FOREWORD

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Africa is a land of incredible complexities and contradictions. It has diverse ecological systems and is rich in natural assets but is battered by weather and poverty. It has enough farmland and water to feed its people but is plagued by malnutrition and drought. And it has massive renewable energy potential, but more than half of its population are powerless to connect with this life-changing resource. This book is a welcome reminder of how we can use ecological, physical and institutional infrastructure to redress that balance and build the foundations for wellbeing and economic development.

Africa certainly has its challenges. However, with Agenda 2063, this extraordinary continent also has a set of ambitious, but achievable, strategic goals to provide a better future for its people; one that will ripple out to generate benefits for the entire world. Achieving those goals depends on the ability of all stakeholders to

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combine the very best of nature and technology with strong governance and efficient knowledge management. If they succeed, Africa's towns, farms, industries and infrastructure could make enormous strides in the transition towards more sustainable development.

Take the ecosystem services that not only make communities more resilient to threats such as desertification, biodiversity loss and global warming but also reduce those threats in the first place. For example, while cutting trees provides limited energy and fragile farmland in the short term, research in Ethiopia has shown that preserving them sequesters carbon, feeds livestock, pollinates crops, retains soil and protects water systems. Likewise, the falling cost of developing and distributing clean energy and connectivity can not only reduce deforestation, pollution and global warming but also nurtures a healthier, better-educated population that can make the most of emerging trends for dispersed design and production across a range of industries. With affordable pay-as-you-go and off-grid solutions spreading fast, agricultural technology improving yields and reducing waste, and machine learning hubs taking root, there are some real opportunities for the eleven million young Africans entering the workforce every year.

Above all, while there is no single solution to Africa's challenges, there are many individual opportunities that can and must be connected to increase the speed and scale of their impact, particularly through the eradication of poverty and inequality. With so many of those solutions inextricably linked to the natural capital that accounts for up to 50 percent of the continent's wealth, the African Research Group does well to highlight the role of infrastructure and life-cycle planning and development can play in their success and will make a valuable contribution to the work of anyone seeking to improve wellbeing and economic progress.