

Infrastructure investment for a sustainable economic recovery



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Investment decisions must support broader economic, environmental and social outcomes, including sustainability and equity.

In the wake of the COVID-19 pandemic there has been much discussion about an ‘infrastructure-led recovery’ and a ‘green recovery’ across the globe.

Infrastructure can play a direct role in stimulating economies and maintaining employment. In addition, it is more important than ever to use this stimulus investment to enable a sustainable recovery – environmental, social and economic sustainability – in a global effort to deliver the Sustainable Development Goals.

Governments will need to strike a difficult balance between speed of getting money into the economy and meeting sustainability objectives – environmental and social; and balancing the longer term economic benefits of infrastructure investment with immediate needs to spend on healthcare and vaccinations, employee and business support.

In this paper, we set out a number of short and long term policies and principles for consideration by governments planning infrastructure investments as an economic stimulus, including how to integrate sustainability into investments and how to afford it:

1. Money needs to be spent quickly to raise economic output levels, whilst also planning for longer term sustainability outcomes;
2. The money needs to be fed right down through the supply chain;
3. Planning and approval processes should be streamlined and accelerated;
4. Sustainability considerations should be integrated into all stages of the project lifecycle at the planning stage;
5. A mix of approaches will be needed to support the affordability of investment programmes;
6. A number of measures will need to be considered in order to attract private investment, particularly in infrastructure sectors which have proved vulnerable during COVID-19. including sustainable financing opportunities;
7. Public and private sector collaboration is essential for delivering efficiently.

Repair and Restart: Policies and principles for sustainable infrastructure stimulus programmes

Stimulus policies and principles

Short term impact:

Quick spending

Protect and create jobs

- Start projects that are ready for delivery now (assuming business case remains unchanged).
- Accelerate repairs and maintenance projects.
- Undertake a 'call for shovel-ready projects' from the private sector and local authorities.
- Streamline and accelerate planning and approval processes to improve efficiency and accelerate the procurement and delivery of projects.
- Work closely with suppliers to ensure money flows. This should involve de-risked contract structures, lenient payment terms and contract clauses for spending to small and medium enterprises (SMEs).
- Implement new technologies, such as machine learning, to automate and digitise procedures, with a focus on ensuring live data can be shared and connected across projects to drive programme wide insights.

How to integrate sustainability?

- Prioritise smaller sustainable projects or initiatives rather than larger projects which take longer to deliver. For example, electric vehicle charging networks, retrofitting housing insulation and energy efficiency programmes, rooftop solar schemes, district heating projects, congestion easing road projects.

How to pay for it?

- Rationalisation - Undertake capital allocation and capital review programmes at speed. Revisit business cases and cancel or delay projects that are no longer feasible.
- Revisit procurements, because the market may not have bidding or financing capacity and may become risk averse (e.g. credit enhancement programmes, blended finance solutions).
- Optimisation - Selection of projects, initiatives or investments that deliver the greatest value (including social and environmental and economic value). Optimise spend on the project pipeline to maximise return on investment.
- An increase in public borrowing may need to be considered in the short term, but as part of a wider strategy which considers all options, including asset monetisation, asset recycling and encouraging private sector investment.

Rethink and Reconfigure: Policies and principles for sustainable infrastructure stimulus programmes

Stimulus policies and principles

Medium/long term impact:

Pause, reflect and plan what infrastructure investment is needed to rebuild the economy in a sustainable way

- Review national infrastructure pipeline and prioritise strategically important new projects that will:
 - Create jobs or provide access to jobs in sectors needed for longer term sustainable economic growth e.g. digital infrastructure, renewable energy, low carbon transport, water and sanitation.
 - Improve social outcomes e.g. health and education facilities.
 - Positive impact on the environment.
- Focus resources on project preparation to improve quality and achievement of sustainable outcomes.
- Standardise and streamline commercial models and routes to procurement, to shorten procurement and overall delivery timescales.
- Address risk allocation issues in contracts (e.g. for demand-based assets).
- Take a more innovative approach to delivery, collaborating with the private sector: (e.g. using agile project management methods and potentially mandating modular construction and standardised designs) – the opportunity to fully leverage the benefits of building information modelling (BIM) and the digital built environment is significant, but will require both government and the supply chain to invest upfront to accelerate adoption.
- Consider incentivisation and support packages for infrastructure supply chain innovation and employment support/upskilling.

How to integrate sustainability?

- Align infrastructure and climate policies, and national and sectoral infrastructure strategies and incentives designed for decarbonisation.
- Add environment, economic, social (EES) and resilience criteria requirements to project selection, business cases, procurement evaluation and contracts. Reconsider the weighting of the quality / price criteria and the impact of additional EES criteria on trade offs.
- Design standards to take into account resilience – subject to environmental shock scenarios.
- Weight investment in green construction materials in public contracts and incentives to modernise construction methods.
- Consider appropriate levers to incentivise investment in sustainable infrastructure.

How to pay for it?

- Consider how to monetise assets – e.g. infrastructure assets which are generating stable cashflows, monetise that income through a forward sale of the revenue to investors – in return for an upfront lump sum.
- Consider an asset recycling programme – selling or leasing existing infrastructure and reinvesting proceeds into new infrastructure.
- Assess mechanisms to de-risk demand-linked revenue streams to stabilise long term project revenues and increase investor interest.
- Consider how to make GDP linked assets more liquid for a secondary market transactions.
- Consider investments that provide additional revenue streams to the Treasury, e.g. economic activities enhanced by the project, such as land value capture.
- Rebalance / review risk allocation in PPP models to increase competition and value.
- Develop frameworks for unsolicited proposals.
- Deregulate / open up monopolised state owned enterprises to allow private investment.
- Regulate private monopolies to allow competition in private investment.

Money needs to be spent quickly to raise economic output levels, whilst also planning longer term sustainability outcomes

Infrastructure projects are an effective economic stimuli, but the time taken to approve, procure, design and raise finance for them can mean that the stimulus effect is delayed. Therefore in the short-term, investment should be focussed on smaller projects that are quicker to deliver, such as maintenance in the first instance; or accelerate projects that are already underway. Consideration should also be given to smaller projects which meet sustainable outcomes, such as electric vehicle charging networks, retrofitting housing insulation, rooftop solar schemes, district heating projects, congestion easing road projects.

In the medium term, infrastructure investments which align to climate or environmental policies should be prioritised and accelerated (e.g. renewable energy projects; low carbon transport, water and sanitation, and measures to increase resilience of critical infrastructure).

Given a shift towards 'working from anywhere', some governments may consider increased investment in infrastructure in smaller cities, instead of continuing to retrofit infrastructure in larger cities where construction costs tend to be higher.

Another approach is focussing on inter-dependent projects, so that the economic impact is maximised. For example, in India, there is a focus on 'corridor projects' (e.g. where infrastructure investment is focussed on supporting growth and productivity of high-growth industries such as manufacturing). This approach could also make financing easier, if investors have options to come in at a holdco or programme level, thereby not taking the risk at individual project level.

Case study: Spending quickly on small sustainable infrastructure projects

In July 2020, London's Mayor and the London Recovery Board announced a [£1.5bn Infrastructure Investment Package](#) that aims to recover the local economy, create jobs and reduce London's carbon and water footprints. Projects will be implemented together with shortlisted utility companies. The objectives of the green recovery programme include:

- Upgrading the gas network to improve the security of London's gas supplies.
- Reducing water leakage by 20 per cent and pollution incidents by 30 per cent by 2025.
- Progressing plans to increase the resilience of the water supply network serving boroughs in north east London; the City and Canary Wharf.
- Ensuring the electricity infrastructure is in place to support electric vehicles, using innovative planning tools to identify the best charger locations and timings.

In addition, the Board has committed to support utility companies in identifying employment opportunities, especially for young people and Londoners from Black, Asian and other minority ethnic backgrounds who have been disproportionately affected by the crisis.

Case study: European Green Deal

The EU's plan European Green Deal is the EU's plan to make the EU's economy sustainable. The European Green Deal provides an [action plan](#) to boost the efficient use of resources by moving to a clean, circular economy restore biodiversity and cut pollution. The plan outlines investments needed and financing tools available. The EU aims to be climate neutral in 2050. Reaching this target will require action by all sectors of the economy, including rolling out cleaner, cheaper and healthier forms of private and public transport, decarbonising the energy sector and ensuring buildings are more energy efficient. The EU will also provide financial support and technical assistance to help those that are most affected by the move towards the green economy, through the [Just Transition Mechanism](#) and plans to mobilise at least €100 billion over the period 2021-2027 in the most affected regions.



The money needs to be fed right down through the supply chain

This can be an issue in mega projects where large contracts have been consumed by a few big players who have limited supply chains.

Governments may look to break up projects into smaller contracts to facilitate spending to SMEs, and this strategy will also need to look at de-risking contract structures and lenient payment terms to make sure it is successful. Governments can also look to reform procurement rules and procedures to provide more opportunities for localised sourcing.

Providing a clear, long-term infrastructure investment strategy with good transparency about short and medium-term project pipeline will be important for the supply chain to plan and have the capacity to deliver such projects and programmes.

To support longer term supply chain stability and efficiency, governments can consider incentivisation and support packages for infrastructure supply chain innovation and employment support / upskilling.

Planning and approval processes should be streamlined and accelerated

Environmental and social sustainability should be built into the design, procurement and contracting of infrastructure projects

Balancing speed to the procurement phase, with selecting the right projects to meet sustainable stimulus outcomes will be challenging. Project selection needs to be against an 'outcomes framework' based on sustainable economic recovery objectives. A clear set of objectives and indicators to appraise projects against transparently will be important:

- Create jobs quickly or provide access to jobs in sectors needed for longer term sustainable economic growth (e.g. digital infrastructure, renewable energy);
- Improve social outcomes (e.g. health and education facilities in the areas impacted the most from COVID-19), and greater emphasis on rehabilitation of project affected persons relating to land acquisition issues; and
- Positive impact on the environment.

Governments should undertake a review of the national infrastructure pipeline and prioritise strategically important new projects against their outcomes framework. Undertaking a 'call for shovel-ready projects' from the private sector and local authorities can help to achieve the predefined outcome objectives. Developing a framework to transparently manage unsolicited proposals, or launch a 'challenge fund' for private sector initiated proposals, can help to address anti-competitive concerns.

Planning and approval processes should be streamlined to improve efficiency and accelerate the procurement and delivery of projects

To deliver sustainable project pipelines in the medium term, governments need to invest in better project preparation so that there is a supply of quality and deliverable projects in the pipeline, which are weighted to environmental, economic, social and resilience outcomes. Business cases need to be more focused, and when coupled with a refined funding and finance framework, create a deliverable infrastructure pipeline.

Often complex specifications or procurement strategies are adopted without considering the impact this will have on delivery times. Procurement processes will need to be fit for purpose to enable a speedy construction start.

Clear governance and accountability around project delivery, coupled with improved planning will provide confidence throughout the construction supply chain. A standardised project controls platform will make it easier to monitor project timelines.

Case study: Call for shovel ready projects

In April 2020, the New Zealand Government announced plans to fund large 'shovel-ready' infrastructure projects identified by the Infrastructure Industry Reference Group (IIRG). The IIRG's call for projects received over 1,900 submissions with a combined value of NZD\$136 billion, with the first 12 projects announced on 1 July 2020. The IIRG guidelines for the selection of 'shovel-worthy' projects were:

1. Maintain and upgrade – maintenance contracts tend to be more labour intensive, less complex, and more easily apportioned into smaller pieces so companies of all sizes can participate;
2. Invest in no-regrets sectors – some long-term needs won't change in a post-COVID-19 future (e.g. clean water, healthy homes, safe hospitals);
3. Roll projects quickly into programmes – dozens of disconnected projects could unhelpfully compete for labour and supplies. Coherent programmes of work will be more efficient and achieve better value-for-money and outcomes;
4. Choose proven delivery models and partners – collaborative techniques (e.g., alliances, early contractor involvement) between trusted partners are ideal for managing risk while moving fast;
5. Embrace social procurement – supporting local businesses, apprenticeships, and all parts of communities can ensure investments generate wider benefits, even in the short-term; and
6. Leverage local government – every \$1 of extra revenue that the Crown gives to a council can be matched with \$2.50 of borrowing, putting \$3.50 to work in the economy. Local government should be a key partner to the Crown in fiscal stimulus, but the Crown must provide funding to enable the Urban Growth Partnerships promised in its Urban Growth Agenda.

Sustainability considerations should be integrated into the project lifecycle at the planning stage

Sustainability requirements should be integrated into all stages of the project lifecycle to reduce resulting environmental impact and ensure sustainability of future generations. Climate policies and infrastructure strategies should be aligned, and incentives designed for decarbonisation.

Integrating environment and social sustainability into the design and procurement and contracting of infrastructure:

Policy and strategy

- Align infrastructure and climate policies, national and sectoral infrastructure strategies and incentives designed for decarbonisation;
- Develop a clear set of stimulus objectives and outcome indicators: environment, economic, social and resilience.
- Develop an investment decision assurance framework to filter projects and provide transparent decision making and comparisons between sectors and geographies.
- Undertake sustainable infrastructure sector market studies and economic impact modelling to help determine deliverability of investment programmes against environmental, social and economic objectives.
- Consider appropriate levers to incentivise investment in sustainable infrastructure (e.g. regulations).
- Establish measures to enhance / create finance markets for green investments.

Project development

- Develop stimulus assessment criteria for project identification
- Add environment, economic, social and resilience criteria requirements to project selection, business cases, procurement evaluation and contracts. Reconsider the weighting of the quality/price criteria and the impact of additional EES criteria on trade offs.
- Add systematic assessment of climate risks and disaster management and environmental impacts to risk management framework.
- Design standards need to take into account resilience – subject to environmental shock scenarios.
- Invest in green construction materials and incentives to modernise construction methods.

Procurement and contracting

- Develop and apply a framework that considers the total economic, social, environmental and financial impact over the whole life of the asset and subsequent monitoring of impact.
- Evaluate procurement bids holistically across all dimensions of sustainability and weight to include optimal sustainability features in project designs.
- Design standards to take into account resilience – subject to environmental shock scenarios.
- Weight investment in green construction materials in public contracts and incentives to modernise construction methods.

A mix of approaches will be needed to support the affordability of investment programmes

Stimulus investments may be constrained by governments' financial capacity to increase borrowing and spending in order to fund the infrastructure. This is a particular challenge for heavily indebted or financially weak countries where debt-to-GDP ratios were already high, and as of June 2020, governments had deployed \$11trn in spending and tax relief according to the International Monetary Fund (IMF)*.

New ways of funding infrastructure will need to be considered, in order to accelerate development, harness private capital, better manage risk and reduce reliance on Treasury and local authority balance sheets. The definition of 'return on investment' may also need reconsideration. In the past, it might have meant economic returns, but now greater emphasis could be placed on user charges or additional tax revenues from economic activities enhanced by the project, such as land value capture.

A mixture of short and long term approaches will need to be deployed to support the affordability of investment programmes, such as rationalisation and optimisation of existing programmes, models such as asset monetisation, asset recycling, and deregulation to encourage more private sector investment.

In addition, the wider fiscal implications for transition to "green" stimulus initiatives needs to be considered by governments, particularly where significant revenue is dependent on, for example, petrol and diesel vehicle usage. In the case of electric vehicles (EV) incentivisation for example, the affordability of providing subsidies and infrastructure investment to EV, whilst losing revenue by reduction in fuels consumption will be challenging. Transition support from multilateral agencies is one way to support this. (*<https://www.imf.org/en/About/FAQ/imf-response-to-covid-19>)

Public investment strategies: Rationalisation and optimisation of infrastructure programmes

As sustainable stimulus programmes are being developed, it will be necessary to undertake a capex review of infrastructure projects within existing plans and establish if projects should be continued, optimised, privatised, or cancelled in order to provide value for money, contribute to sustainable stimulus strategy and minimise risk within the available funding envelope.

If re-prioritisation or cuts in spending are unavoidable, they should be based on transparent criteria which minimise the negative impact on long-term growth.

- Countries should define specific objectives for adjustments in public investment.
- Project implementation status is also important
- The specification of policies and objectives should result in a concrete set of selection criteria that can be used as a guide for adjusting the public investment portfolio.
- There should be a structured mechanism for decision making on major public investment spending cuts.
- Postponing or cutting infrastructure projects will require governments to negotiate changes with their contractors (in the case of traditional procurement) or partners (in the case of PPPs).
- Robust decisions will require comprehensive and consistent information about the public investment portfolio.
- It will be important to ensure a transparent process, so that the information underlying the decisions is well known and understood by different stakeholders and the public.



Leveraging private sector investment to support affordability

Consideration should be given to alternative models for leveraging private sector investment to support affordability of stimulus programmes, such as:

Asset recycling – Infrastructure asset recycling involves divesting or leasing public assets to the private sector and investing the proceeds into new infrastructure projects. Asset recycling has been used by the Australian Government to fund new infrastructure without increasing public debt, and the Government of India is looking at ways to accelerate their existing asset recycling initiative further.

Asset monetisation – If the government has infrastructure assets generating stable cashflows or is able to improve tariffs such as road tolls, water charges, land based charges etc. on new infrastructure, one option is for governments to monetise that income through a forward sale of the revenue to investors – in return for an upfront lump sum. For example, Dubai monetised its road tolls in this way. The forward sale of cash flows is different to asset sales, as in this case only the cash flows are sold.

Regulation / Deregulation

Deregulation / opening up of monopolised state owned enterprises to allow private investment is being considered by some governments. Regulating private monopolies to allow competition in private investment is another consideration.



A number of measures will need to be considered to attract private investment in sectors which have proved vulnerable to shocks

There still remains availability of private capital to fund infrastructure projects globally. However, a number of measures will need to be considered by governments, in order to attract private investment, particularly in infrastructure sectors which have proved vulnerable during the Covid-19 pandemic. COVID-19 disruptions have prompted a reassessment of investment risk and stress testing by the private sector, as well as increased demand-side forecasting and planning. Greater certainty of the stability of long-term revenue streams necessary to repay the finance initially invested will be sought by both public and private investors. Governments' interventions in mitigating the disruptions arising from the pandemic will have an impact on the risk perception of infrastructure going forward.

A move toward more conservative PPP deal structures and risk allocation may need to be considered to attract competition and value. For example, demand risk may need to be shared or taken by the public sector rather than transferred in full to the private sector. Protection mechanisms provided against demand risk could include revenue risk sharing, guarantees, regulatory tariff resets linked to demand.

Legal frameworks focussed on sustainability and disaster resilience provisions should also be considered.



Sustainable financing opportunities

The integration of sustainability into the infrastructure pipeline will support an increased availability of sustainable finance solutions including sustainable innovation funds, and green bonds.

As environmental, social and governance (ESG) and climate-related standards and frameworks continue to gain ground, there will theoretically be no shortage of financing for sustainable infrastructure. However, scaling this investment up will continue to require government intervention to make the business models work and attract investment, whether through subsidies, tax breaks or other mechanisms.

From an investors perspective, these developments are driving pools of capital to be directed to those investments with a positive impact profile, with ESG considerations becoming more embedded in the risk assessment, selection, management and reporting processes for a growing proportion of investors in infrastructure.

Driving sustainable finance opportunities

- Establish clear standards for sustainable finance (e.g. establish green taxonomy). For infrastructure projects, this means taking account of environmental and social criteria when making investment decisions in infrastructure projects. For example:
 - Contribute to the creation of a low-carbon, climate resilient infrastructure and the circular economy;
 - Re-orient investments towards more sustainable technologies and operations; and
 - Finance developments in a sustainable manner over the long-term.
- Develop sustainable finance packages – which standardise green finance practices, enhance transparency and disclosure standards for risks.
- Align financial system institutions to deliver sustainable finance that addresses key sustainability risks and provides long-term support for sustainable infrastructure.
- Provide targeted finance mechanisms for key sub-sectors that meet sustainability objectives.



Case study: Indonesia's SDG Financing Hub (SFH)

Indonesia needs an estimated USD 1,689-2,088 billion from non-government sources to achieve the SDG targets and its current financing gap is USD 404 - 702 billion. The Government is establishing the SDGs Financing Hub, with the aim of closing the financing gap within key SDGs and prioritising goals that require more funding or financing. SFH is also intended to become the main entity to develop innovative financing mechanisms for the Indonesian context that can help matchmake critical SDG projects with social investors that seek to advance the SDGs and government priorities.

The SDGs Financing Hub will:

- Coordinate the financing of SDG-projects with public, private, and non-profit sectors to garner support for marketable projects from the banking sector, financial markets and domestic and foreign investors;
- Develop, and seek to untap innovative financing mechanisms through a pool of non-governmental investment, grants, etc. or blended financing to fund/finance SDG-projects; and
- Design and develop feasible and marketable SDG-projects in line with SFH's financing gap analysis. The developed projects are expected to be in line with capital providers' and funders' investment appetite and criteria.



Public and private sector collaboration is essential for delivering efficiently

Greater collaboration between the public and private sector on design and delivery models can increase efficiency

Project teams often lack the right skills and systems to design projects that are quick to deliver. Early contractor engagement on improving efficiency in the scope and requirements can improve overall efficiency of project delivery.

Take a more innovative approach to delivery and collaboration with the private sector: (e.g. using agile project management methods and potentially mandating modular construction and standardised designs).

The opportunity to fully leverage the benefits of BIM and the digital built environment is significant, but will require both government and the supply chain to invest upfront to accelerate adoption.

Consider establishing a central delivery unit with 'barrier busting' objectives to coordinate all stakeholders and drive delivery progress.

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