



Infrastructure
and Projects
Authority



UK Government

Project Development Routemap

for Infrastructure Projects

International Module

Rationale

International version of UK Government's Project Routemap



Interactive
document

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



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Preface

The UK Infrastructure and Projects Authority (IPA)¹ is proud to present this international module on the Project Development Routemap for Infrastructure Projects.

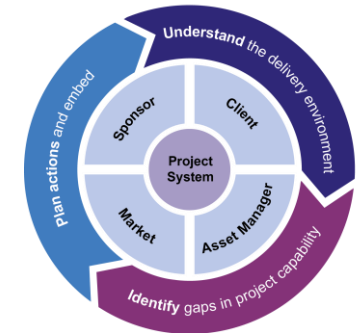
Projects that enhance and expand access to infrastructure are critical to achieving inclusive, sustainable growth and reducing poverty. However, infrastructure projects often encounter problems in their early stages. Poor project development constrains project delivery and limits the benefits it can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

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 module, 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 project stakeholders together, to improve project-specific capabilities, enable governments and supply chains to maximise value for money and, where appropriate, increase opportunities for international investment. It gives confidence to people developing projects, those approving them, and those investing in them.

Since 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.²

Routemap aligns with the G20 Principles for the Infrastructure Project Preparation Phase (the G20 Principles), 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.



This international module was produced as part of the Global Infrastructure Programme³, sponsored by the UK's Prosperity Fund⁴ 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 who 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.

¹ 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 UK.

² The Project Development Routemap has been adapted from the UK Project Initiation Routemap, 2016, now replaced by Project Routemap, 2021: <https://www.gov.uk/government/publications/improving-infrastructure-delivery-project-initiation-routemap>.

³ This was a UK cross-government programme delivered by the FCDO, the IPA and the Department for Business Energy and Industrial Strategy. It aimed to enable the provision of sustainable and resilient infrastructure, as a critical enabler for economic development in middle-income countries.

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

Introduction: Routemap Modules

The Routemap modules (modules) help you to identify and address gaps in capability across seven commonly challenging areas of project development. You should use these modules alongside the *Project Development Routemap for Infrastructure Projects: International Handbook*.⁵

The Handbook explains the Routemap methodology and describes the 10-step process for its application to projects, which results in a detailed action plan to close the gaps in project capability.

There are eight modules, one covering each of the following areas:

- Rationale
- Governance
- Execution Strategy
- Organisational Design & Development
- Procurement
- Risk Management
- Asset Management
- Systems Integration (UK module, included due to relevance for international audiences)

The module content applies to all types of infrastructure projects, including PPP and publicly funded projects. It supports project teams to identify risks to project outputs, and wider economic, environmental and social outcomes. It helps align projects to the G20 principles of 'quality infrastructure',⁶ internationally recognised standards like the

International Finance Corporation Performance Standards,⁷ and the United Nations Sustainable Development Goals.

There are also examples of good practice to help project teams plan and improve project development. They come from the experience of UK public sector-driven infrastructure projects and from international authorities. Examples have been specifically selected for relevance to international audiences.

Routemap modules can be:

- useful when applying the Routemap 10-step process which is described in the Routemap handbook (the following diagram shows how the sections of the module support different steps in the process)
- a stand-alone resource to identify potential risks and improvements in project capability development, and relevant good practice from other projects

The modules are not a complete guide to project development, nor a substitute for business case development.⁸ They are based on real-world experience from large infrastructure projects and complement best practice found elsewhere. You need to consider each project's individual characteristics and context and then you can identify what will be most helpful to the project.

⁵ Infrastructure and Projects Authority's Project Development Routemap for Infrastructure Projects: International Handbook, 2023: <https://www.gov.uk/government/publications/project-development-routemap>

⁶ These non-binding principles reflect 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/

⁷ See Section 1 and Appendix E of the Routemap Handbook for further detail on the importance of sustainability.

⁸ For detailed guidance on infrastructure business cases and their development process, see: Infrastructure and Projects Authority's Infrastructure Business Case: International Guidance, 2022.

The Routemap modules useful when applying the Routemap 10-step process which is described in the Handbook. The diagram below shows how the different sections of the modules (listed in the left column) can support the different steps in the process.

Module sections	Setup				Diagnosis			Action planning		
	Whether to apply the Routemap 01	When to apply the Routemap 02	Routemap strategy 03	Planning the application 04	Information gathering 05	Conducting a gap analysis 06	Agreeing the findings 07	Developing recommendations 08	Action planning 09	Integrate and capture benefits 10
Characteristics of good practice			Comparing your project information with these characteristics of good practice may help you to identify areas of interest in the Routemap scope			Comparing your project with these characteristics of good practice may help you identify areas for improvement.				
Useful documents			You may find it helpful to review these types of project documents , to define the areas of interest in the Routemap scope.		You may find these documents helpful to develop interview questions.	You may find it helpful to cross-check this document list against existing project documents, to help identify capability gaps.				
Typical findings						You may find helpful to review these when identifying issues and articulating your findings		If your findings contain statements like these, this Module could help strengthen capability.		
Considerations					This section lists a series of questions or considerations that can help you to validate the effectiveness of existing arrangements.			Working through these questions or considerations can help you understand the root causes of the findings and develop solutions.		
Good practice examples and suggested reading									You may find these good practice examples and suggested reading useful in developing actions to address capability gaps..	

Rationale, and why it is important

The project rationale establishes the need for the project and places it within the wider strategic context, e.g. national, regional local and organisational long-term plans. It outlines the project scope and objectives, i.e. the problems it aims to solve or benefits it expects to bring. In short, the rationale should present the *case for change*.

For stakeholders, the rationale describes the vision of success and sets out how the expected outputs, outcomes, impacts and benefits are aligned. For project teams, it helps them to better understand what needs to be delivered by the available resources, and informs the design of project roles and activities.

It is best practice for project rationale to be aligned with policy objectives and strategic priorities such as the UN Sustainable Development Goals and the G20 Principles of Quality Infrastructure. Objectives and rationale should also reflect local community requirements and place-based impacts, such as those specific to country, region or local area and community.

To attract investment, the case for change and the economic, environmental and social value must be clearly articulated. Frameworks such as the IFC Performance Standards⁹, International Sustainability Standards Board (ISSB)¹⁰, the Equator Principles¹¹ and relevant funders' frameworks such as the World Bank Environmental

and Social Framework¹², provide standards which projects should use, or align with, to meet sustainable investment criteria.

The good practice in this module will help you to strengthen your rationale and ensure:

- the strategic case for the project is strong and clearly articulated e.g. inclusive growth, environmental and social sustainability
- planning, scoping and delivery activities align with the organisation's objectives, e.g. its own strategy and other wider government strategies
- there is a common understanding of how activities and outputs contribute to the expected results, and will deliver the project in line with agreed environmental and social standards.

The IPA's *Infrastructure Business Cases: International Guidance, 2022*, provides additional detail and advice on the activities required – largely within the Strategic Case – to develop and apply a project rationale through the business case stages. It stresses the importance of underpinning the rationale with robust governance and public leadership.¹³

⁹ IFC Performance Standards: https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/performance-standards

¹⁰ International Sustainability Standards Board (ISSB): <https://www.ifrs.org/groups/international-sustainability-standards-board/#about>

¹¹ Equator Principles: <https://equator-principles.com/>

¹² World Bank Environmental and Social Framework: <https://www.worldbank.org/en/projects-operations/environmental-and-social-framework>

¹³ IPA's Infrastructure Business Case, International Guidance, 2022: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/902005/International_Infrastructure_Business_Case_Guidance.pdf

Organisations are more likely to realise their project performance goals, strategic objectives, deliver on their ESG targets and contribute to wider economic, environmental and social value when:

- project teams and stakeholders have a shared vision of success and what they need to do, to deliver better team performance
- benefits are owned and actively championed by influential stakeholders who regularly engage with the project team and other key stakeholders
- there is an agreed focus on the long-term objectives and how they can be measured and monitored. This reduces the risk of a project losing control, helps mitigate negative impacts and avoids the project being misdirected
- there is a strong basis for the quantitative and qualitative measures for judging the project's success, including the expected economic, environmental and social value generated
- project rationale takes into account the changing world, such as commitments to net zero, reducing dependence on non-renewable energy sources, and enhancing local social and economic prosperity

Business Case development, using the 5 Case Model

The Strategic Case in the Early Business Case justifies the *case for change*. You should spend time and energy to develop it, to set the project's direction appropriately.

The Strategic Case should:

- provide the rationale for the project
- describe its fit with wider policy/strategy including meeting sustainable development goals and internationally recognised environmental and social standards, e.g. IFC Performance Standards
- set the project's scope and boundaries
- describe clear project objectives
- analyse and present environmental and social risks and opportunities
- identify the expected outcomes
- clearly express the strategic need for the project.

Source: IPA's, Infrastructure Business Case: International Guidance, 2022

Characteristics of a good rationale

A good rationale will provide a strong foundation from which to develop a project. It is characterised by three pillars:

Pillar 1: Shared Vision of Success

- Create a shared vision of what success will look like. This vision should be realistic, easy to understand, and measurable.
- It should specifically set out what will be classed as good, with respect to economic, environmental and social value at the outset, to avoid costly late changes.
- What is classified as success will vary from stakeholder to stakeholder, but it should be possible to arrive at a consensus and agreed vision.
- Articulating and communicating the vision, is a fundamental part of stakeholder engagement and community consultation.

Pillar 2: Benefits Mapping and Alignment

- You can really improve the design and planning of a project by demonstrating:
 - how its outputs will lead to particular outcomes
 - how those outcomes realise wider benefits
 - how all three align and contribute to the associated strategies and plans. This includes local or place-specific requirements and any relevant ESG criteria
- Separately, you need to examine the associated risks (particularly environmental and social) at this stage. The earlier you do this, the easier it will be to avoid, mitigate and manage them, and so taking away the barriers to realising benefits.
- If you cannot align the project outputs to overall strategy, then you need to re-examine the project rationale
- Benefits should be defined in terms of economic, environmental, and social value; and expected outcomes defined as SMART (specific, measurable, achievable, realistic and timed) targets to enable continuous monitoring, measurement and reporting

Pillar 3: Prove Success

Use objective measurements. Success needs to be stated and measured in terms of:

Outputs (what the project will deliver)

- Sometimes referred to as the 'deliverable' or 'product outputs generally refer to the physical infrastructure.
- They should align with the G20 Principles of Quality Infrastructure and should meet agreed social and environmental safeguards standards (e.g. IFC Performance Standards).
- Outputs that do not contribute to the achievement of an outcome, are of questionable value.

Outcomes (the result of the change)

- These are the events, occurrences, or changes in conditions, behaviour or attitudes which are attributable to a project. They occur as a result of the project outputs.
- Outcomes may be achieved both during the project lifecycle and after transfer into operation., They should link to wider national strategies and targets, and should be clearly linked to wider economic, environmental and social sustainability goals.
- Outcomes result in benefits, which provide the measurable proof that outcomes have been achieved.

Benefits (an advantage or positive outcome)

- Measurable improvements that will result from the project and are seen by stakeholders to be positive and worthwhile.
- These describe how the project outcomes will add value to the organisation, wider society and/or the environment and support the principles of inclusive and equitable economic growth, as set out in the UN Sustainable Development Goals,
- Benefit measurements can be quantitative and qualitative. They should prove that the project has achieved some aspect of the strategic objectives that are captured in the vision, and targets should be SMART. It should be noted that ESG criteria require monitoring and reporting for compliance with standards and (fast evolving) regulation.

Characteristics
of good practice

Useful documents

Typical findings

Considerations

Good practice examples and suggested
reading

Three key components underpin an effective rationale for infrastructure projects. If one pillar is missing or out of balance, the project rationale will likely be ineffective or inefficient. Reviewing your rationale against these pillars can help to identify potential areas for improvement.

The pillars are expanded in the 'Considerations' chapter of this module.

In Routemap, these pillars support **(Step 6)** - *Gap analysis*. Considering them in the context of your current governance arrangements can help you to identify areas for improvement.

Useful documents

These documents, components or reports usually contain information on the project rationale. They may be helpful when reviewing and developing the rationale for your own project:

- Business case (strategic justification)
- Communications strategy
- Communications plan
- Environmental and social impact assessment (ESIA)
- Environmental and social management plan (ESMP)
- Data (and modelling) to evidence assumptions
- Record of stakeholder/users consultation
- Benefits sharing plan
- Stakeholder and community consultation plan
- Net zero carbon strategy

You may find it useful to review these documents to identify the 'areas of interest' when scoping a Routemap **(Step 3)** – *Routemap strategy*.

These documents may also be helpful in **(Step 6)** – *Gap analysis*. When cross-checked against existing project documentation, they may help to identify capability gaps.

Typical findings related to rationale

This list describes typical issues that might arise during project development, and would indicate that the approach to developing the project rationale needs improvement:

- ❑ The rationale is poorly articulated, so the purpose of the project and/or what it needs to deliver is confusing.
- ❑ It will be difficult to prove success because the intended benefits are not defined in tangible or measurable terms.
- ❑ Assumptions underpinning the benefits are untested in this context, so there is low confidence that the benefits can be realised.
- ❑ The environmental and social assessment underpinning the rationale is not robust. This means it is unclear if all environmental and social risks have been identified and the benefits will be sustainable.
- ❑ It is not clear how the outputs and outcomes align with, or contribute to, the expected benefits, e.g. the project lacks a robust theory of change (see Good Practice, example 4). This means it is unclear if and how the benefits will be fully realised by the project.

- ❑ The project rationale, business case and design indicate a lack of forward thinking and/or inadequate links to a long-term corporate asset management strategy.
- ❑ The project rationale is not aligned to national ambitions and priorities regarding sustainable development or international sustainability targets, e.g. nationally determined contributions under the Paris Agreement and the UN Sustainable Development Goals
- ❑ It is not clear what environmental and social safeguard standards will be applied to the project. This suggests that the project could result in harm to project-affected persons or the environment.
- ❑ Throughout the project timeframe, there is little provision for, or anticipation of, potential scope changes brought about by changing, external factors, e.g. climate change
- ❑ No, or inadequate, lifecycle parameters are defined in the sponsor's requirements, e.g. asset reliability, availability, cost of maintenance, operability, or embedded carbon.
- ❑ The rationale does not consider ESG criteria, which could lead to reputational damage and have a negative effect on relationships with funders/investors.

Characteristics
of good practice

Useful documents

Typical findings

Considerations

Good practice examples and suggested
reading

If your findings contain statements like these, this module could help you to develop recommendations to strengthen capability **(Step 8)** – *Developing recommendations*.

During Routemap, these example findings may be helpful when identifying issues and articulating your own findings **(Step 6)** – *Gap analysis*.

Characteristics
of good practice

Useful documents

Typical findings

Considerations

Good practice examples and suggested
reading

Considerations for an effective rationale

The considerations questions help you to understand the root causes of the capability gaps and suggest improvements. You may not need to review all the considerations, just the ones most relevant to your project.

These questions will help you

- to review and validate existing project rationale
- to target areas for improvement
- to test the design of a new rationale.

The considerations have been grouped around the three pillars of an effective rationale: shared vision of success, benefits mapping and alignment, and prove success.

It can be helpful to use these when you are developing recommendations for improvements, or as discussion points with stakeholders. This will help you to achieve a strong strategic case for the project and align planning, scoping and delivery activities effectively with organisational and stakeholder objectives.

The planning and monitoring of the outputs, outcomes, impacts and benefits might need to evolve during the project. This means it can be useful to revisit these considerations at major transition points or approval points.

During Routemap, working through these considerations can help you to validate the effectiveness of existing arrangements **(Step 5)** – *Information gathering*.

They can also help you identify reasons for the findings and ways to address them in **(Step 8)** – *Developing recommendations*.

Characteristics
of good practice

Useful documents

Typical findings

Considerations

Good practice examples and suggested
reading

Pillar 1: Shared vision of success

Key areas/considerations

Defining success

- Has success been clearly defined? Including in terms of the economic, environmental and social value the project is expected to bring.
- Has this been documented? For example, in a vision statement and strategic objectives? Where is the definition of success documented?
- Is the 'strategic need' for the project clear, and is it clear how it fits with strategy and other programmes and projects?
- Does the project vision align with the organisation's long-term objectives and sustainability targets?
- Is the definition of success aligned to the country's nationally determined contributions and the UN Sustainable Development Goals?
- Is the vision easy to understand and does it provide a unified direction?
- Has the process to identify the vision been collaborative and inclusive? How have conflicts been managed and recorded?
- Have the vision and intended results been discussed with relevant stakeholders, e.g. representative groups of potential project affected persons? Have they accepted it?
- Has the project's success been defined in terms of measurable benefits?
- Have metrics and indicators been established to assess project performance against these expected sustainability targets and benefits, including any linked to ESG criteria?

Communications strategy

- Does the strategy identify how to engage with stakeholders (including project affected persons) to understand their interests and concerns?
- Does it set out how to deal with conflict, to agree on the shared vision?
- Is there a means for people to identify with and recognise the project, for example a project identity or brand? If so, does this mirror the project vision, objectives, values and benefits?
- Does the communication strategy take a consultative approach with tailored messaging to recognise the impact of the project on all stakeholders? These include labour force, project affected persons and vulnerable and/or marginalised groups.

Characteristics
of good practice

Useful documents

Typical findings

Considerations

Good practice examples and suggested
reading

Key areas/considerations

- Does the communications strategy identify suitable channels and engagement approaches, e.g. women-only focus groups, for all stakeholder and community groups? This includes organisations representing vulnerable and/or marginalised groups?
 - Is there a corresponding communication and stakeholder engagement plan?
 - Does the project team have a mechanism in place for effective two-way communication with all stakeholders? These include vulnerable and marginalised people who may struggle to engage with mainstream methods of communication?
 - Is the communications team appropriately resourced and skilled to support all stakeholders, including vulnerable project affected persons, e.g. gender specialists, child protection specialists etc?
 - Is the principle of Free, Prior and Informed Consent (FPIC) adhered to when conducting dialogue with stakeholders and affected parties from indigenous populations?
-

Characteristics
of good practice

Useful documents

Typical findings

Considerations

Good practice examples and suggested
reading

Pillar 2: Benefits mapping and alignment

Key areas/considerations

Logic map

- Can you demonstrate a clear link between the project outputs, outcomes and the benefits?
- Do all outcomes lead to benefits?
- Are sustainable development and environmental and social considerations clearly articulated within the outputs, outcomes and benefits? E.g. social safeguards, the principles of quality infrastructure, and the UN SDGs.
- Have the project team developed an environmental and social management plan (ESMP) with mitigation measures to identify and address environmental and social risks, and plans to maximise environmental and social benefits?
- Have the project team thought about how to mitigate or manage risks and negative impacts?

Stakeholder perspectives

- Have the project stakeholders been meaningfully consulted on their interests and concerns regarding the project? These include project affected persons and organisations representing the interests of marginalised and vulnerable groups.
- Has there been consultation with stakeholders about the socio-economic impacts and risks resulting from the project from the outset?
- Has an environmental and social impact assessment (ESIA) been conducted by a specialist? Has an environmental and social management plan (ESMP) been developed in response to the findings of the ESIA. This will identify opportunities to mitigate environmental and social risks and maximise environmental and social benefits.
- Is there a stakeholder engagement plan to capture and address stakeholder perspectives and concerns, including from the affected community?

Testing assumptions

- Is there evidence to support the cause and effect relationships between outputs, outcomes and benefits?
- Is there evidence to show that behavioural change is likely to occur, if this is necessary for success?

Characteristics
of good practice

Useful documents

Typical findings

Considerations

Good practice examples and suggested
reading

Key areas/considerations

- Have stakeholders been involved in testing the validity of assumptions and any potential design issues? These include project affected persons being consulted on the validity of assumptions regarding socio-economic impacts.
- Have assumptions been tested with subject matter experts including environmental and social experts?
- Have assumptions been tested through a pilot project or have learnings been incorporated from relevant previous projects?
- Have external factors, which may constrain the project, been identified and considered?
- Have dependencies on other projects been identified and considered in the project design and development?

Alignment

- Do expected benefits link directly to strategic priorities, including those related to environmental and social sustainability? For example, nationally determined contributions under the Paris Agreement and UN SDGs, or specific local/regional strategic priorities/commitments?
- Have you assessed how the strategic aims will be affected by potential negative impacts or other unintended consequences from the project?
- Does the project align with any relevant ESG criteria necessary for obtaining financing?

Characteristics
of good practice

Useful documents

Typical findings

Considerations

Good practice examples and suggested
reading

Pillar 3: Prove success

Key areas/considerations

Measures

- Does the business case document the intended benefits?
- Have suitable measurable benefits been identified at the outset?
- Have benefits been individually defined in a way that they can be attributed to the project outputs and outcomes?
- Is there a benefit realisation methodology that continuously identifies and measures actual and forecast benefits? How will the achievement of benefits be embedded in the governance arrangements so that it flows down to commercial incentives?
- How will behavioural change be assessed?
- Has evaluation and measurement been integrated into project planning?

Data

- Are measurable data and sources identified, e.g. for benchmarking data? Does the data exist? If not, what steps need to be taken to obtain it?
- Are tools and methods for quantitative and qualitative measurement in place?
- Have environmental and social performance indicators been established in order to assess the effectiveness of risk mitigation measures? Has baseline data been gathered to assess project performance against?
- Are safe and ethical data collection methods in place, for engagement with project affected communities and vulnerable groups, e.g. women and children? Is there easy access to the specialist skills required for these activities?

Management

- Once the project has closed, how will benefits management/tracking be embedded into standard operating practice?
- Is the benefits realisation plan regularly updated? When and how will reviews and assessments be carried out? Have adequate resources been allocated to benefits management?

Characteristics
of good practice

Useful documents

Typical findings

Considerations

Good practice examples and suggested
reading

Key areas/considerations

- Have adequate resources been allocated to benefits management, including reviews and assessments? Have inputs from environmental and social advisers been factored into these?
- Do the benefits profiles clearly show how each benefit links to project objectives? Do they show how progress will be tracked and measured and who owns each benefit?
- Are outcomes and benefits tracked on a timely basis? How will they be report on during the project and after project close?
- Is performance against environmental and social requirements assessed on a regular basis?
- Have dependencies between benefits been mapped? Are the dependencies being managed?
- Have the organisational drivers, dependencies and other influencing factors identified and tracked?
- Have benefits milestones been defined and agreed?
- Do the expected project benefits contribute to a long-term plan that will deliver sustainable change?

Ownership

- Are the functions, roles and responsibilities for benefits realisation defined?
- Is the project sponsor accountable for outcomes and benefits, including potential environmental and social impacts?
- Is the sponsor actively leading the process of realising benefits, including measuring, tracing and recording benefits?

Stakeholders

- How will progress for benefits realisation be reported to external stakeholders, project affected communities and the public?
- Is a benefits matrix being used to show who is being impacted? How is this information being collected from project affected persons?

Good practice examples

This section offers supporting material to help develop your project rationale.

We give examples of good practice to help you:

1. Document the Strategic Case
2. Understand the links between project outputs, outcomes and benefits
3. Test the alignment between project outputs, outcomes and benefits
4. Use the Theory of Change approach to ensure an outcomes-based approach to project design, implementation and evaluation
5. Profile outcomes and align these with metrics
6. Define a legacy aligned to the UN SDGs

These examples will not be relevant to every project. They are a collection of good practice that may be helpful in specific circumstances. It is important to assess and tailor any good practice to the specific project and its wider context.

Likewise, the *suggested reading* is a starting point for further research. You should look for other sources relevant for your project, to support capability strengthening.

Within Routemap, the examples of good practice support capability strengthening in **(Step 9) – Action planning**.

1. Good practice: The strategic case

An overview of the strategic case from the Infrastructure Business Case: International Guidance, 2022.

The Strategic Case in the Early Business Case is very important so you should spend time and energy on it.

It should:

- identify the strategic need for a project
- confirm that current infrastructure is inadequate
- place the project within the government's wider strategic objectives
- outline the project scope and agree its objectives
- identify at a high level the risks, including environmental and social risks which the government will need to manage
- identify the economic, environmental and social benefits that a project might generate

The Early Business Case Strategic Case should give the project board and executive/programme Board enough information so that they can:

- decide if they should invest resources in developing the project further
- give direction to the project team.

The guidance recommends that you carry out many of the Strategic Case actions through one or more strategic needs workshops. Led by the Project Director and Project Manager they should have active participation from all interested parties. Workshops are an effective way to generate ideas, build understanding, consensus and commitment. They can help you to avoid investing in developing a project that will have to be cancelled at a later stage.

You should plan to have a high-level environmental and social risk assessment, which will confirm that the full spectrum of environmental and social impacts (positive and negative) have been considered. This assessment should determine the social context within which you will design and deliver the project, e.g. examining relevant legislation or policy, identifying service users, vulnerable and/or marginalised groups etc. It will help you to 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, climate change, or project design that does not follow best practice, e.g. the sustainability of the production processes or materials used. Once you have approval of the early business case, you should commission a more detailed environmental and social risk assessment.

In the intermediate and full business cases, you will update and amend the strategic case as necessary.

Characteristics
of good practice

Useful documents

Typical findings

Considerations

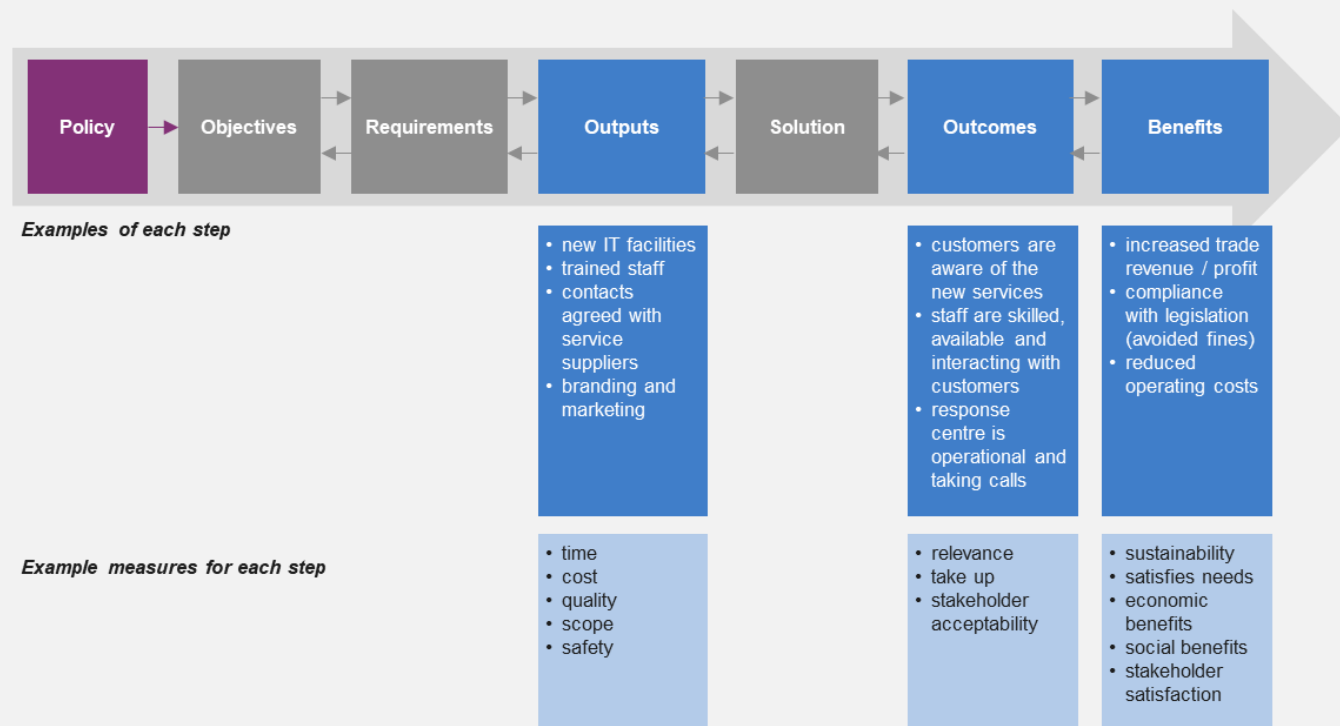
Good practice examples and suggested
reading

2. Good practice: Checking the alignment of outputs, outcomes and benefits (i)

An explanation of the links between project outputs, outcomes and benefits and an overview of benefits management

This illustration demonstrates the relationship between the outputs, outcomes and benefits:

- Outputs – also referred to as a capability, deliverable, or product. Outputs that do not contribute to achieving an outcome are of questionable value.
- Outcomes are a result of change which affects real world behaviour/ circumstances and may lead to one or more benefits. Outcomes are achieved as a result of the work done by projects and other activities creating outputs and new/enhanced organisational capability.
- Benefits are the measurable improvements resulting from, and enabled by, the outcomes. Realisation of benefits should be tracked and reported.



Characteristics
of good practice

Useful documents

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Considerations

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reading

Benefits management ensures benefits are realised and requires you to identify, analyse, define, plan and track the benefits.

Before recommending a preferred solution in the business case, you should assess several options for their expected benefits, and balance these against conflicting pressures like performance, scope, time, risk, and cost. Once the benefits have been identified, each individual benefit should be clearly defined and assigned an owner. The owner will be responsible for ensuring there is a plan to realise the benefit, taking into account risk that may impact it, and that progress against the plan is tracked and reported. Any individual benefit realisation plans should be brought together into one, overall project benefits realisation plan.

As work progresses, you will need to reassess the benefits because new ones could emerge, but also expectations might change. You should include specific points/times in your plans to undertake these assessments. At these points, you can track the actual benefits realisation against the plan.

Source: Adapted from Guidelines for Managing Programmes, UK Department for Business, Energy and Industrial Strategy, 2010: <https://www.gov.uk/government/publications/guidelines-for-managing-programmes-understanding-programmes-and-programme-management>

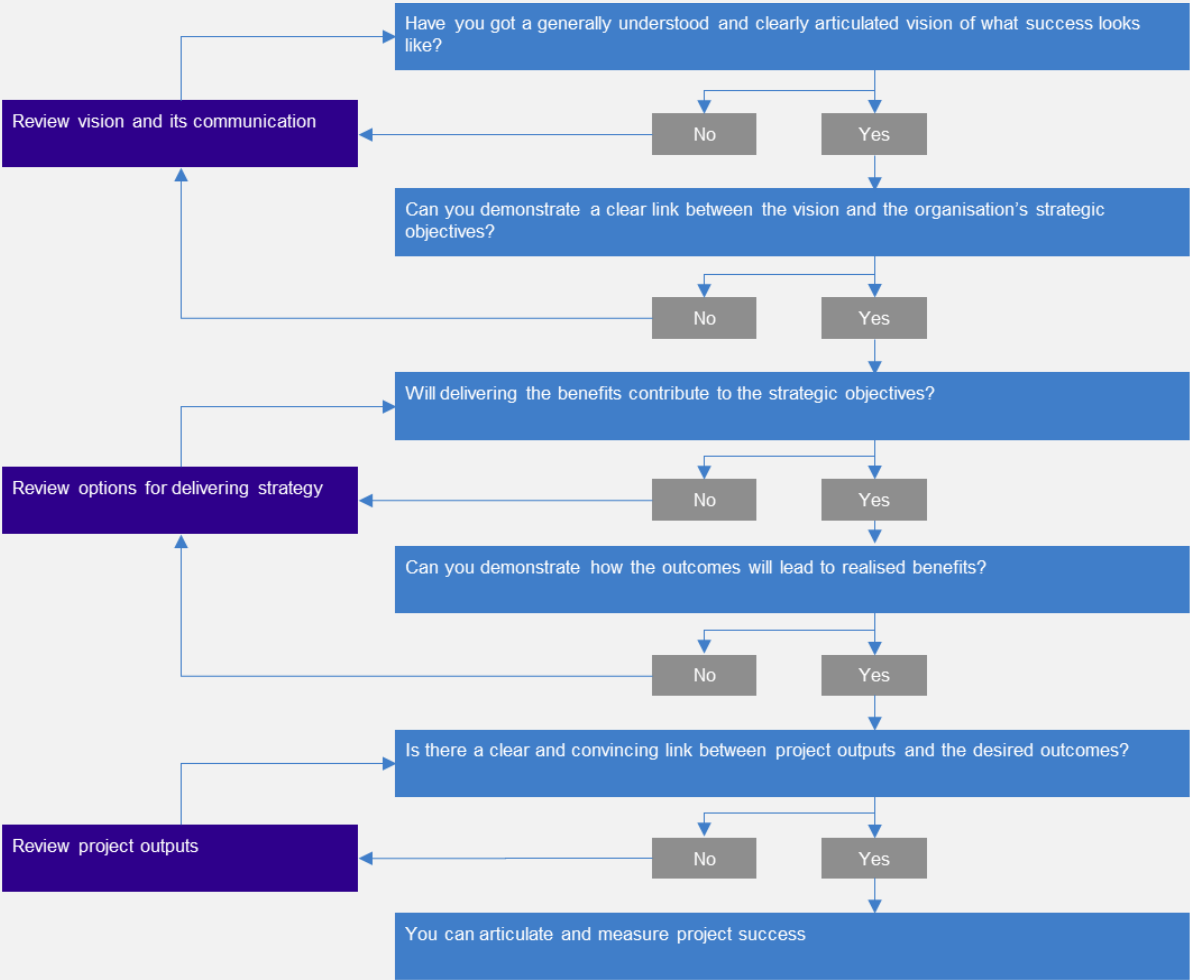
Characteristics of good practice	Useful documents	Typical findings	Considerations	Good practice examples and suggested reading
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3. Good practice: Checking the alignment of outputs, outcomes and benefits (ii)

Here is a decision tree to test alignment between outputs, outcomes and benefits.

The diagram outlines a simple way to check that identified outputs, outcomes and benefits align with organisational objectives and national sustainability targets.

Source: UK Government Functional Standard: GovS 002 Project Delivery



Characteristics
of good practice

Useful documents

Typical findings

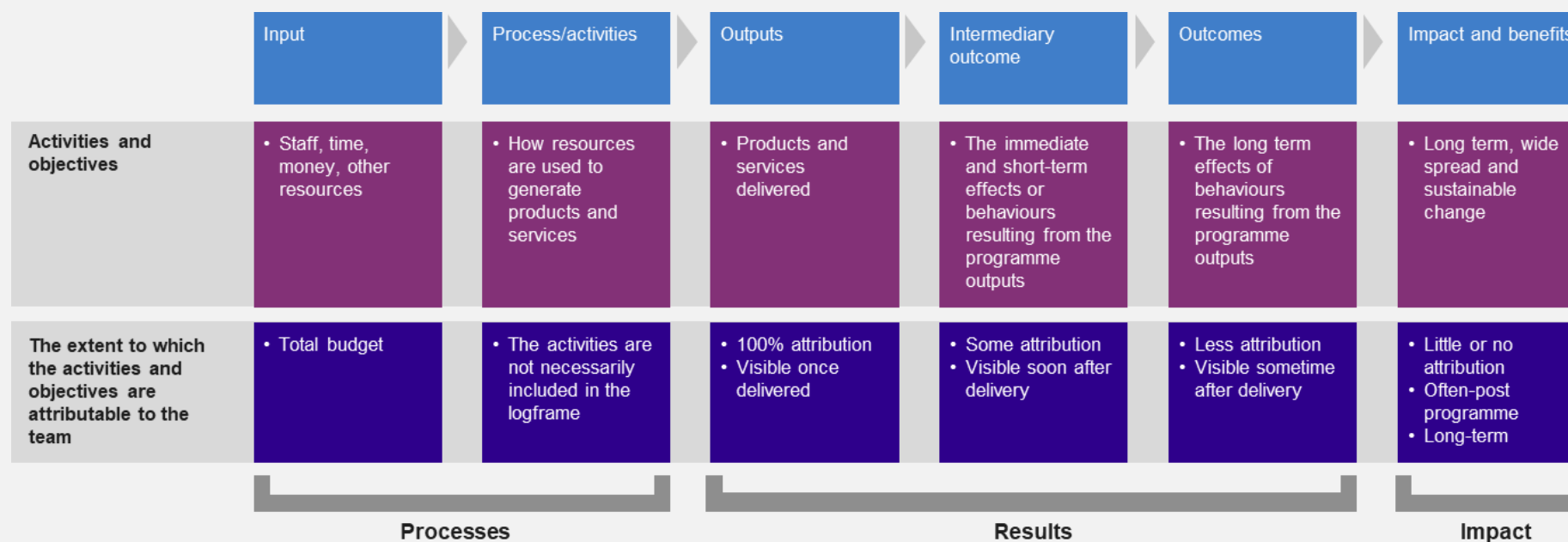
Considerations

Good practice examples and suggested
reading

4. Good practice: Checking the alignment of outputs, outcomes and benefits (iii)

The components of a theory of change

Theory of change is a methodology for planning, participation, and evaluation of projects that is used in international development work. It defines long-term impacts and then maps backwards to identify which outcomes, outputs, processes and inputs are required. This diagram outlines the stages of the theory of change, examples of the activities and objectives associated with each stage, and the extent to which the objectives for each stage are attributable to the programme team (attribution). A logical framework, or *logframe*, can also help you to monitor and assess the performance of a project against its theory of change. It compares planned and actual results through the use of indicators, baselines, targets and sources to measure progress.



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5. Good practice: Project outcome profile: a UK social housing case study

As a change programme in the UK's Department for Business, Energy & Industrial Strategy (BEIS) the objective of the Social Housing Decarbonisation Fund (SHDF) is to improve the energy performance of social housing through targeted investment and collaborative engagement with landlords and other government departments. Over a nine year spend period, SHDF aims to reduce carbon emissions from social housing, reduce the number of tenants in fuel poverty, and lower fuel bills. It will make an important contribution to a large proportion of the social housing stock by 2030, and is a significant stepping-stone to achieving the government's ambition of net zero by 2050. It will also build capacity in social housing landlords and the supply chain to continue the journey to net zero after completion, with less input from government.

A project outcome profile tool has been used to support the SHDF programme in its initiation phase during the development of the Strategic Outline Business Case, in particular for benefits mapping. Use of this tool enables effective communication with stakeholders including the supply chain, of how the project's objectives are aligned with the government's priority outcomes and how it will monitor, and ultimately measure, its success. In this example, it also highlights links with other government departments, supporting greater alignment of departmental activities.

Themes	Environment - We live sustainably, reducing our carbon emissions		Health - We are improving physical and mental health		Economy - We have strong economic growth and improving productivity			
Departmental outcomes	Department for Business, Energy & Industrial Strategy (BEIS): Reduce UK greenhouse gas emissions to net zero by 2050		Department for Levelling Up, Housing and Communities (DLUHC): More, better quality, safer, greener and more affordable homes		BEIS: Back business by making the UK the best place in the world to start and grow a business		BEIS: Support increased productivity through unleashing innovation and new knowledge throughout the country	
Programme outcomes	Reduction of carbon dioxide emissions due to social housing	Build social housing landlords' capacity and capability to decarbonise their stock by 2050	Reduction in fuel poverty in social housing	Improve the health, comfort and wellbeing of social housing tenants in the homes treated	No increase in fuel bills due to SHDF programme	Development of the green economy and associated jobs	Increase the retrofit supply chain capability and capacity	Development of the retrofit innovation and installation value-for-money in accordance with qualitative measures
Example metrics	MtCO ₂ e (million tonnes carbon dioxide equivalent) Non-Traded carbon savings	Self-reported levels of confidence and capability amongst social housing landlords Number of applications for funding versus stock which requires funding	Number of social homes improved to EER (Energy Efficiency Ratio) C by SHDF	Self-reported broader mental and physical health outcomes (from satisfaction survey)	Number of homes seeing no increase in fuel bills for equivalent home warmth	Number of jobs supported/created	Number of Trustmark and Microgeneration Certification Scheme	Average time for retrofitting (across each measure)

Characteristics
of good practice

Useful documents

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Considerations

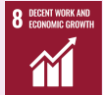
















Good practice examples and suggested
reading

6. Good practice: Define a legacy aligned to the Sustainable Development Goals

In pursuit of its mission to create a clean and safe environment for future generations, the Sellafield Ltd nuclear site is home to one of the most complex portfolios of construction projects in the world, stretching over many decades. Its 20-year Programme and Project Partner commitment comprises of £7b of bespoke, complex, nuclear decommissioning, environmental remediation and ancillary projects. It is being delivered under a Programme and Project Partner model with KBR, Jacobs, Morgan Sindal Infrastructure and Doosan Babcock to achieve a step-change through bringing together the best in the industry in a collaborative approach.

The Sellafield Sustainability Framework was developed to guide and drive the approach to sustainability, linking it to [UN Sustainable Development Goals](#), and most importantly, define what legacy the programme would bring, and how it would get there. The Framework emphasises that: *“Sustainability is not an add-on to the Programme and Project Partner mission. Embraced fully and with agency our sustainability approach will accelerate Programme and Project Partners and Sellafield Ltd success and provide additional, permanent, regenerative benefits”.*

The Sustainability Framework sets out activities for the short- medium- and long-term, aligned to the outcomes listed below.

Performance	People	Planet	Partnerships
Resilient, inclusive and local economic growth 	Activities protect the health, safety and wellbeing of current and future generations 	Accelerating climate resilience and zero carbon transition within planning, design and operations  	Collective impact of stakeholders, partnership and supply chain working to create shared value  
Innovative nuclear programme, projects and improvements create new market opportunities 	Inspiring skills, education and personal development activities improve access to sustainable incomes 	Sustainable procurement and circular economy throughout our operations and supply value chain 	
	Activities reduce inequalities, enhance community assets and address needs     	Environmental remediation restoring and enhancing the environment   	

Characteristics
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Considerations

Good practice examples and suggested
reading

Suggested reading

Within Routemap, the suggested reading supports **(Step 9)** – *Action planning*.

Here are some sources of good practice information and guidance on project rationale:

Project Development Routemap for Infrastructure Projects:
International Handbook, Infrastructure and Projects Authority, 2020
<https://www.gov.uk/government/publications/project-development-routemap>

Business Case Development for Infrastructure Projects: International
Guidance – Infrastructure and Projects Authority, 2020
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1062669/Infrastructure_Business_Case_International_Guidance.pdf

The Green Book - The 5 Case Model, HM Treasury 2013-2020
<https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>

Pushing the boundaries of change: Benefits realisation across local
government, Association of project managers 2013
<https://www.apm.org.uk/media/1242/pushing-the-boundaries-of-change.pdf>

DFID - Appendix 3: Examples of Theories of Change Collated and
annotated by Isabel Vogel (consultant) and Zoe Stephenson, DFID
EVD, 2012
https://assets.publishing.service.gov.uk/media/57a08a66ed915d622c000703/Appendix_3_ToC_Examples.pdf

DFID Smart Guide to Logframes, 2011
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/253881/using-revised-logical-framework-external.pdf

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

Characteristics of good practice	Useful documents	Typical findings	Considerations	Good practice examples and suggested reading
	<p>IFC Good Practice: Note Managing Contractors' Environmental and Social Performance, International Finance Corporation, 2017 https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_gpn_escontractormanagement</p>			<p>World Bank Environmental and Social Framework 2018 https://www.worldbank.org/en/projects-operations/environmental-and-social-framework</p>
	<p>Regulatory impact assessments - guidance for government departments https://www.gov.uk/producing-impact-assessments-guidance-for-government-departments</p>			<p>Equator Principles https://equator-principles.com/</p>
	<p>Option Appraisal: Making informed decisions in government, 2011 http://www.nao.org.uk/report/option-appraisal-making-informed-decisions-in-government</p>			<p>Asian Development Bank Environmental and Social Safeguards https://www.adb.org/site/safeguards/main</p>
	<p>Australian Government Report Assurance Review Process - Lessons Learnt on Benefits Realisation https://www.finance.gov.au/sites/default/files/2019-11/Benefits_Lessons_Learned_flyer.pdf</p>			<p>African Development Bank Environmental Safeguards, 2020 https://www.afdb.org/en/documents/document/environmental-safeguards-policy-11370</p>
	<p>UN Sustainable Development Goals 2015 https://www.un.org/sustainabledevelopment/sustainable-development-goals/</p>			<p>EU Sustainable Finance Taxonomy https://www.europarl.europa.eu/RegData/etudes/BRIE/2019/635597/EPRS_BRI(2019)635597_EN.pdf</p>
	<p>Inclusive Infrastructure and Social Equity https://inclusiveinfra.github.org/</p>			<p>G20 Principles for Responsible Investment G20-Guiding-Principles-for-Global-Investment-Policymaking.pdf (oecd.org)</p>

Glossary

This glossary identifies key terms for the Routemap Rationale module. The *Project Development Routemap for Infrastructure Projects: International Handbook* contains a comprehensive glossary of terms related to Routemap more generally.

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.

Benefits: Benefits are the advantages, gains and additional value that are delivered by a project.

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. Most barriers to best practice are institutional and not individual action. Stakeholder perception of capability is assessed by capability assessments.

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 delivery environment, the level of innovation required, and the number of stakeholders involved.

Client: The client is the organisation that is responsible for fulfilling the requirements and delivering the benefits. The client translates the requirements from the sponsor and manages the delivery outcomes. The client selects, procures and manages 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.

Economic, environmental and social value: the impact a project has on the environment, economy, 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.

Environmental and Social Impact Assessment (ESIA): An environmental and social impact assessment is conducted to identify and evaluate environmental and social risks in projects.

Environmental and Social Management Plan (ESMP): An environmental and social management plan contains mitigation measures and actions in order to mitigate environmental and social risks and to maximise potential environmental and social benefits over the life of a project.

Free, Prior and Informed Consent (FPIC): The principle requires thorough consultation with stakeholders and affected parties from indigenous people prior to implementation, and their participation in the decision-making process. It aims to ensure that indigenous peoples' rights are respected in project design and implementation.

International Finance Corporation (IFC) Performance Standards: An international benchmark for identifying and managing environmental and social risk that 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.

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

Outcomes: Outcomes are the events, occurrences, or changes in conditions, behaviour, or attitudes that are attributable to a project.

Outputs: Outputs are products or deliverables resulting from delivery of a project.

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 payment linked to user charges where the private sector takes demand risk (for a Concession based PPP). There are many different possible definitions.

Project affected persons: 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.

Qualitative: Qualitative measures look at the meanings, concepts, definitions, characteristics, metaphors, symbols, and description of things and not counts or numerical measures. They reflect why and how a certain phenomenon may occur rather than how often.

Quantitative: Quantitative measures are values or counts and are expressed as numbers.

Rationale: A project rationale is an argument in favour of implementing a proposed project, giving a detailed explanation of why the project is required. It describes the expected benefits of the project; how these will be managed to successfully achieve the project vision; and alignment of the project with policy and organisational objectives.

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

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.

Sustainability: This means making the necessary decisions now to stimulate economic growth, maximise wellbeing and protect the environment, without affecting the ability of future generations to do the same.

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

Theory of change: Theory of change is a methodology for planning, participation, and evaluation of projects that is used in international development work. It defines long-term objectives and then maps backwards to identify necessary preconditions for those objectives to be achieved.

UN Sustainable Development Goals (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 recognize that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability.



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