The Zimbabwe Water Forum provides a platform for Government and Development Partners to share international best practices in the water sector between Zimbabwe and other countries. The forum was formed through a partnership between the Ministry of Environment, Water and Climate, the Multi-Donor Trust Fund and the World Bank and is hosted by the World Bank’s Zimbabwe Country Office and the Urban WSS Thematic Group.

Zimbabwe Infrastructure Policy Review

The Government of Zimbabwe recognizes that improvements to the country’s infrastructure are critical to economic growth and to the health and welfare of its people. The government requested assistance from the Analytical Multi-Donor Trust Fund to conduct a policy review that would identify the reforms necessary to facilitate improvements to Zimbabwe’s infrastructure. In November 2013, Klas Ringskog undertook a review of the current status and future prospects of infrastructure in the electric energy, ICT, transport, and water sectors in cooperation with government agencies and sector parastatals.

The Status of Infrastructure in Zimbabwe

Decades of deferred maintenance and a lack of long-term financing have taken a heavy toll on Zimbabwe’s infrastructure, which had previously been among the best in Africa. Electricity output now meets only half of demand, and daily load-shedding results in loss of production, making investors reluctant to invest in established industries or to develop new ones. Water supply and sanitation services have deteriorated sharply, increasing water-related disease, healthcare costs, and human suffering. About 40 percent of Zimbabwe’s roads are in need of rehabilitation, and railway service is limited because only one third of rolling stock is operative. The information and communications technologies (ICT) sector is the one bright spot for infrastructure in Zimbabwe, but its high tariffs add to the cost of doing business.

Public Private Partnerships may help but will require substantial regulatory reforms

In response to the dire state of Zimbabwe’s infrastructure, in 2013 the newly elected Government of Zimbabwe launched the Agenda for Sustainable Socio-Economic Transformation (ZimASSET). ZimASSET is a five-year economic blueprint that lays out strategies for a complete overhaul of the country’s infrastructure. But the cost of these ambitious improvements will far surpass the funding capacities of the public sector, particularly given Zimbabwe’s precarious position with international financing institutions created by accumulated arrears on previous loans. An essential component of ZimASSET is, therefore, to encourage Public Private Partnerships (PPPs) to finance, build, and operate infrastructure projects.

The strong endorsement of PPPs in ZimASSET is in stark contrast to the present state of infrastructure ownership and operation in Zimbabwe. With the exception of ICT, which has one dominant private operator, infrastructure in Zimbabwe lies firmly under public ownership and control. But best practice in developing countries, such as Chile and Colombia, points the way to strengthening the state’s role as regulator while allowing some private investment in infrastructure resources. PPP reforms could attract private financing and know-how and free-up public financial resources for those sectors, such as education and health that are not suitable for PPPs.

The interest from private investors in entering into PPPs is tempered by Zimbabwe’s indigenization law that mandates at least 51
percent national company ownership. However, this law can be applied flexibly in the energy and water supply sectors where investment requirements are large and lumpy, and it would not preclude PPPs with domestic investors who might consider shifting their investments into longer-term sectors such as electric power, ICT, and water supply and sanitation.

Poor credit ratings have meant that Zimbabwe has not benefitted from as much private financing for infrastructure as many of its neighbors. During the early 2000s, Zimbabwe secured private investment commitments worth only about 0.4 percent of GDP, predominantly in the ICT sector, with little or no private investments in the power sector. Most of Zimbabwe’s peers have done significantly better.

Investment in electric power infrastructure falls short of needs

Zimbabwe Power Company (ZPC) has two major generating stations: the 50-year-old Kariba hydropower plant on the Zambezi River and the Hwange thermal power plant. The Hwange plant is powered by nearby deposits of high-quality coal but currently has limited capacity due to deterioration of the plant’s infrastructure. Three smaller thermal plants—Bulawayo, Harare, and Munyati—rely on coal from Hwange that has to be transported as far as 600 kilometers, and their obsolete technology makes them costly to run.

Improving the dire state of the power generation and distribution infrastructure in Zimbabwe is a critical component to reviving the country’s struggling economy. ZPC has plans to invest in rehabilitation of the Kariba hydrostation, including a Chinese-financed addition of 300 MW of generating capacity. This addition will improve the ability to meet peak demand in Zimbabwe, but it will not even begin to meet the country’s growing energy needs. The Zimbabwe Energy Regulatory Authority (ZERA) has licensed a number of Independent Power Producers (IPPs) to build thermal plants powered by indigenous coal, but none of these have so far closed financially, in part due to Zimbabwe’s poor credit rating among international financing institutions. ZPC is also exploring Nampower financing for upgrading the three small thermal plants (Bulawayo, Harare, and Munyati) with repayments in the form of power deliveries through the Southern Africa Power Pool (SAPP). In addition, there are plans to increase the country’s transmission capacity to the Republic of South Africa through the construction of a new 765 kV line that could be financed commercially on the strength of an off-take agreement with South Africa’s credit-worthy power company, ESKOM.

The rehabilitation plans for power sector infrastructure are characterized by piecemeal investments that are contingent on operational surpluses and/or grants from the national budget. Unfortunately, neither source of financing is reliable. Politically expedient measures taken by the government, including consumer debt forgiveness and perverse subsidies, have
prevented ZERA from setting tariffs to recover costs, let alone to provide the surplus necessary for rehabilitation. The average true cost of power is about $0.10 per kilowatt-hour (kWh) in Zimbabwe, which is already relatively low by African standards. But due to subsidies of various kinds, current tariffs amount to only $0.06 per kWh, among the lowest in Africa.

**Risks to private investors is significant**

In view of the lack of credible price regulation in the power sector, it is doubtful whether any of the IPPs to which ZERA has given provisional licenses will close financially, or whether they will be in the best interest of Zimbabwe even if they materialize. Without a stable, predictable, long-term regulatory system that can guarantee cost-recovery tariffs, the risks to private investors in the energy sector is significant and can become costly for consumers.

The sector could pursue PPP options that are less risky for investors and operators than IPPs. Outsourced operations are relatively low risk for the operator. A typical contract would set a fixed price to be paid to the operator by the ZPC so that the operator has incentives to deliver as much power as possible from the existing plant. Such a contract is reportedly under discussion for the Hwange thermal plant with an Indian firm. Successful outsourcing is contingent on attracting experienced operators with a good track record and will therefore require good procurement capacity and integrity from the state-owned utility. Lease contracts present higher risks for private firms, but the rewards are also greater. A significant problem with lease contracts is a lack of information about the state of the assets involved. Clear and detailed knowledge would be necessary before contractors could commit to such an agreement.

Neither outsourced operations, nor lease contracts will resolve the difficulty of finding financing for rehabilitation and extension of existing plants. Instead, ZPC could pursue the possibility of selling plants that require substantial rehabilitation, including the Hwange, Bulawayo, Harare, and Muniyati thermal plants. A private investor and operator might be able to renovate the plants at lower costs and could succeed where the public sector has failed. While these smaller plants may benefit from a transfer to the private sphere, it is critical that the Kariba hydropower station and the country’s transmission and distribution systems remain under public ownership because they play a key role in power generation.

Whichever path is pursued toward private investment in the electricity sector, more and better information will be required about demand, capacity, the current state of infrastructure, the cost of rehabilitation, and the risks and benefits of PPP options.
Infrastructure failures in the water sector threaten lives and livelihoods

Zimbabwe is fortunate to count on some 8,000 dams and reservoirs for storing raw water, most of which were built for irrigation. A recent Water Sector Investment Analysis concluded that in the aggregate Zimbabwe will have sufficient storage capacity to meet the demand for raw water until 2032.

The provision of drinking water and adequate sanitation is much less favorable. Access of urban households to a piped water system dropped from 99% in 1990 to 77% in 2013, while the share of urban households with sewerage decreased from 99% to 67%. Uninterrupted 24/7 water service is practically non-existent, and the periodically empty distribution pipes are contaminated by pathogens, posing a significant and potentially deadly health risk to consumers. Low-income households suffer disproportionately, but no one is fully protected since disease can quickly spread to the entire population as happened during the 2008 cholera epidemic.

Revenue barely pays for operating costs and is insufficient to pay for preventive maintenance, let alone to replace deteriorating infrastructure or contribute to system expansion. Non-revenue water has climbed to 43 percent, due to poor bill collections, broken meters, and leaking pipes. To make things worse, councils often use the cash collected from water customers for other urgent needs such as roads and education. Politically expedient write-offs of consumer debt by the government during the 2013 elections added to the financial instability of the water-supply sector and heightened a sense that tariffs are unpredictable and subject to political whim.

While the government has committed to substantial investment in the water sector, dam construction has absorbed the lion’s share of these funds. Investments in urban and rural water supply are well below the cost of preventive maintenance, rehabilitation, and expansion.

### Annual Per Capita Water Investment Costs 2009–2013

<table>
<thead>
<tr>
<th></th>
<th>Annual Investments (US$ million)</th>
<th>Benefiting Population (million)</th>
<th>Per Capita (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dam construction</td>
<td>29.7</td>
<td>0.29</td>
<td>100.7</td>
</tr>
<tr>
<td>Urban water supply</td>
<td>10.1</td>
<td>3.6</td>
<td>2.8</td>
</tr>
<tr>
<td>Rural water supply</td>
<td>2.2</td>
<td>9.0</td>
<td>0.2</td>
</tr>
</tbody>
</table>


A large part of the problem lies in the fragmentation of the sector across 32 urban authorities, 66 rural authorities, and three government ministries (Environment, Water and Climate; Transport and Infrastructure Development; and Local Government). The small size and inexperience of most of the administrative units makes it difficult for them to prepare projects, seek financing, or lobby for funding from the central government. It will be essential to build a critical mass in the water-sector by amalgamating some of these authorities to permit them to take advantage of economies of scale and to provide the technical and operational capacity necessary to secure further investments. At the very least, all authorities could consider ring-fencing their revenues so that the fees collected can be reinvested directly in maintenance and rehabilitation. The creation of umbrella institutions to organize and implement programs to build capacity and the concentration of public support into one ministry are two urgent steps that the central government could take to improve water and sanitation services. Further research should explore the feasibility of establishing a regulatory body to monitor water and sanitation services, and to establish methodologies for tariff setting.

Creating larger utilities and ring-fencing revenues could create the conditions for PPPs. Outsourcing some well-defined tasks such as maintenance, operations, and billing could produce incentives for greater efficiency at low risk for the private firm. Joint public–private operating companies (empresas mixtas) have also been used successfully in other countries; they are flexible and could accommodate the indigenization requirements in Zimbabwe while providing an investment opportunity for national investors. Lease contracts shift risk from the public sector to a private partner, but, like all PPP options, they...
require guarantees of reliable, predictable, cost-recovery tariffs.

The transport sector is recovering but financing remains a problem

Zimbabwe has a relatively dense national road network that compares favorably to neighboring countries. The Zimbabwe National Road Administration (ZINARA) captures revenue earmarked for maintenance and rehabilitation and has acquired a large measure of autonomy with an independent board. The road sector appears well organized to address the challenges of maintaining the existing state roads and expanding selected sections. A number of joint ventures with development banks and other international agencies, have allowed ZINARA to undertake large rehabilitation projects, although recent delays in disbursing funds from Zimbabwe could have a serious negative effect on future projects.

Zimbabwe has the highest rail-traffic density in the region aside from South Africa. Railways are competitive in freight, but at least 11 percent of tracks are in need of rehabilitation, and only one third of its locomotives are operational. The shortage of operational locomotives has forced service on the main sections to be curtailed from daily service to three times a week. It may be possible to improve service by expanding public–private partnerships in the railway sector.

The ICT sector performs well but costs are high

The telecom sector of Zimbabwe has developed rapidly over the past decade with the growth of mobile, fiber optic cable, and international connectivity. A fully liberalized regulatory approach to data networks encouraged the installation of fiber optic cables throughout the country by the private sector and the government. By the end of 2013, fiber optic cable had been laid in about 70 percent of the urban authorities and covered an even higher proportion of the country’s urban population. There are currently three cellular telephone operators: the state-owned NetOne, and two private operators, Econet and Telecel.

In spite of these successes, the sector is characterized by costs that are among the highest in the region due to insufficient competition and lack of a strong government agency that could drive an agenda of competition. Further research will be needed to determine why Zimbabwe’s ICT services are more expensive and to develop a plan to strengthen the ICT regulator.

Next Steps

The government has taken the first important step in identifying PPPs as a way to improve infrastructure services. It must now move from aspirations to action by identifying the policies that will attract experienced investors and operators. There is an immediate need to follow up the brief policy review with in-depth studies to enable the government to successfully conclude equitable and sustainable negotiations with prospective PPP partners. The Analytical Multi-Donor Trust Fund offers one source of financing of such studies as does the Public-Private Infrastructure Advisory Facility (PPIAF) trust fund.
The Zimbabwe Water Forum Policy Notes Series

Between 2011 and 2014, at the request of the Government of Zimbabwe, through the Ministry of Environment, Water and Climate, and with support from the Zimbabwe Analytical Multi-Donor Trust Fund, the World Bank has undertaken a series of analytical studies and technical assistance in the water and sanitation sector. These studies are captured in the Zimbabwe Water Forum Policy Note Series. The task team leader for the studies is Michael Webster, Sr. Water and Sanitation Specialist in Harare (mwebster@worldbank.org) with support from Priscilla Mutikani (pmutikani@worldbank.org). All notes have been edited by Rolfe Eberhard and Hilary Gopnik.

- Policy Note 1: A 24/7 water supply is possible for Harare and other cities: Lessons on what it takes from water manager Neil Macleod
- Policy Note 2: Modeling the water sector in South Africa and Zambia
- Policy Note 3: Zimbabwe’s new National Water Policy: Responding to Challenges to Create a Foundation for Sustainable Growth
- Policy Note 4: The Future of Sanitation in Harare and Other Cities: Perspectives on Possible Pathways to Recovery
- Policy Note 5: The Beitbridge Emergency Water Supply and Sanitation Project: Lessons Learnt
- Policy Note 6: Zimbabwe Urban Water Tariff Study
- Policy Note 7: Improving the operations of Harare’s water and wastewater treatment plants
- Policy Note 8: Zimbabwe Dam Safety Study
- Policy Note 9: Zimbabwe Infrastructure Policy Review
- Policy Note 10: Enhancing Water and Sanitation Services through Performance Contracts: Lessons from Africa