

# The Role of Public Policy in Sustainable Infrastructure



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Infrastructure development, economic growth, and climate protection are intimately related. Infrastructure is a key driver of economic growth and development. In the current context of increasing concerns about prospects for global growth, infrastructure investment can play an especially important role, by boosting global aggregate demand today and laying stronger foundations for future growth. Infrastructure is also a key element of the climate change agenda. Done badly, it is a major part of the problem; infrastructure accounts for more than half of global carbon emissions. Done right, it is a major part of the solution, vital to both climate change mitigation and adaptation.

## The historic opportunity of COP21

COP21 presents a historic opportunity to address this interconnected agenda. There is good momentum to build on as world leaders gather in Paris next month. The Sustainable Development Goals recently adopted by the international community incorporate climate sustainability integrally into the global development agenda. Infrastructure cuts across this agenda. The world has been underinvesting in infrastructure, but the need to substantially scale up investment in infrastructure—energy systems, cities, transport, water—and the related policy agenda are now receiving attention at major international fora, such as the G-20. There is also encouraging progress on both country-level commitments and global collective actions to combat climate change, helped by growing recognition that climate action is not only urgent but also not at odds with economic growth. Technological breakthroughs are opening new avenues for action and lowering costs. The challenge—and opportunity—in Paris is to advance on this mutually supportive agenda in a tangible and integrated manner.

Globally, investment needed in sustainable infrastructure over the next 15 years (2015-2030) is of the order of \$90 trillion. On an annual basis, investment in infrastructure will need to double from \$2.5 trillion to \$3 trillion currently to around \$6 trillion to fill existing gaps and meet growth in demand. The bulk of the increase in investment will need to take place in the developing world, particularly in middle-income economies, reflecting their growth needs, rapid urbanization, and sizable infrastructure backlogs. The largest part of the incremental investment needs, more than one-half, relates to



energy. The scale of the challenge is brought home by the fact that the assessed infrastructure investment needs over the next 15 years are almost twice as large as the value of the entire current infrastructure stock (estimated at about \$50 trillion). But this also presents a major opportunity to remake our physical environment in a way that better supports future economic growth and at the same time protects the climate.

How these infrastructure investments are made will be crucial. Infrastructure assets are long-lasting. There is a great danger of locking in high-carbon, polluting, and wasteful pathways if we build the new infrastructure in much of the same way as in the past, such as continuing to rely heavily on fossil fuels in meeting the future energy demand. But if the new investments are done well and factor in climate risks, they can not only bridge the infrastructure gap to underpin development but do so in a way that helps manage climate change. This means investing more, and better, in renewable energy, cleaner transport, more efficient and resilient water systems, and smarter cities to meet future needs. Sustainable infrastructure mitigates carbon emissions as well as builds resilience for adaptation to climate change.

The confluence of the need for a major boost in infrastructure investment and the urgency of climate action makes this a critical moment. The Paris meeting can seize the moment by reaching an ambitious global compact on climate change that provides a strong impetus for sustainable infrastructure as the model for the future.

### The public policy agenda

Public policy has a central role to play in the agenda to promote sustainable development and manage climate change through provision of better infrastructure. This is in part because the public sector itself is a major investor in infrastructure. But, more importantly, public policy provides signals and sets the regulatory and institutional frameworks that influence the actions of all actors, including private investors and consumers. Given the magnitude of the infrastructure challenge, private in-

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vestment and finance will need to play a much greater role than before. Success in mobilizing private investment at scale and channeling it to sustainable infrastructure will depend crucially on incentives and an enabling environment provided by public policy—at national and international levels.

Clarity and credibility of public policy are especially important for infrastructure investments, given the longevity of these investments, associated externalities, and the inevitable and intimate links to government policies.

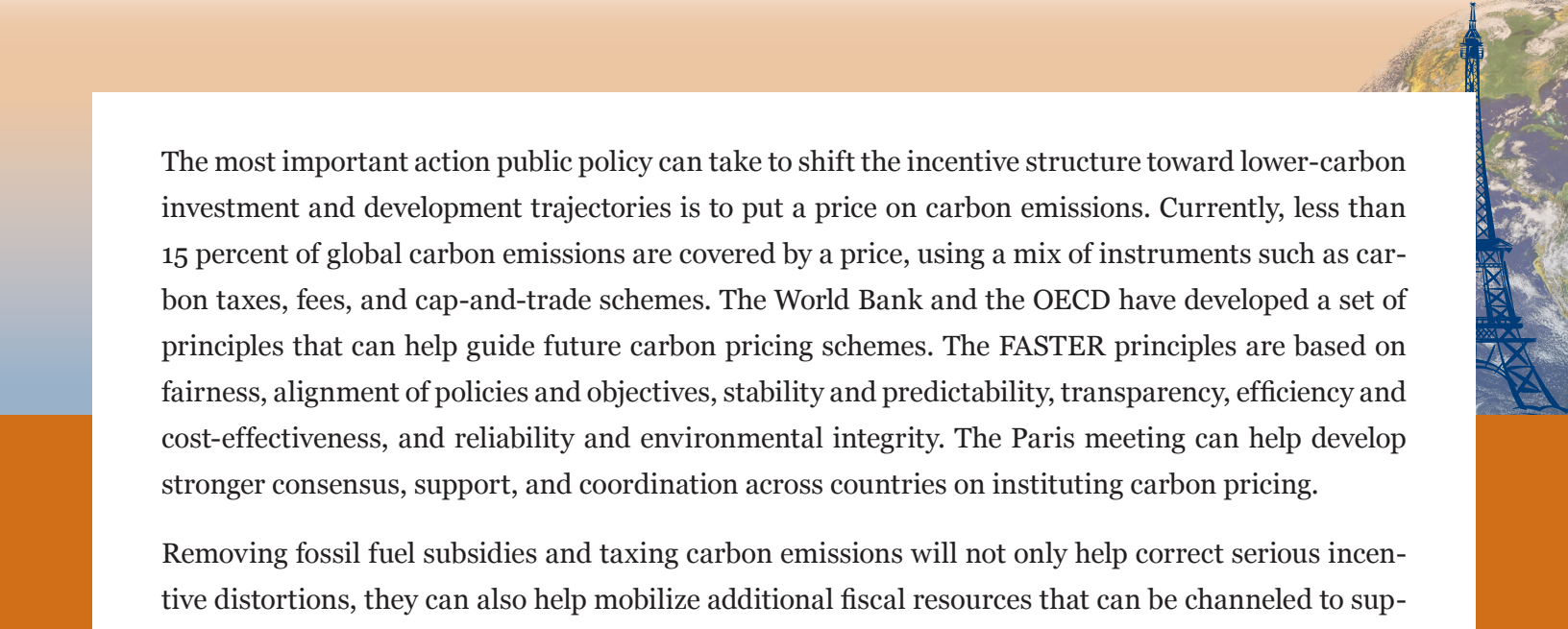
There are four key roles that public policy will need to play, all of which will be influenced greatly by the outcome of the Paris meeting.

**1. Articulating national strategies for sustainable infrastructure.** Countries need to articulate clear and comprehensive strategies for sustainable infrastructure and embed them in overall strategies for sustainable growth and development. Addressing one group of projects at a time will not do. There is a need for a broader articulation of strategies on the direction of change and plans to address policy and market failures and other constraints to sustainable infrastructure development. Only such integrated strategic frameworks will ensure coherence across individual public policy actions and provide the clarity and confidence to the private sector to do its part.

Sustainable infrastructure measures, to varying degrees, form part of the intended nationally determined contributions countries have announced in the lead-up to the Paris meeting. The commitments countries are making are more ambitious than their past commitments, but it is also clear that they collectively will fall short of the goal to limit global warming to no more than 2 degrees Celsius above pre-industrial levels. So a key test of the Paris agreement will be the extent to which it maps out a follow-up process to verify progress and raise the collective level of ambition. It will also be important for countries to reflect and integrate their Intended Nationally Determined Contributions (INDCs) in overall national development strategies.

The G-20 group of major economies can provide leadership on this effort. As part of G-20 processes, all G-20 countries have prepared and peer-reviewed national growth and investment strategies over the past two years. Climate sustainability so far has received limited attention in these strategies. COP21 and the INDC process provide an opportunity to better integrate the sustainability agenda into these national investment and growth strategies.

**2. Addressing fundamental price distortions.** Correcting pervasive distortions in the pricing of natural resources and infrastructure services is key to improving the public policy environment for sustainable infrastructure. The biggest distortions are fossil fuel subsidies and the lack of carbon pricing, which both strongly bias infrastructure investment toward high-carbon sources of energy and undermine efficiency in energy use. The magnitude of the distortions is huge. The IMF recently estimated that the total cost of fossil fuel subsidies, including the failure to price in pollution and climate change, is of the order of \$5.3 trillion a year, or 6.5 percent of world GDP. While some countries are taking steps to remove or reduce fossil fuel subsidies, taking advantage of the prevailing low petroleum prices, COP21 can give the phase-out of these subsidies a strong push.

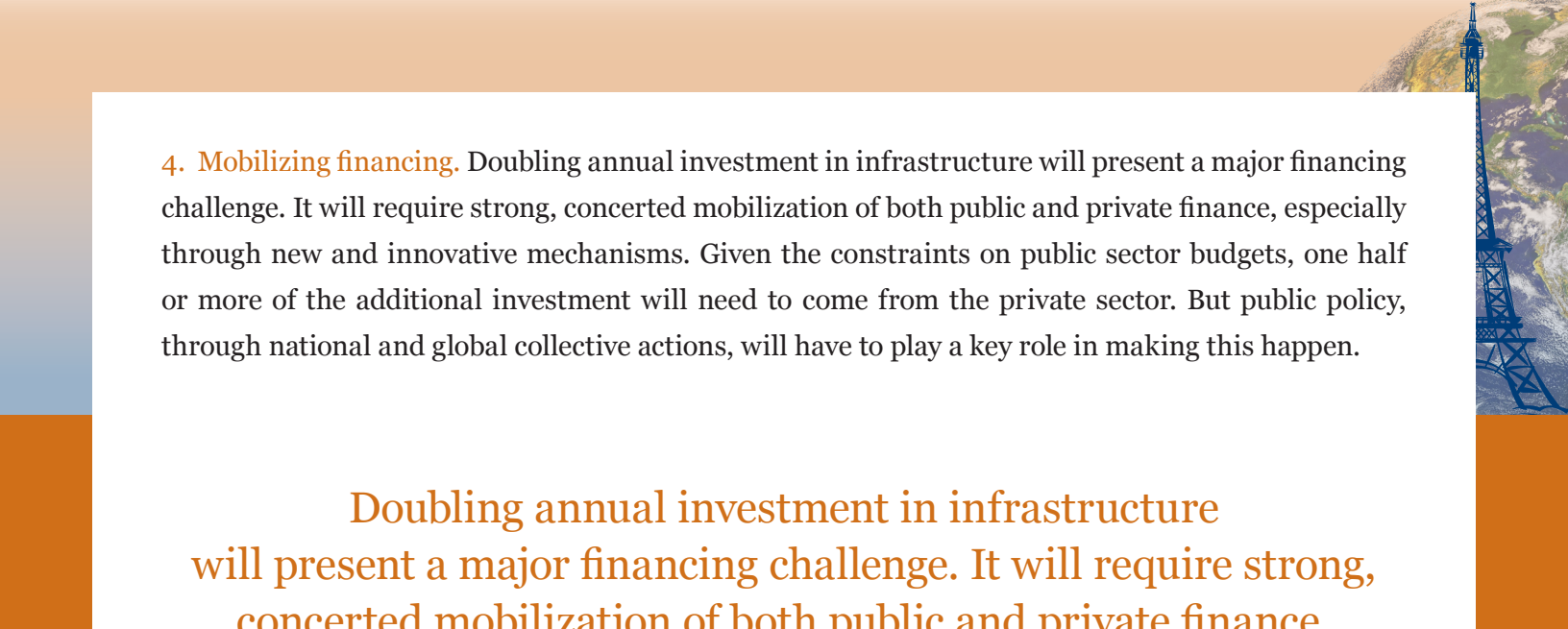


The most important action public policy can take to shift the incentive structure toward lower-carbon investment and development trajectories is to put a price on carbon emissions. Currently, less than 15 percent of global carbon emissions are covered by a price, using a mix of instruments such as carbon taxes, fees, and cap-and-trade schemes. The World Bank and the OECD have developed a set of principles that can help guide future carbon pricing schemes. The FASTER principles are based on fairness, alignment of policies and objectives, stability and predictability, transparency, efficiency and cost-effectiveness, and reliability and environmental integrity. The Paris meeting can help develop stronger consensus, support, and coordination across countries on instituting carbon pricing.

Removing fossil fuel subsidies and taxing carbon emissions will not only help correct serious incentive distortions, they can also help mobilize additional fiscal resources that can be channeled to supporting sustainable infrastructure development—and better targeted social safety nets to cushion the impact of the price reform on the poor. Carbon taxes can be designed to be revenue-neutral as well. Depending upon their circumstances and objectives, countries could opt to raise more revenue from carbon taxes and less from other taxes that can negatively impact economic performance, such as taxes on capital and labor. So pricing carbon can be about smarter, more efficient tax systems, and not necessarily higher taxes.

**3. Improving the enabling environment.** Boosting sustainable infrastructure investment at scale and with the quality needed will require improvements in the policy and institutional framework governing investment in two important respects. First, there is a need to strengthen investment planning and project preparation and management capacities to build and implement a stronger pipeline of sound, investment-worthy projects. Such capacity improvements are particularly important in developing countries, but the need is not limited to them. A recent IMF study of G-20 economies estimated that those with the lowest efficiency of public infrastructure investment obtain only half of the growth “bang” from their investment “buck” compared to the most efficient. A key new challenge is to develop capacity and practice to incorporate climate risks and sustainability criteria systematically into all investment plans and projects, as well as develop and implement sustainable procurement processes. Implementation of the decisions made in Paris will require a step-up in national efforts and multilateral support to strengthen these capacities.

Second, countries need to improve the regulatory and institutional frameworks for private participation in infrastructure provision. Risks and transaction costs related to public policy are a major impediments to private investment in infrastructure. Such risks and costs keep the price of capital for infrastructure investment high, even when long-term interest rates are close to zero. Together with reform of infrastructure and carbon pricing, more transparent frameworks for project prioritization/selection and public-private partnership negotiations, consistent treatment of climate risk, and actions to improve the ease of doing business would facilitate greater private engagement in the effort to scale up sustainable infrastructure.



**4. Mobilizing financing.** Doubling annual investment in infrastructure will present a major financing challenge. It will require strong, concerted mobilization of both public and private finance, especially through new and innovative mechanisms. Given the constraints on public sector budgets, one half or more of the additional investment will need to come from the private sector. But public policy, through national and global collective actions, will have to play a key role in making this happen.

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Stronger mobilization of domestic public finance should span both tax and infrastructure pricing policies. As subnational and local entities will take on increasing roles as investors in sustainable infrastructure, such as renewable energy, mechanisms for decentralized financing will become more important. The contribution of official external financing, bilateral and multilateral, will need to rise too, but these resources will have to be used increasingly in ways to leverage larger pools of private finance. Financing commitments made in Paris can have a much larger impact if used in such catalytic ways. Low-carbon, sustainable investments in many cases can entail higher upfront costs with large downstream benefits. Concessional financing could be used to attract private capital by financing sustainability premiums—to help meet the higher upfront capital costs of making traditional infrastructure projects sustainable. Multilateral development banks can help leverage more private capital for sustainable infrastructure through greater use of instruments such as guarantees, syndications, and financing platforms.

Further efforts will be needed to improve financial intermediation to channel more long-term finance to infrastructure. A major potential source is institutional investors that hold large pools of savings that can be better tapped with supportive regulation and improved supply of bankable, sustainable projects. Innovations in financial instruments specifically aimed at promoting sustainability, such as green bonds, can be encouraged. It is important to ensure that post-crisis reform of banking regulation does not have the unintended effect of limiting long-term financing for infrastructure. Work underway to review how the financial sector can take account of climate-related issues can help channel more funding to sustainable investments. Finally, developing countries need to step up efforts to develop their domestic capital markets. They will be pivotal to financing investment, especially in middle-income countries.