does not take market capability into account.	<input type="checkbox"/>	
The client organisation does not adapt or change behaviour to suit the circumstances.	<input type="checkbox"/>	
There is no incentive for the supply chain to invest in innovation.	<input type="checkbox"/>	
There is no incentive for the supply chain to invest in meeting inclusion and sustainable development objectives.	<input type="checkbox"/>	
There is no investment in the development of client capability.	<input type="checkbox"/>	
The project development and delivery focus on the capital delivery, to the detriment of wider sustainable development outcomes and associated asset management goals.	<input type="checkbox"/>	
Type 2 - Adequate		
What client characteristics do you recognise?	Current	Needed
The client organisation knows what is needed and prioritises accordingly, placing sustainable development at the centre of decision making alongside economic considerations.	<input type="checkbox"/>	<input type="checkbox"/>
Project purpose, principles and roles are established before the detail, e.g. tasks.	<input type="checkbox"/>	<input type="checkbox"/>

Sponsor requirements are translated into clear functional/technical requirements by the client.	<input type="checkbox"/>	<input type="checkbox"/>
The client constructively challenges requirements changes from the sponsor.	<input type="checkbox"/>	<input type="checkbox"/>
Sponsor or supplier proposals for unique solutions and specialist requirements are constructively challenged.	<input type="checkbox"/>	<input type="checkbox"/>
Appropriate measurements, metrics and targets for success, including for performance against environmental and social standards, are established.	<input type="checkbox"/>	<input type="checkbox"/>
Procurement process and market engagement explicitly emphasise environmental and social considerations at each stage.	<input type="checkbox"/>	<input type="checkbox"/>
Client benchmarks cost and performance and applies industry comparators as appropriate.	<input type="checkbox"/>	<input type="checkbox"/>
Business processes have been implemented and their benefits are understood.	<input type="checkbox"/>	<input type="checkbox"/>
Client has access to environmental and social expertise to assist with project development and quality assurance across the project lifecycle.	<input type="checkbox"/>	<input type="checkbox"/>
Invests in information management to support decision making.	<input type="checkbox"/>	<input type="checkbox"/>
Balances risk and reward appropriately with the supply chain, in a fair and ethical manner.	<input type="checkbox"/>	<input type="checkbox"/>
Demonstrates consistent and fair/ethical behaviours.	<input type="checkbox"/>	<input type="checkbox"/>
Makes timely decisions.	<input type="checkbox"/>	<input type="checkbox"/>
Governance and management arrangements include accountability for environmental and social impacts from senior to working levels.	<input type="checkbox"/>	<input type="checkbox"/>
Governance arrangements provide clear accountability to sponsoring organisation.	<input type="checkbox"/>	<input type="checkbox"/>
<b>Type 3 - Optimised</b>		
<b>What client characteristics do you recognise?</b>	<b>Current</b>	<b>Needed</b>
Prioritises long-term efficiency and environmental and social sustainability over short-term commercial gain.	<input type="checkbox"/>	<input type="checkbox"/>
Objectively challenges the sponsor requirements and budget.	<input type="checkbox"/>	<input type="checkbox"/>
Understands and applies whole-life cost, pollution prevention and sustainable use of natural resources principles, in line with the UN SDGs.	<input type="checkbox"/>	<input type="checkbox"/>
Effectively bridges interfaces between key stakeholders, including project affected communities and representative groups.	<input type="checkbox"/>	<input type="checkbox"/>
Ensures overall project sustainability objectives and needs are prioritised over individual stakeholder demands.	<input type="checkbox"/>	<input type="checkbox"/>

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Risk and reward/payment deliver optimum outcomes, explicitly incentivising fair and ethical practices.	<input type="checkbox"/>	<input type="checkbox"/>
The client has established processes for making sure the supply chain complies with any relevant ESG criteria	<input type="checkbox"/>	<input type="checkbox"/>
The client has effective processes to gather the information needed to meet ESG reporting requirements.	<input type="checkbox"/>	<input type="checkbox"/>
Makes informed use of competition to identify and procure partners and suppliers.	<input type="checkbox"/>	<input type="checkbox"/>
During delivery, advocates on behalf of the team – there is a ‘no-blame’ culture.	<input type="checkbox"/>	<input type="checkbox"/>
The client organisation is adaptive. It recognises the need to change as the project progresses through its development stages.	<input type="checkbox"/>	<input type="checkbox"/>
Builds capability, including for environmental and social management, prior to delivery and continues to build capability and capacity during delivery.	<input type="checkbox"/>	<input type="checkbox"/>
Strategic awareness of market appetite, capacity and capability.	<input type="checkbox"/>	<input type="checkbox"/>

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## Asset Manager Capability Assessment

### Type 1 - Limiting

What asset manager characteristics do you recognise?	Current	Needed
There is no clear lifecycle asset management strategy in the asset manager organisation.	<input type="checkbox"/>	N/A
The project requirements, business case and design indicate a lack of future thinking and/or inadequate links to a corporate asset management strategy.	<input type="checkbox"/>	
Poor decision making, governance structures and processes undermine the asset management strategy.	<input type="checkbox"/>	
Management reacts to situations and circumstances in an ad hoc manner and there are badly defined roles and responsibilities.	<input type="checkbox"/>	
There is a failure to ensure that the project delivers working assets at handover into operations and does not offer sustainable, longer term benefits.	<input type="checkbox"/>	
There is a failure to manage the asset risks through the life of those assets.	<input type="checkbox"/>	
Customised solutions are developed to address specific challenges rather than adopting standard approaches.	<input type="checkbox"/>	
There is limited use of asset information in developing project requirements.	<input type="checkbox"/>	
There are no, or inadequate, lifecycle parameters – such as asset reliability, availability, cost of maintenance, or operability – defined in the requirements.	<input type="checkbox"/>	
There is no strategic engagement with the asset operators and/or supply chain to ensure that the project solution is defined, developed, constructed and managed appropriately during the operational stage through to handback.	<input type="checkbox"/>	
Poor understanding of required activities to manage ongoing environmental and social risks and benefits, e.g. community consultation, labour and worker rights, inadequate skills to execute required activities.	<input type="checkbox"/>	
There is an inappropriate transfer of risks. For example, transferring risk to the market when it cannot own the risk, leading to inadequate safety and security risk management for the users of the service, once the infrastructure is operational.	<input type="checkbox"/>	
It is unclear who is ultimately accountable for making key decisions.	<input type="checkbox"/>	
There is mistrust and/or poor communication between key organisations.	<input type="checkbox"/>	
There is an over reliance on technology without addressing underlying organisational issues.	<input type="checkbox"/>	
There is a focus on following process to the detriment of outcomes and associated asset management goals.	<input type="checkbox"/>	

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Unnecessary bureaucracy compromises delivery.	<input type="checkbox"/>
There is a low level of awareness of market capability and capacity.	<input type="checkbox"/>
Poor development and retention of asset management capability leads to inadequate asset management (and, in turn, to sub-optimal whole-life value).	<input type="checkbox"/>

### Type 2 - Adequate

What asset manager characteristics do you recognise?	Current	Needed
There is a whole life asset strategy that delivers the right assets and capability to meet requirements and achieve the benefits in the short, medium and long term.	<input type="checkbox"/>	<input type="checkbox"/>
Assets are grouped to ensure that delivery, operation and maintenance is effective and efficient.	<input type="checkbox"/>	<input type="checkbox"/>
Asset performance is measured and monitored to support decision making and in line with the environmental and social management plan.	<input type="checkbox"/>	<input type="checkbox"/>
Assets are designed, operated and maintained with a range of future needs in mind and in line with the environmental and social management plan, with ESG-related KPIs.	<input type="checkbox"/>	<input type="checkbox"/>
Climate risk is considered in asset risk management. Project/asset climate mitigation plan is in place.	<input type="checkbox"/>	<input type="checkbox"/>
There are formalised whole life asset management processes, functions and roles.	<input type="checkbox"/>	<input type="checkbox"/>
There is a plan for operational readiness that ensures smooth handover of the asset from project delivery to operation, which includes reassessment of environmental and social risks.	<input type="checkbox"/>	<input type="checkbox"/>
There is active stakeholder and community engagement with a wide range of stakeholders including project affected persons.	<input type="checkbox"/>	<input type="checkbox"/>
Asset management capability requirements are set out in a competency framework. Staff with asset management responsibilities are involved in the project.	<input type="checkbox"/>	<input type="checkbox"/>
Data usage and information management is encouraged.	<input type="checkbox"/>	<input type="checkbox"/>

### Type 3 - Optimised

What asset manager characteristics do you recognise?	Current	Needed
Use of assets aligned to organisational goals. This leads to optimal management of physical assets over their lifecycle, to achieve the stated business objectives.	<input type="checkbox"/>	<input type="checkbox"/>
Continuity of performance through asset life is achieved.	<input type="checkbox"/>	<input type="checkbox"/>
There is effective governance, leadership and change management of decision making for whole life management of assets.	<input type="checkbox"/>	<input type="checkbox"/>

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Investment in assets is effective (producing the desired benefits, e.g. reliability, required levels of service) and efficient (providing good value for money) as it is underpinned by reliable information.	<input type="checkbox"/>	<input type="checkbox"/>
A holistic organisational view of assets is taken.	<input type="checkbox"/>	<input type="checkbox"/>
There is an effective operational readiness strategy, for the newly created/developed asset in place.	<input type="checkbox"/>	<input type="checkbox"/>
Asset management capability has been developed based on a recognised approach to assessment and development.	<input type="checkbox"/>	<input type="checkbox"/>
Training for asset management staff includes a component on environmental and social risk management.	<input type="checkbox"/>	<input type="checkbox"/>
There is informed data usage and knowledge management leading to optimal performance of the assets.	<input type="checkbox"/>	<input type="checkbox"/>
Contract incentives are aligned to the sponsor's whole life asset requirements.	<input type="checkbox"/>	<input type="checkbox"/>
There is a clear operational plan for measurement and delivery of asset performance, including performance against environmental and social standards.	<input type="checkbox"/>	<input type="checkbox"/>
Climate risk is embedded into the organisational asset risk management strategy, with appropriate climate mitigation plans at the asset level. There is performance reporting to monitor the effectiveness of these plans at project level.	<input type="checkbox"/>	<input type="checkbox"/>

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## Market Capability Assessment

### Type 1 - Limiting

What market characteristics do you recognise?	Current	Needed
The market comprises many small individual organisations working for multiple clients.	<input type="checkbox"/>	N/A
One party tends to dictate the relationship, e.g. client or supplier dominates.	<input type="checkbox"/>	
Work is normally awarded based on lowest price, therefore suppliers focus on price to the detriment of quality.	<input type="checkbox"/>	
Little interaction between suppliers and the client prior to contract award.	<input type="checkbox"/>	
No collective understanding of market's capacity to deliver sustainable outcomes.	<input type="checkbox"/>	
There is limited understanding of expected environmental targets and standards, the need to align with G20 principles and UN SDGs, or what is required to meet relevant ESG criteria.	<input type="checkbox"/>	
Suppliers do not understand the client business and therefore cannot offer business-oriented solutions.	<input type="checkbox"/>	
Limited skillsets in management of environmental and social risks, e.g. pollution prevention, biodiversity conservations, resettlement/relocation, land acquisition, modern slavery, gender-based violence and harassment.	<input type="checkbox"/>	
Roles and responsibilities across the supply chain are hierarchical, with each subcontract adopting the same terms as the awarding supplier's contract.	<input type="checkbox"/>	
Supplier subcontracts have no regard for local employment or inclusion objectives.	<input type="checkbox"/>	
Design tends to be a discrete activity completed before implementation suppliers are invited to tender, and there is no inclusive consultation process.	<input type="checkbox"/>	
Inconsistent performance and unfair/unethical labour practices resulting in unfulfilled outcomes. Suppliers have limited understanding of how to minimise the risk of modern slavery.	<input type="checkbox"/>	
Supplier behaviour and areas of focus are not aligned with sponsor requirements or client model, which may mean the supply chain performs contrary to expectations.	<input type="checkbox"/>	

<b>Type 2 - Adequate</b>		
<b>What market characteristics do you recognise?</b>	<b>Current</b>	<b>Needed</b>
The market works closely together up and down the tiers of the supply chain.	<input type="checkbox"/>	<input type="checkbox"/>
Clients manage suppliers strategically but encourage interaction and contribution.	<input type="checkbox"/>	<input type="checkbox"/>
Agreements between suppliers and/or customers enable long-term investment in performance improvement, aligned with UN SDGs and expected environmental and social standards.	<input type="checkbox"/>	<input type="checkbox"/>
The market demonstrates an understanding of how to deliver economic, environmental and social value through the way they deliver projects.	<input type="checkbox"/>	<input type="checkbox"/>
Suppliers understand the client objectives and offer business-oriented solutions, leading to mutual benefit.	<input type="checkbox"/>	<input type="checkbox"/>
There is an integrated, team-based approach between the client, key suppliers and environmental and social experts.	<input type="checkbox"/>	<input type="checkbox"/>
Design is iterative and involves those involved in installation, operations and maintenance (whole life approaches).	<input type="checkbox"/>	<input type="checkbox"/>
The market collaborates to find ways of getting more benefit for the same cost, thus adding value.	<input type="checkbox"/>	<input type="checkbox"/>
Suppliers form multi-skilled joint ventures and consortia for delivery of specific projects, with inclusive and ethical working practices in place.	<input type="checkbox"/>	<input type="checkbox"/>
Time, cost, and quality requirements are generally met.	<input type="checkbox"/>	<input type="checkbox"/>
Performance across the supply chain is measured, understood, communicated and acted upon.	<input type="checkbox"/>	<input type="checkbox"/>
The market is aware of, and implements, relevant international standards, e.g. ISO, and complies with necessary regulations related to sustainability and/or ESG criteria.	<input type="checkbox"/>	<input type="checkbox"/>
<b>Type 3 - Optimised</b>		
<b>What market characteristics do you recognise?</b>	<b>Current</b>	<b>Needed</b>
The whole industry is interconnected, and those interconnections are understood and maximised.	<input type="checkbox"/>	<input type="checkbox"/>
Suppliers bring forward supply chain partners they feel will add the most value to successful delivery and sustainable development.	<input type="checkbox"/>	<input type="checkbox"/>
Organisations regularly participate in repeat activity, where many partners at all levels move from project to project and/or customer to customer. This leads to the upskilling of the repeat labour force.	<input type="checkbox"/>	<input type="checkbox"/>

Organisations ensure that all parts of the chain understand importance of upholding environmental and social standards and prioritise the project's sustainable development goals and adoption of inclusive and ethical practice.	<input type="checkbox"/>	<input type="checkbox"/>
Organisations ensure that all parts of the chain integrate environmental and social risk management into business practices.	<input type="checkbox"/>	<input type="checkbox"/>
The project structure, and associated arrangements, are agreed by all organisations in the integrated project team.	<input type="checkbox"/>	<input type="checkbox"/>
There is a market focus on removing unnecessary duplication and wastage, thus adding value.	<input type="checkbox"/>	<input type="checkbox"/>
There is long-term investment to building market capability, e.g. research and development, facilities, and skills development (especially of vulnerable project affected persons).	<input type="checkbox"/>	<input type="checkbox"/>
Established and long-term joint ventures and new companies are formed to offer integrated solutions.	<input type="checkbox"/>	<input type="checkbox"/>
The market can evidence that it is technically mature by demonstrating a track record of delivery to ESG criteria, as standard practice, including reporting and disclosure.	<input type="checkbox"/>	<input type="checkbox"/>

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# Appendix B: Routemap Report template

## Introduction

*Insert any relevant background information (e.g. project objectives, project stage, project history, who the commissioning body is).*

## Section 1: Routemap strategy

- Routemap scope**

The scope of the project being considered for the Routemap is/was as follows:

*Insert agreed scope and areas of interest for the Routemap application. The scope may be the full breadth of the project (full project review) or specific areas of capability only (modular deep dive). This should also include why Routemap is being used – this will align with the answers to the qualifying checklists in Step 1.*

- Routemap Organisations**

The Routemap uses the terms sponsor, client, asset manager and market to describe the areas of responsibility involved with development of the project – and the organisations fulfilling these responsibilities.

Those organisations, for the purpose of this Routemap application, are:

Routemap organisation	Organisation fulfilling that role
Sponsor	<i>Insert the name of the organisation and team fulfilling this role for this project, or those responsible for considering the requirements of this role. For example, even before a supply chain is procured, the client will be considering what capabilities are required from the market.</i>
Client	
Asset manager	
Market	
Other key stakeholders who should be involved in the Routemap	

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- **Routemap timescales**

The overall timescales for the Routemap are/were agreed as follows:

*Insert relevant milestones – this should align to the project stage.*

## Section 2: Routemap outputs

- **Routemap findings**

*Insert any required background information, e.g. the approach to the gap analysis and who was involved.*

The agreed findings are as follows:

*Insert agreed findings from the gap analysis and as agreed by the Commissioning Body and any other relevant stakeholders. Be sure to include areas of good practice.*

### **Additional remarks on the gap analysis:**

*Insert supporting evidence from the completed:*

*Complexity profile*

*Collated capability assessments*

*Complexity-capability gap analysis chart*

*Interviews (if appropriate), e.g. anonymised quotes from interviewees*

- **Routemap recommendations**

*Insert any required background information, e.g. the approach to developing the recommendations and who was involved.*

The agreed recommendations are as follows:

Findings	Recommendations
<i>Copy and insert findings from previous section.</i>	<i>Insert agreed recommendations as they relate to the finding(s) they address.</i>

### Section 3: Routemap action plan

*Insert any required background information, e.g. the approach to developing the action plan and who was involved.*

The agreed plan for enhancement is as follows:

*Insert image of completed action planning template, if available, (see Appendix G).*

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# Appendix C : Routemap Implementation Plan template

## Introduction

*Insert any relevant background information, e.g. project stage, commissioning body, project history.*

## Implementation plan – Planning and monitoring the Routemap

Refer to the approach outlined in the Routemap Strategy and edit the following table to assist you in planning and monitoring the Routemap.

Application Step/task	Related template/ supporting material	Who	By when	Progress
<b>Step 3 – Routemap strategy</b>				
Complete the document review	Document list in Step 3			
Prepare the Routemap strategy	Routemap Report template			
Obtain approval for the Routemap strategy	Routemap Report template			
<b>Step 4 – Plan how to implement the Routemap strategy</b>				
Complete the first draft of the implementation plan (planning and monitoring table, assessment schedule, interview schedule, workshop schedule, application requirements)	Implementation Plan template			
Obtain approval for the implementation plan				
Implementation plan review and monitoring				
<b>Step 5 – Information gathering (if this step is to be done in a workshop, consider the additional/alternative tasks required)</b>				
Briefing of Routemap Support and participants	Refer to Routemap strategy			

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Application Step/task	Related template/ supporting material	Who	By when	Progress
Manage completion of the assessments	Complexity and Capability assessments			
Preparation of interview questions (if applicable)	Example interview questions			
Undertake interviews (if applicable)				
Manage review of interview notes (if applicable)				
<b>Step 6 – Conduct gap analysis</b>				
Create complexity profile	Step 6			
Collate capability assessments	Step 6			
Create complexity-capability profile	Step 6			
Development of the findings	Example findings/ Routemap Report template			
<b>Step 7 – Agreeing the findings</b>				
Share and obtain approval for the findings	Routemap Report template			
Share the findings with relevant stakeholders (if applicable)	Refer to Routemap Strategy/Routemap Report template			
<b>Step 8 – Developing recommendations (if this step is not done in a workshop, consider the alternative tasks required)</b>				
Agree workshop date(s) and participants				
Management of workshop participation (stakeholder participation and requirements)				
Management of workshop logistics (venue, timings)				
Management of workshop facilitation (agenda,	Routemap Report template			

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Application Step/task	Related template/ supporting material	Who	By when	Progress
presentation material, note taking)				
<b>Step 9 – Action planning (if this step is not done in a workshop, consider the alternative tasks required)</b>				
Agree workshop date(s) and participants				
Management of workshop participation (stakeholder participation and requirements)				
Management of workshop logistics (venue, timings)				
Management of workshop facilitation (agenda, presentation material, note taking)	Routemap Report template			
<b>Step 10 – Integrate improvement plans into the project development activity</b>				
Finalise the action plan and obtain approval	Routemap Report template			
Agree with workstream/action owners how the action plan will be integrated into existing activity/plans				
Share the action plan and approach to integration with relevant stakeholders (if applicable)				
Capture benefits of the Routemap application. Plan how to share these with other project teams.				

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# Appendix D: Guiding questions and documents to use in Routemap

## What to look for – rationale

The following list of ‘what to look for’ in the area of project rationale can help if developing interview questions during **Step 5** and undertaking the gap analysis during **Step 6**.

- Is there a clearly articulated vision of what success looks like? Is success articulated in terms of environmental and social sustainability?
- Is there a robust environmental and social analysis informing and underpinning the rationale?
- Does the vision have project team and stakeholder buy in? Does everyone share this vision?
- What environmental and social safeguards standards are being applied to the project? Are these aligned with international good practice, e.g. IFC Performance Standards?
- Is there a clear set of project objectives, and is this aligned to policy and wider government strategy?
- Has the sponsor clearly articulated their requirements? And are these aligned to the project objectives and business case?
- Is it clear who has responsibility for delivery of each of the benefits?
- Are the benefits owned and championed by influential stakeholders?
- Is it clear how the expected benefits of the project relate to strategic objectives/policy?
- Is it clear how project outputs will enable realisation of the expected benefits? Is there a clear line of sight from benefits, to outcomes to outputs?
- Are the resources required to achieve the desired outputs understood and reflected in the organisational design and development strategy?
- Are there SMART (specific, measurable, achievable, realistic, time-bound) measures for managing and proving the delivery of benefits?
- Is there a management plan defining ownership of benefits realisation? And does this align with the governance arrangements?
- Is there a means of measuring benefits, outcomes and outputs that will ensure the project will not run out of control?

**Useful project documents related to rationale:**

- Business case (strategic justification)
- Environmental and social strategy or document on policy/commitments to sustainable development and standards
- Communications strategy
- Communications plan
- Benefits map
- Environmental and Social Impact Assessment (ESIA)
- Environmental and Social Management Plan (ESMP)
- Data (and modelling) to evidence assumptions
- Record of stakeholder/users’ consultation
- Benefit realisation plan
- Stakeholder communications plan
- Progress reports to the Board
- Performance monitoring system
- Benefit delivery milestones
- Ensure the data you need to evaluate progress is available
- Handover process

**What to look for – governance**

The following list of ‘what to look for’ in the area of governance can help if developing interview questions during **Step 5** and undertaking the gap analysis during **Step 6**.

- Is there a clear statement of the outcomes, objectives and parameters for delivery?
- Is there a clear system for delegation and decision making and do the existing or proposed arrangements allow for effective decisions to be made?
- Is it clear which parties are accountable for what, and has that been formalised?
- Does the governance framework clearly show who is accountable for ensuring environmental and social standards are being met? Has accountability for this been built in at senior levels?
- Do assurance and decision-making processes have dedicated inputs from environmental and social advisers?
- Do the current or proposed governance arrangements allow for efficient decisions to be made, e.g. decision routes that are not overly onerous?
- Do people have sufficient authority to discharge their accountabilities?
- Is there a process for controlling change?
- Is there a defined system for assurance?
- Are there robust internal controls for risk, performance and financial management?
- Are risks allocated to organisations that have the ability and appetite to own them?

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- Are good practices in transparency, quality reporting and audit apparent?
- Do the current or proposed governance arrangements give stakeholders confidence in project delivery?
- Are there arrangements for intervention and remedy in the event of difficulty?

**Useful project documents related to governance:**

- Standing orders (public authority)
- Document of incorporation (company)
- Sponsor requirements
- Business case
- Environmental and Social Impact Assessment (ESIA)
- Environmental and Social Management Plan (ESMP)
- Terms of reference for decision bodies
- Agreements, contracts and funding arrangements
- Regulatory/statutory requirements
- Scheme of delegation
- Execution strategy
- Integrated assurance and approvals plan
- Risk management strategy
- Strategic infrastructure plan
- Strategic frameworks for public investment implementation
- Conflict of interest policies
- Systems for internal controls and financial reporting

**What to look for – systems integration**

The following list of ‘what to look for’ in the area of systems integration can help if developing interview questions during **Step 5** and undertaking the gap analysis during **Step 6**.

- Have all the systems to be delivered by the project been defined? Including how they will be operated together with existing systems within and outside of the asset manager’s control?
- Are the impacts of the systems being delivered by the project on the current operating model understood? Including the changes necessary to make the project a success?
- Have the interfaces been identified within and between existing and new systems? Are responsibilities for managing integration across these interfaces clear?
- Does project leadership maintain focus on the end state and how systems will need to operate together effectively? Is there a plan to build and evolve the systems integration capabilities needed?

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**Useful project documents related to systems integration:**

- Target operating model
- Asset management strategy
- Requirements' baseline (including sponsor's, regulatory or statutory, and asset information requirements)
- Configuration baselines
- Governance framework including terms of reference for decision making bodies
- Integrated assurance and approval plan
- Delivery strategy and model
- Systems integration strategy and plan
- Change management plan
- Commissioning and handover plan
- Information management plan
- Assumptions log
- Data (and modelling) to evidence assumptions
- RACI matrix (Responsible, Accountable, Consulted and Informed)
- Record of stakeholder/user consultation
- Risk register
- Interface control documents
- Traceability, verification and validation evidence

**What to look for – execution strategy**

The following list of 'what to look for' in the area of Execution Strategy can help if developing interview questions during **Step 5** and undertaking the gap analysis during **Step 6**.

- Are the interfaces between the sponsor and client clear?
- Are the interfaces between the client and supply chain clear?
- Is there an agreed delivery approach (how the client will deliver the required outputs)?
- Do the current or proposed organisational structures support the delivery approach?
- Have the key transition points and hand-offs through the project's lifecycle been identified?
- Has there been ongoing monitoring of environmental and social risk mitigation measures and assessments of new or emerging environmental and social risks at each transition point?
- Do all review points and processes include clear inputs/approval from environmental and social advisers?
- What is the means for ensuring the delivery approach will remain flexible?
- What is the means for ensuring continuous improvement through the project lifecycle?

- How will a focus on the full project lifecycle and the end point in particular be maintained?

**Useful project documents related to execution strategy:**

- Project development agreement
- Sponsor’s requirements
- Governance framework
- Project execution strategy (if available)
- Environmental and Social Management Plan (ESMP)
- Organisational Chart

**What to look for – organisational design and development**

The following list of ‘what to look for’ in the area of Organisational Design and Development can help if developing interview questions during **Step 5** and undertaking the gap analysis during **Step 6**.

- Is the organisation new to project-based working?
- Is the project considering a new or different Client Model (e.g. moving to thin client) requiring new or different organisational boundaries?
- Is it clear what Client Model will be used?
- Is the organisational structure required to support the Client Model defined?
- Is there a clear understanding of the capabilities required to support the agreed delivery model?
- Is the project considering a new or different delivery approach (e.g. Agile, off-site construction, BIM) requiring new or differing behaviours? Are efficiencies being sought? Is collaborative working required?
- Are there any aspects of the wider corporate context that pose opportunities and constraints, and does the ODD strategy for the project respond to these?
- Does the resourcing strategy match the work breakdown, functional analysis and cultural analysis?
- Is the organisational design aligned with governance and procurement decisions?
- Does the approach to organisational development demonstrate alignment with agreed standards relating to safeguarding, non-discrimination, equal opportunities and/or inclusion of marginalised groups?
- Is there a clear understanding of the extent of capability development required to match the chosen delivery model and approach?
- Has an appropriate approach for implementing the capability enhancement been selected?

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- Have the transition points in the project's life, where changes in capability/behaviour will be required, been defined and does the ODD strategy respond to these?
- Is there a clear understanding of the changes required at key transition points to manage emerging environmental and social risks?
- Is there a robust plan for developing and implementing the necessary capability for the required stages of delivery?
- Is there a plan for ongoing monitoring and review of the capability enhancement, with allowance for adjustments to be made as necessary?
- Is there a plan for how resources will exit or transfer to other projects (when this project has completed)?
- Have good practice and lessons learned from relevant sources been considered?

**Useful project documents related to organisational design and development:**

- Target operating model
- Delivery model
- Project execution strategy
- Asset management strategy
- Governance arrangements
- Procurement strategy
- Environmental and Social Management Plan (ESMP)
- Organisational chart
- Information on organisation resources
- Succession plans

**What to look for – procurement**

The following list of 'what to look for' in the area of Procurement can help if developing interview questions during **Step 5** and undertaking the gap analysis during **Step 6**.

- Does the procurement strategy provide confidence that requirements are clearly understood and communicated?
- Have the required environmental and social standards been clearly articulated in the procurement strategy? How will these requirements be communicated to the market?
- Do the bidding documents include specific references to environmental and social requirements, e.g. in the terms of reference and evaluation criteria for bids?
- Does the procurement strategy enable structured engagement with the market place, including an assessment of the market's appetite for the project?
- Does the procurement strategy enable full consideration of the scope when packaging the requirements, which has been tested with the market?

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- Does the procurement strategy ensure a full assessment and sustainable allocation of the risk between the client and the supply chain in order to ensure value for all parties involved?
- Does the procurement strategy enable a fair and appropriate consideration of all possible routes to market?
- Does the procurement strategy provide a clear plan to communicate the benefits of the project?

**Useful project documents related to procurement:**

- Sponsor requirements
- Business case
- Execution Strategy
- Corporate Procurement Policies
- Existing Framework Agreements
- Risk management Strategy
- Organisational Design and Development Strategy

**What to look for – risk management**

The following list of ‘what to look for’ in the area of Risk Management can help if developing interview questions during **Step 5** and undertaking the gap analysis during **Step 6**.

- Is there clarity of the objectives of the project and the allocation of risk between sponsors, stakeholders and supply chain?
- Is there clarity on the risk regarding environmental and social issues? Are environmental and social standards aligned with internationally recognised standards, e.g. IFC or Equator Principles?<sup>22</sup> Are these integrated into broader risk management processes and procedures?
- Does a formal risk management process exist, and is it used by the organisations to support design and delivery activities?
- Does project leadership recognise the importance of risk management and actively promote its implementation and use at all levels of the project?
- Do senior managers challenge the risks to the project and understand the organisation’s risk appetite?
- Is there a comprehensive understanding of the project’s assumptions, uncertainties and risks, and can a reasonable quantitative assessment of their impacts on cost and schedule forecasts be made?
- Is the risk management approach based on a comprehensive assessment of the socio-economic context, e.g. prevalence of gender-based violence, labour force participation

<sup>22</sup> See Appendix E for further detail on IFC standards and the Equator Principles.

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rates, land use and livelihood patterns of populations neighbouring the project, relevant legislation, identification of vulnerable and/or marginalised groups etc.

- Is there an appropriate level of risk identification, mapping and mitigation for the lifecycle stage of the project?
- Does the risk management approach reflect the current and future required capability of the client, sponsor and market?
- Does the risk management approach inform the governance and risk and contingency allocation for project developments and delivery?
- Is consideration of risk – both quantitative and qualitative – used to inform decision making?
- Are inputs and outputs of quantitative risk assessments shared with sponsors and funders to provide confidence on delivery commitments?
- Is risk management recognised by internal and external stakeholders as an effective component of the assurance framework?
- Are there any sensitive or high-risk areas that require specialist technical input, e.g. sexual exploitation and abuse, resettlement and land acquisition?
- Does the approach to risk management identify incentives to be included in KPIs and procurement approaches in order to align objectives?

**Useful project documents related to risk management:**

- SWOT analysis
- PESTLE analysis
- Stakeholder risk appetite assessment
- Stakeholder management plan
- Environmental and Social Impact Assessment (ESIA)
- Environmental and Social Management Plan (ESMP)
- Strategic outline business case
- Governance arrangements
- Public announcements about the project
- Lessons learned reports from other major projects

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## What to look for – asset management

The following list of ‘what to look for’ in the area of asset management can help if developing interview questions during **Step 5** and undertaking the gap analysis during **Step 6**.

- Is it clear where the project fits into the asset management strategy and is there an up-to-date portfolio position confirming the requirement for the project?
- Are the expected asset management outcomes from the project clear and achievable?
- Is there an appropriate decision-making methodology to provide the optimum whole life cost and value solution?
- Has asset performance and risk data been incorporated into the option selection?
- Does the project team have the asset management capability needed to deliver a project of this complexity?
- Will the proposed governance framework ensure asset management outcomes are protected?
- Is it clear what the risk and opportunity drivers for the project deliverables are (untested technology vs. lower maintenance cost)?
- Is it clear what additional environmental and social risks may emerge during handover, operation and maintenance of the asset?
- Who is responsible for benefits realisation and has it been considered how this will change over the life of the project?
- Is there a ‘project asset manager’ or equivalent to oversee the whole-life requirements and relationships with operations right through to handover?
- Is there budget and resource for: stage reviews of lifecycle parameters; development of asset management strategies; handover of all deliverables; and post-project support?
- Has the asset management strategy been informed by a meaningful consultation and engagement process with project affected communities, potential service users and their representative organisations?
- Has the asset manager formally committed to upholding the environmental and social standards requested by the client or sponsor?

### Useful project documents related to asset management:

- ISO 9001 and 55001
- BIM Level 2
- Strategic Risk Register
- Asset Management Strategy
- Organisation Information Requirements
- Asset Information Requirements
- IFC Performance Standards Guide

# Appendix E: Sustainability and other Strategic Priorities

This appendix builds on Schedule 4 of the *Infrastructure Business Case: International Guidance (2022)*. It includes:

- An introduction to ESG criteria
- An overview of the International Finance Corporation (IFC) Performance Standards
- An overview of the Equator Principles
- An overview of the UN sustainable development goals (SDG)
- Introducing Environmental and Social Impact Assessments (ESIA) and Environmental and Social Management Plans (ESMP)
- A gender and inclusion framework to use when planning infrastructure projects
- Guidelines on mitigating the risks of Sexual Exploitation, Abuse and Harassment (SEAH)

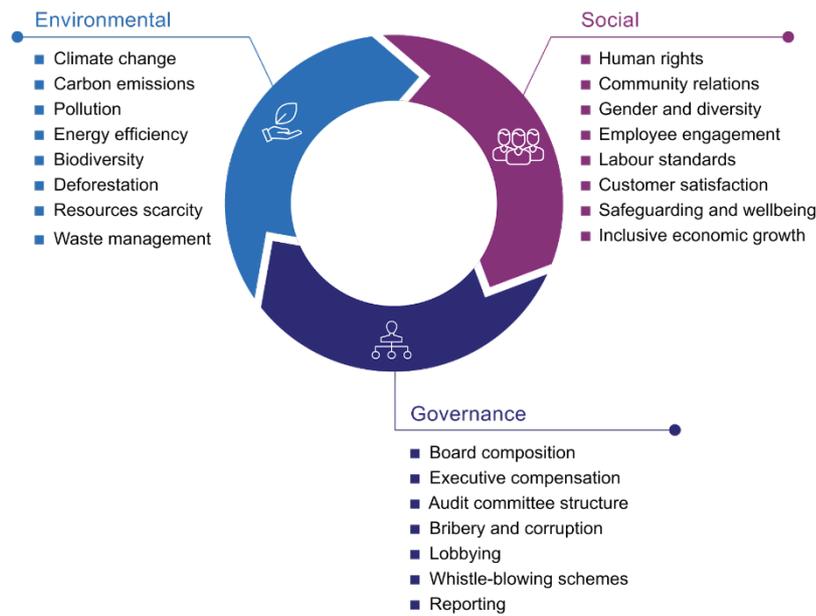
More information on sustainable infrastructure development can be found throughout the Routemap handbook and modules.

## Environmental, social and governance (ESG) criteria

ESG criteria were introduced in Section 1, and are used by responsible investors to ensure project requirements are prioritised throughout the project lifecycle, evaluate investment opportunities and also to influence corporate decisions as shareholders. They cover how a project will deliver economic, environmental and social value, as well as including requirements relating to robust governance and transparent reporting on these topics. Together, these give investors the confidence and assurance that value is maximised and risk/harm minimised. They cover:

- **Environment:** This covers how organisations impact and are impacted by climate change and broader environmental issues, like biodiversity. Reporting on climate change is rapidly becoming mainstream. Global reporting standards are emerging that are underpinned by international agreements on underlying climate policy. Beyond climate, the data needed to drive wider environmental objectives is less developed – although this is changing through initiatives like the Task Force on Nature-related Financial Disclosures (TNFD).
- **Social:** This includes factors ranging from modern slavery to international development. Investors have long considered these matters in their investment decisions and many engage actively with investee companies on these topics. Globally agreed reporting standards may take longer to emerge, but there are existing frameworks which may provide a basis for future global standard setting.
- **Governance:** This covers the means by which a company is controlled and directed, most usually through a board of directors. It is the longest established area for investor engagement and extensive disclosure is already provided by companies through existing company law and other requirements.

Figure 15.1: Examples of ESG criteria



Although there is an overlap, environmental and social value refers to the value (positive or negative) that all projects deliver, whereas ESG requirements refer to the specific criteria that investors place on a project and may not apply to all projects.

### Overview of the IFC Performance Standards

Most multilateral banks and financiers have policies or standards in place aimed at avoiding, minimising and mitigating negative environmental and social (E&S) impacts of a project. These policies are aimed at protecting people, ecosystems and biodiversity that may be negatively impacted by the project development process, project delivery, operation and maintenance processes of a project. These policies or standards are commonly referred to as E&S safeguards. In recent years financial institutions, such as multilateral development banks are increasingly using the process of applying safeguards to detect E&S risks, minimise negative impacts, and identify opportunities for enhanced project impacts, e.g. skills development or job creation for those affected by the project.

The IFC Performance Standards<sup>23</sup> are considered an international benchmark for identifying and managing E&S risks. For infrastructure projects, they offer a comprehensive framework covering the full spectrum of E&S risks and opportunities. This framework has been adopted by many organisations as a key component of their E&S risk management. Most multilateral development banks have their own standards, modelled closely on the IFC Standards. For example:

- the **Green Climate Fund (GCF)**, which provides climate finance to developing countries, has adopted an Environmental and Social Policy that is highly aligned to the IFC Performance Standards. In order to gain access to finance from the GCF, organisations must go through an application process to become an accredited entity.

<sup>23</sup> IFC Performance Standards, 2012: [https://www.ifc.org/wps/wcm/connect/Topics\\_Ext\\_Content/IFC\\_External\\_Corporate\\_Site/Sustainability-At-IFC/Policies-Standards/Performance-Standards](https://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At-IFC/Policies-Standards/Performance-Standards)

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The requirements of this application stipulate that the organisation have an E&S policy and E&S risk management system that is aligned with the IFC Performance Standards

- the IFC and the World Bank are part of the **World Bank Group**. The World Bank Environmental and Social Framework, which was recently updated to include greater focus on areas such as protecting people living with disabilities, aligns with the IFC Performance Standards. It is a more relevant resource for government/aid-funded infrastructure; the IFC standards are more focused on private sector-financed projects.

<b>Performance Standard 1:</b>	Assessment and Management of Environmental and Social Risks and Impacts
<b>Performance Standard 2:</b>	Labour and Working Conditions
<b>Performance Standard 3:</b>	Resource Efficiency
<b>Performance Standard 4:</b>	Community Health, Safety and Security
<b>Performance Standard 5:</b>	Land Acquisition and Involuntary Resettlement
<b>Performance Standard 6:</b>	Biodiversity Conservation and Sustainable Management of Living Natural Resources
<b>Performance Standard 7:</b>	Indigenous People
<b>Performance Standard 8:</b>	Cultural Heritage

### Overview of the Equator Principles

The Equator Principles provide a framework for E&S risk management in project finance that has been adopted by a number of financial institutions. They focus on environmental and social risk management in project finance.

The Equator Principles are based on the IFC Performance Standards and state the minimum E&S standards that project finance transactions of adopting financial institutions must comply with. They cover project categorisation, environmental and social assessment and action plans, applicable standards, stakeholder engagement, grievance mechanisms, project independent review, use of covenants for compliance with E&S requirements and reporting.

#### Key resources:

- World Bank Environmental and Social Framework (updated 2018)<sup>24</sup>
- IFC Performance Standards 2012
- Equator Principles IV<sup>25</sup>

<sup>24</sup> World Bank Environmental and Social Framework, 2018: <https://www.worldbank.org/en/projects-operations/environmental-and-social-framework>

<sup>25</sup> Equator Principles, EP4, 2020: <https://equator-principles.com/>

## Overview of the Sustainable Development Goals and of the Principles for Positive Impact Finance

The Sustainable Development Goals (SDGs)<sup>26</sup> were adopted by the UN General Assembly in 2015 as a means to focus the international community on achieving sustainable development by 2030. The framework is composed of 17 interdependent economic, environmental and social global goals, each of which is underpinned by targets and measurement indicators:

Figure 15.2: Sustainable Development Goals



In 2017, the UN Environment Programme Finance Initiative released the Principles for Positive Impact Finance<sup>27</sup>, a framework helping the financial sector assess its contribution to the achievement of the SDGs.

The Principles were born out of the recognition that today’s financial institutions are expected to not only manage their portfolios’ environmental and social risks, but also actively seek to make a positive impact on the economy, society and the environment through their financing/investment activities.

The Principles are:

1. define positive impact finance;
2. ask institutions to identify the positive impact of their financing/investment activities and implement processes to monitor the achievement of intended impacts, and;
3. ask institutions to disclose their positive impact financing/investment activities, along with the methodologies used to determine these.

<sup>26</sup> United Nations Sustainable Development Goals, 2015: <https://sdgs.un.org/goals>

<sup>27</sup> United Nations Environment Programme Principles of Positive Impact Finance, 2017:

<https://www.unepfi.org/industries/banking/principles-for-positive-impact-finance/#:~:text=The%20Principles%20for%20Positive%20Impact,products%20and%20services%20they%20deliver.>

## Introducing Environmental and Social Impact Assessments (ESIA) and Environmental and Social Management Plans (ESMP)

The most common approach to avoiding, minimising and mitigating negative E&S impacts of a project involves conducting an Environmental and Social Impact Assessment (ESIA). An ESIA is often required by national, international and multilateral development institutions and financial institutions that are signed up to the Equator Principles. Across this set of financing institutions, the World Bank’s Environmental and Social risk classification is most commonly used, which employs an A/B/C (High/Medium/Low) risk categorisation.

The purpose of conducting an ESIA is to identify and assess E&S risks in detail at the project development state. This assessment should determine the context within which the project will be developed, including the identification of relevant legislation or policy, service users, vulnerable and/or marginalised groups etc. It will also determine the project’s area of influence, which is not only the immediate footprint of the project and facilities, but also the surrounding land use and livelihood patterns of the men, women and youth neighbouring the project. It should also identify potential negative impacts on surrounding biodiversity or climate change. This enables project developers to address these issues effectively at an early stage and build mitigating actions into the project implementation plan.

The commonly used World Bank’s Environmental and Social risk classification system involves an initial identification of the potential risks and impacts, and risk categorisation of a project based on technical considerations relating to the type, location, scale, and sensitivity and the magnitude of the project. The risk categorisation is used to determine the type of ESIA that will be required, with high risk projects requiring a more extensive ESIA, often with the support of an E&S specialist, and lower risk projects requiring less extensive assessments.

Following an ESIA, it is considered good practise to develop an Environmental and Social Management Plan (ESMP) which includes a set of risk mitigation and management measures that should be implemented during the project lifecycle. An ESMP will likely contain procedures and responsibilities for the ongoing monitoring of the implementation of the mitigation and management measures, and a set of indicators to evaluate the effectiveness of the measures. ESIA’s and ESMP’s are often structured to assess and manage risks in line with E&S safeguards and principles such as the IFC Performance Standards.

## The Gender and Inclusion Framework

This framework, developed by Caroline Moser and Infrastructure and Cities for Economic Development 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.

Figure 16: Gender and Inclusion Framework



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To align with the standards of this framework, 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.

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'.<sup>28</sup>

### **An introduction to Gender Assessments and Gender Action Plans**

*Gender mainstreaming* in the context of infrastructure development is an approach to project development that involves assessing the different implications of a project on people of different genders. It aims to ensure that, during a project, people are treated equally regardless of gender, and that women and men are equally involved in consultation and decision making. It also implies that a project should aim to benefit women and men equally, and that they have equal access and use of the final infrastructure.

To ensure that gender is mainstreamed in projects, it is good practice to conduct a Gender Assessment at the project development stage. A Gender Assessment should contain information on:

- the baseline situation of gender equality in the region
- country or project area
- any the gender issues that may be relevant to the proposed project
- the opportunities to bring about positive change for both women and men

Following the Gender Assessment, a Gender Action Plan should be developed and implemented over the life of the project. This should include the gender-responsive activities the project will undertake, to mitigate gender-related risks and maximise opportunities to create positive impacts for both women and men. A comprehensive Gender Action Plan will likely include procedures and responsibilities for the ongoing monitoring of performance against gender-related targets, gender-performance indicators and sex-disaggregated targets.

### **Sexual Exploitation, Abuse and Harassment (SEAH) in Infrastructure Projects**

The infrastructure sector presents a high-risk environment for incidents of sexual exploitation and abuse and sexual harassment (SEAH).

Risks within your project will depend not only on the construction model and project activities, but also the wider risk environment. For example, SEAH prevention measures need to take into account any existing social attitudes or norms towards violence against women or harassment in the workplace (SEAH may be more prevalent in communities where behaviours that constitute workplace harassment are generally tolerated). It is critical to

<sup>28</sup> Visit the Private Infrastructure Development Group website for guidance on how to apply the Framework to different infrastructure sectors <https://www.pidg.org/wp-content/uploads/2019/03/PIDG-Gender-Ambition-Framework-070219-FINAL.pdf>

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ensure a contextually appropriate and survivor-centred approach (i.e. one that prioritises the safety, anonymity and wellbeing of victims/survivors of SEAH).

Below are some SEAH risk factors commonly associated with infrastructure projects:

### The influx of workers

During the construction and operation phases workers are often employed informally (no formal contracts or background checks), are predominantly male, often come from outside the project area and are only present for a short time. They come into close contact with all community groups in a project area and, therefore, the risk of SEAH is increased. The size of the workforce and absorptive capacity of the host community are critical factors to consider when assessing SEAH risks.

### Changes to power dynamics

The arrival of a large workforce can disrupt the power dynamics in a community and within households, as women in the community come into contact with mobile workmen in a variety of ways. Infrastructure projects can also offer opportunities for women to earn an income (through direct employment on the project during construction or operation, or indirectly via associated services such as catering) – this, too, can alter power dynamics in the community and within households.

### Land acquisition and resettlement

If the project requires land to be acquired, it can lead to the physical or economic displacement of people/communities requiring compensation and support to those whose home and/or livelihoods have been affected. This can heighten vulnerability of marginalised and vulnerable groups (e.g. female-headed households, those working in the informal sector, and people with disabilities) and expose them to risks of SEAH. Marginalised and vulnerable groups may be exposed to risks of SEAH perpetrated by those managing the land acquisition and resettlement process. If national legislation precludes certain groups' formal rights to land titles/ownership, their exposure to SEAH could be further increased. Vulnerability can also be exacerbated through these processes for example if these groups are left out of consultations and decision making around compensation and livelihood restoration support.

### Transportation

Infrastructure projects often involve transportation of materials to and from work sites; new access routes may be created, or workers may use existing access routes used by communities and thereby coming into close contact with all community groups. Women and other vulnerable groups from the community, who are employed by the project, may be exposed to risks on their way to/from the work site if provisions for safe transport are not made.

### Construction phase

This is a particularly high-risk stage for SEAH. This is due in part to a typically larger workforce engaged during construction, the influx of temporary workers on short contracts who either live in on-site accommodation or within the host communities, but also because this is often the stage at which the factors listed above will physically manifest in the project, i.e. this is when land acquisition and resettlement would occur, when transportation of materials, equipment and workers would happen, and when community members would come into physical contact with project staff. However, actions can be taken in the earlier project stages to ensure SEAH is avoided in the construction phase.

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**Operation/ service delivery phase**

SEAH risks can often continue into the operation and service delivery phase, for example if the new infrastructure being built is a road. This phase also presents another set of SEAH risks if there is an operational workforce, if there are operation phase contractors (e.g. engagement of security, gardeners, cleaners, caterers etc.) and during maintenance activities when external contractors may again be brought in to carry out works. For example, community members employed for long-term maintenance work, particularly more vulnerable populations (e.g. single mothers, people living with disabilities) and those new to the workforce could be at particular risk of SEAH. Locations and points at which SEAH can occur also differ from earlier stages of the project cycle (e.g. through tariff/toll collection activities) as do potential perpetrators of SEAH (e.g. service delivery staff from the host communities could abuse their relative position of power).

In addition to these direct risk factors, there are also wider risks that are commonly associated with infrastructure projects, and which can serve as pathways to SEAH given their linkage with vulnerable groups.

The following risks are considered ‘red flags’ or indicators of potential SEAH risks:

**! Health and safety (H&S)** H&S standards in many developing countries are notoriously poor. Vulnerable workers (informal workers, women, etc.) can be forced to work in dangerous or unhealthy conditions. This often goes unreported due to fear of losing their jobs.

**! Persons living with disabilities** are at most risk. There is evidence that men and boys also experience SEAH, but reporting is low.

**! Child, bonded or forced labour (i.e. modern slavery and human trafficking)** – is a significant global problem for the construction sector, with high profile cases of men, women and children trafficked during large infrastructure projects or to work in the construction industry.

**! Corruption** – There are points in the project cycle at which risks of corruption are heightened (e.g. collection of user fees, payment for compensation for land acquisition, trade points such as truck stops or border posts). These can also be points at which SEAH risks increase, given that they involve interaction with vulnerable persons.

**! Engagement of security companies/guards** – This is a key risk that cuts across the construction and operations phases. Security guards are in a position of power and can (and often do) abuse it. Using robust recruitment processes to select, train, manage and monitor security companies and their personnel is critical, as is having active community grievance/whistleblowing mechanisms in place.

**! Management of the supply chain** – Management systems to prevent SEAH issues at a project level need to be passed down the supply chain and, importantly, contractors must be held accountable for the monitoring and performance of their subcontractors.

The UK government has produced further guidance on how to strengthen gender and inclusion when developing your infrastructure project.<sup>29</sup>

<sup>29</sup> Strengthening Gender & Social Inclusion (with a focus on Women’s Economic Empowerment) within the Global Infrastructure Programme, UK Government, 2019: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/891889/Query-33-Strengthening-Gender-Social-Inclusion-Global-Infrastructure-Prog.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/891889/Query-33-Strengthening-Gender-Social-Inclusion-Global-Infrastructure-Prog.pdf)

# Appendix F: How Routemap works with the business case development process

Routemap interventions tend to provide the greatest value for projects during the development of the business case, as it is intended to address issues early in the project lifecycle. It is especially useful when you are:

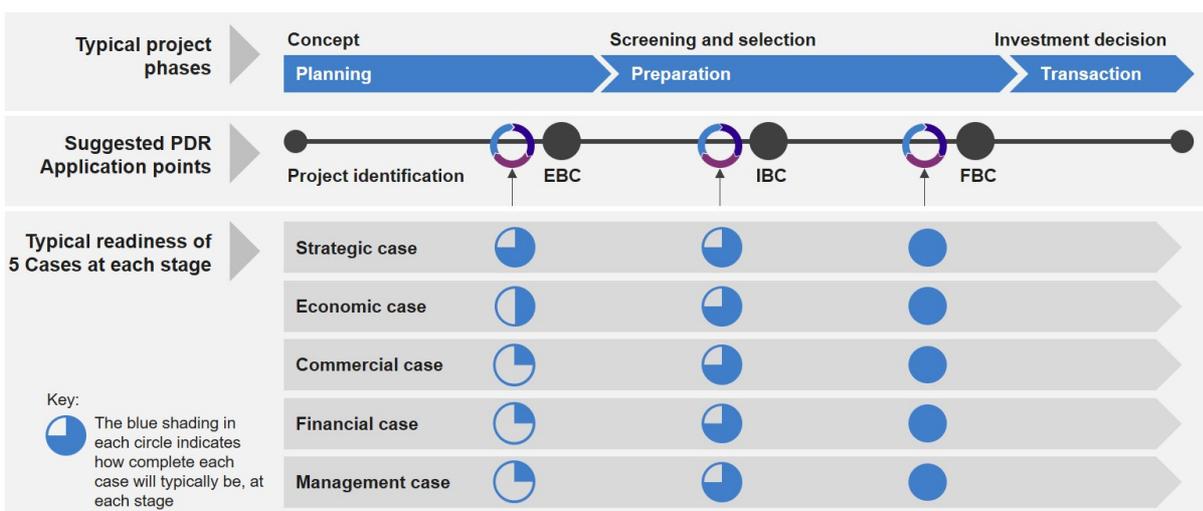
- delivering something new
- working on a larger scale than usual
- working in a different way
- part of a new team lacking in experience of delivering similar projects
- trying to learn from other projects and sectors to improve delivery
- experiencing a substantial change to a project during its lifecycle, e.g. it has been reset
- working through critical, undecided aspects of the business case
- preparing to transition from one project phase to another

The focus of a Routemap intervention can vary across the three stages of the business case due to the different maturity of data available and the actions that need to be addressed in each stage. Typical points of Routemap intervention occur prior to completing the Early Business Case (EBC), prior to completing the Intermediate Business Case (IBC) or prior to completing the Full Business Case (FBC).

The Routemap modules can be referred to at each stage, throughout the project lifecycle.

The figure below suggests where Routemap may best align with the business case development process using the 5 Case Model. This is contained in the *Infrastructure Business Case: International Guidance (2020)*,<sup>30</sup> which provides further information regarding Routemap support at each stage of business case development.

Figure 17: Routemap application to the business case development process



<sup>30</sup> IPA's *Infrastructure Business Case: International Guidance (2022)*: <https://www.gov.uk/government/publications/the-green-book-international-guidance>

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Business cases using this methodology ask five key questions:

- Is the project strategically necessary?
- Is the project economically and socially desirable?
- Is the project commercially viable?
- Is the project affordable?
- Can the project be practically delivered?

These questions are answered in turn through its five, interconnected cases (environmental and social issues are considered within each):

**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.

**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. 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').

**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.

**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. It considers possible sources of finance, suitability of the project for green or climate financing, and affordability of options.

**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 following tables highlight useful Routemap modules for developing each of the five cases of the business case. The considerations and examples of good practice within the modules can help stimulate discussion with stakeholders, as the contents of the cases are created. The modules can also help you check that your project is set up for success, incorporating current best practice.

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### Routemap and the Early Business Case

The purpose of the EBC is to establish the case for change and to provide a preferred way forward for senior management’s approval, prior to going onto the more detailed planning stage.

Here, the business case is largely focussed on the Strategic and Economic cases to determine the project’s strategic objectives and prepare a longlist of options to be taken forward to the Intermediate Business Case. Routemap can help to bring project stakeholders together to build consensus on what the objectives and longlist options are. The Routemap would not consider detailed aspects of the commercial, financial and management case at this stage, but may give value to these aspects during the EBC development.

The table below summarises where Routemap might add value to the EBC.

5 Cases	Actions during the EBC	Where the Routemap adds value	Suggested Routemap Modules
<b>Strategic</b> 	<ul style="list-style-type: none"> <li>Describe the project, its strategic context and strategic aims</li> <li>Agree objectives</li> <li>Describe existing arrangements</li> <li>Identify gap</li> <li>Define potential scope</li> <li>Describe project benefits, risks, constraints and dependencies</li> </ul>	<ul style="list-style-type: none"> <li>Routemap can support the strategic needs workshop(s) by working with the sponsor and client of the project to:                             <ul style="list-style-type: none"> <li>Establish a ‘case for change’ and strategic fit with the organisation’s overall strategy and other projects or programmes;</li> <li>Indicate high level probable benefits and risks;</li> <li>Agree the project’s strategic objectives and explain how the project benefits would translate into user requirements.</li> </ul> </li> </ul>	Rationale and Risk Management modules
<b>Economic</b> 	<ul style="list-style-type: none"> <li>Define critical success factors</li> <li>Describe business as usual option</li> <li>Use the options framework to develop a longlist</li> </ul>	<ul style="list-style-type: none"> <li>Routemap can support the options workshop(s) by working with the sponsor and client of the project to produce and test a longlist of options and establish a shortlist.</li> </ul>	Rationale and Risk Management modules

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5 Cases	Actions during the EBC	Where the Routemap adds value	Suggested Routemap Modules
	<ul style="list-style-type: none"> <li>Reduce longlist to shortlist of options</li> <li>Scope ESIA, technical and other studies</li> </ul>		
<b>Commercial</b> 	<ul style="list-style-type: none"> <li>Identify possible bidders</li> <li>Consider options for procurement</li> <li>Consider contractual agreements</li> </ul>	<ul style="list-style-type: none"> <li>Routemap can be used to support the sponsor of the project in considering the possible procurement options as well as contractual agreements of the project.</li> </ul>	Procurement and Execution Strategy modules
<b>Financial</b> 	<ul style="list-style-type: none"> <li>Consider how the project will be financed</li> </ul>	<ul style="list-style-type: none"> <li>Routemap can be used to help the sponsor to indicate the level of cost and funding requirements and consider the various financing options.</li> </ul>	Risk Management module
<b>Management</b> 	<ul style="list-style-type: none"> <li>Identify project team (including advisors)</li> <li>Develop an initial project plan</li> <li>Identify stakeholders and draft stakeholder engagement plans</li> <li>Identify change management groups and develop initial plans</li> <li>Draft initial benefits realisation plan</li> <li>Complete initial risk management strategy and plan</li> </ul>	<ul style="list-style-type: none"> <li>Routemap can be used to support the sponsor of the project in identifying the project team as well as the relevant stakeholders. It can also potentially help the sponsor in developing an initial stakeholder engagement plan and risk management plan.</li> </ul>	Governance, Execution Strategy, Organisational Design & Development, Risk Management and Asset Management modules

Factors to be mindful of when considering applying Routemap in the Early Business Case are:

- Lack of dedicated project personnel in early stage of developing a business case for discussions in the workshops and interviews
- Lack of project documentation, including limited availability of information at this stage
- Project may not have sufficient funding to conduct a Routemap intervention
- Likelihood of political intervention to alter the course of the project, with the risk of the project not proceeding before key information is identified, during IBC development stage.

**Routemap and the Intermediate Business Case**

At the IBC stage, you will determine a preferred investment option which optimises value for money. You will prepare the project for procurement and put in place the necessary funding/financing and management arrangements for the successful delivery of the scheme, e.g. draft procurement process, risk management plan, the project plan, etc. Routemap can help to bring the project stakeholders together to choose the suitable options for the project and to develop the initial delivery plan.

The table below summarises where Routemap might add value to the IBC.

5 Cases	Actions during the IBC	Where the Routemap adds value	Suggested Routemap Modules
<p><b>Strategic</b></p> 	<ul style="list-style-type: none"> <li>• Reconsider the strategic case and reconfirm the case for change</li> </ul>	<ul style="list-style-type: none"> <li>• Routemap can be used to help the sponsor and client in reconfirming the requirements and objectives of the project mentioned in the EBC.</li> </ul>	<p>Rationale, Systems Integration and Risk Management modules</p>
<p><b>Economic</b></p> 	<ul style="list-style-type: none"> <li>• Prepare the economic analysis for the shortlist options</li> <li>• Undertake qualitative benefits and risk analysis</li> <li>• Select preferred option and undertake sensitivity analysis</li> <li>• Review ESIA, technical and other studies</li> </ul>	<ul style="list-style-type: none"> <li>• Routemap can support the sponsor and client to:</li> <li>• Review the shortlist of options and subject them to cost benefit analysis, assessing potential value for money</li> <li>• Identify and quantify the project risks for each option in the shortlist</li> <li>• Review the shortlist, subject them to cost benefit analysis and assess the potential value for money as part</li> </ul>	<p>Rationale, Systems Integration and Risk Management modules</p>

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5 Cases	Actions during the IBC	Where the Routemap adds value	Suggested Routemap Modules
<p><b>Commercial</b></p> 	<ul style="list-style-type: none"> <li>• Allocate risk</li> <li>• Draft project specification and Heads of Terms</li> <li>• Undertake market engagement</li> <li>• Draft procurement process</li> <li>• Engage with MDBs</li> </ul>	<p>of the economic appraisal.</p> <ul style="list-style-type: none"> <li>• Routemap can help the sponsor and the client in developing the risk management strategy of the project. It may also support them to define the project specifications and outputs by engaging with the Market, e.g. technical specification.</li> </ul>	<p>Rationale, Procurement and Risk Management modules</p>
<p><b>Financial</b></p> 	<ul style="list-style-type: none"> <li>• Confirm financing sources</li> <li>• Build financial model</li> <li>• Test affordability</li> </ul>	<ul style="list-style-type: none"> <li>• Routemap can help the sponsor and the client in determining the affordability for the project against the possible financing options that have been developed in the EBC.</li> </ul>	<p>Rationale and Procurement modules</p>
<p><b>Management</b></p> 	<ul style="list-style-type: none"> <li>• Draft delivery, management and governance structure</li> <li>• Draft project plan</li> <li>• Draft project budget</li> <li>• Draft stakeholder engagement plans</li> <li>• Draft change management plans</li> <li>• Draft benefits realisation plan</li> <li>• Draft risk management strategy and plan</li> <li>• Draft section on use of advisors</li> </ul>	<ul style="list-style-type: none"> <li>• Routemap can support the sponsor, the client, and the asset manager to:</li> <li>• Identify the expected resources, management arrangements, and how the project will be procured</li> <li>• Develop the governance structure, the delivery plan, the management plan, the project plan including the project budget, the risk management plan, the project evaluation plan, the stakeholder management plan, and the change management plan</li> </ul>	<p>Governance, Execution Strategy, Organisational Design &amp; Development, Procurement, Risk Management and Asset Management modules</p>

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5 Cases	Actions during the IBC	Where the Routemap adds value	Suggested Routemap Modules
	<ul style="list-style-type: none"> <li>Draft project evaluation plans</li> </ul>	based on the preferred option.	

A factor to be mindful of when considering applying Routemap in the IBC stage is that political influence may lock in crucial aspects of the project, regardless of areas for improvement identified from the Routemap application.

### Routemap and the Full Business Case

In the FBC, Routemap can help the sponsor and the client of the project to engage with the market in enhancing and finalising the business case. During this stage, you will identify the marketplace opportunity which offers optimum value for money, set out the commercial and contractual arrangements for the negotiated deal and confirm the deal is still affordable. The Routemap can also support as you put in place detailed project management arrangements for the successful delivery, monitoring and evaluation of the scheme. =

The table below summarises where the Routemap might add value to the FBC. At this stage all aspects of the business case should be completed.

5 Cases	Actions during the FBC	Where the Routemap adds value	Suggested Routemap Modules
<b>Strategic</b> 	<ul style="list-style-type: none"> <li>Update the 'case for change' if necessary</li> </ul>	<ul style="list-style-type: none"> <li>Routemap can help the sponsor and the client of the project to update and enhance the project objectives if necessary.</li> </ul>	Rationale and Systems Integration modules
<b>Economic</b> 	<ul style="list-style-type: none"> <li>Reconsider economic case options based on cost data received from bidders</li> <li>Select preferred bidder</li> </ul>	<ul style="list-style-type: none"> <li>Routemap can help the sponsor and the client of the project to review and reconsider any economic case options as well as conduct any economic appraisals based on the data received from bidders.</li> </ul>	Rationale, Systems Integration and Risk Management modules
<b>Commercial</b> 	<ul style="list-style-type: none"> <li>Detail the procurement process and the evaluation of best and final offers</li> </ul>	<ul style="list-style-type: none"> <li>Routemap can help the sponsor and the client to:</li> <li>Evaluate and enhance the procurement plan of the project based on outputs of the IBC to then determine the best and final offer</li> </ul>	Procurement and Risk Management modules

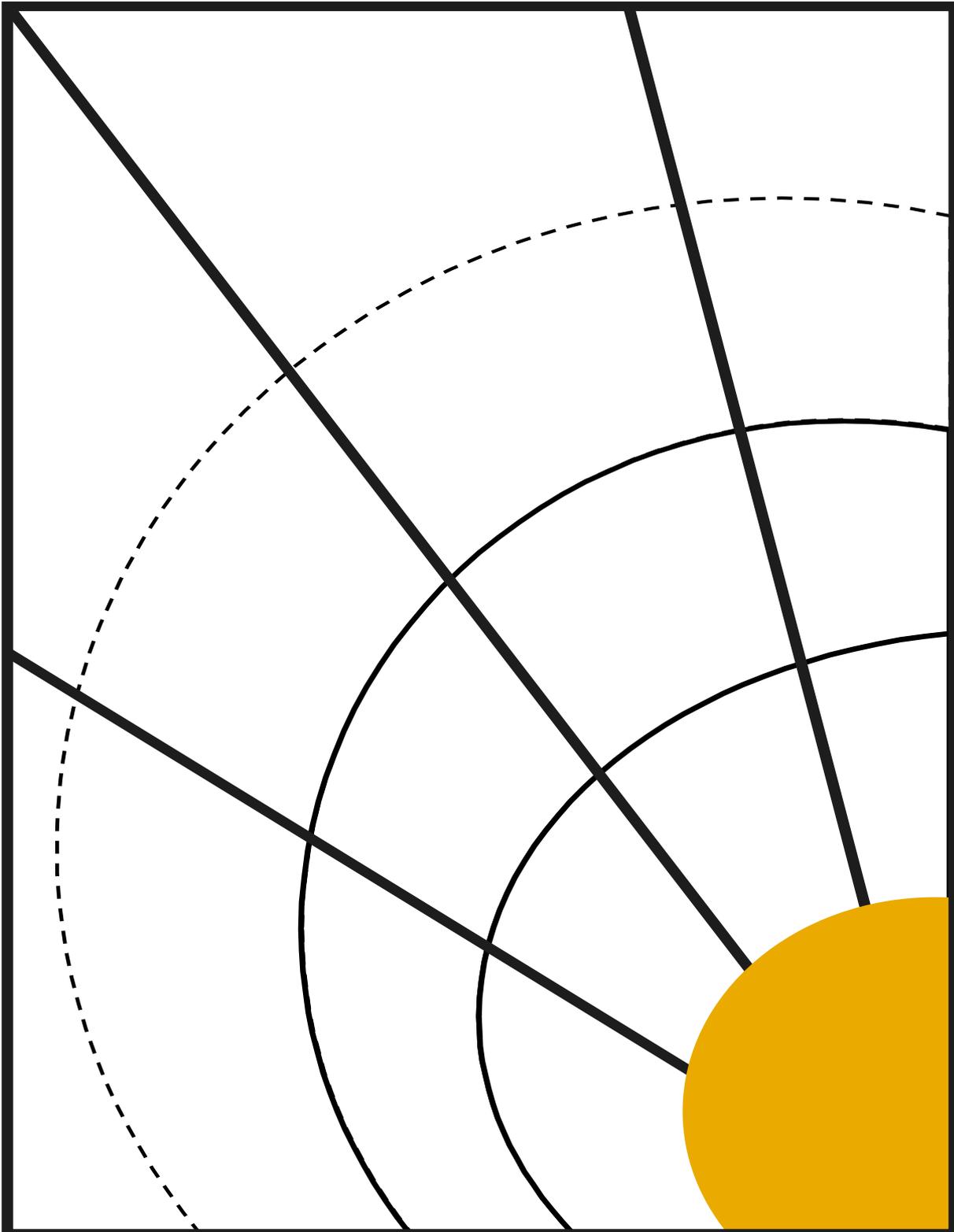
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5 Cases	Actions during the FBC	Where the Routemap adds value	Suggested Routemap Modules
		<ul style="list-style-type: none"> <li>Undertake a competitive procurement process to select and develop the best value for money tender for the required services.</li> </ul>	
<b>Financial</b> 	<ul style="list-style-type: none"> <li>Confirm affordability</li> </ul>	<ul style="list-style-type: none"> <li>Routemap can help the sponsor to determine risk mitigation measures where the client and the market both have low capability with regards to the project.</li> </ul>	Risk Management module
<b>Management</b> 	<ul style="list-style-type: none"> <li>Reconsider and finalise all sections of IBC Management Case</li> </ul>	<ul style="list-style-type: none"> <li>Routemap can help the sponsor and the client to enhance the delivery arrangements and measures to evaluate operational benefits</li> </ul>	Governance, Execution Strategy, Organisational Design & Development, Procurement, Risk Management, and Asset Management modules

A factor to be mindful of when considering applying Routemap at FBC stage is that there is less ability to influence the outcomes of the project, as many critical aspects of the project may have been 'locked in' during the IBC stage.

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# Appendix G: Action planning template



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