United Nations
Global Compact







POLICY ENABLERS

FOR PRIVATE SECTOR SDG ACCELERATION



> **“The SDGs aren’t just a list of goals. They carry the hopes, dreams, rights and expectations of people everywhere.”**

António Guterres
United Nations
Secretary-General

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ABOUT THE REPORT

The report presents private sector perspectives on the public policy environment related to three of the six critical transitions, or investment pathways, identified by the UN Secretary-General for delivery of the Sustainable Development Goals – digitalization, energy transition and decent work and social protection. The report provides key insights on the interplay of public policy and private sector action with country-specific deep dives in Angola, Brazil, Egypt, India and South Africa.

UN PARTNERS

United Nations Climate Action Team

United Nations Development Coordination Office

United Nations Department of Economic and Social Affairs

United Nations Development Programme

GLOBAL COMPACT COUNTRY NETWORKS & COUNTRY MANAGERS

Angola

Brazil

Egypt

India

South Africa

Effective public policy enables private sector action aligned with the SDGs. This report is a call to action for country leaders and policymakers to work with business to implement policies that support accelerated action on digitalization, energy transition and decent work and social protection. The policy recommendations presented envision a future where economic growth, environmental stewardship and social equity are not competing interests, but are harmoniously intertwined.

In developing this report, I am grateful to our UN partners: the UN Climate Action Team (CAT), UN Development Coordination Office (DCO), UN Department of Economic and Social Affairs (DESA) and UN Development Programme (UNDP).

I am equally grateful to our strong partnerships with the UN Global Compact Country Networks in the five focus countries (Angola, Brazil, Egypt, India and South Africa), Principles for Responsible Management Education (PRME), S&P Global, Mahindra Group, Neoenergia and World Resources Institute (WRI). I also wish to recognize the effort and engagement of our Accenture collaborators.

Finally, on behalf of the UN Global Compact, we extend our deepest gratitude to the business leaders, public officials and other stakeholders who participated in the country-specific roundtables and contributed to the report's findings.



Sanda Ojiambo
Assistant Secretary General and CEO
United Nations Global Compact



As UN member states gather to support the *Pact for the Future*, now is the ideal time to pair high-level commitments with concrete, practical steps to accelerate progress toward the future they envision.

EXECUTIVE SUMMARY

With only 17 percent of the Sustainable Development Goal (SDG) targets on track, urgent action is required.[1] Yet, the global community is beset by overlapping crises — from geopolitical instability to climate-related disasters and global health challenges — that threaten progress. These crises disproportionately affect vulnerable populations, including women, youth and racialized communities, underscoring the urgent need for resilience-building strategies rooted in the SDG framework.

There are human and economic costs to doing less than everything possible to realize the SDGs. We do not have to accept the current rates of extreme poverty, tolerate more frequent and destructive climate-related disasters or turn a blind eye to people living without access to basic social services. With six years left before 2030 and 83 percent of SDGs off track or regressing, the challenge ahead is daunting but far from impossible.[2] No individual sector (private, public or voluntary) can achieve the SDGs alone, but with political will, private sector commitment and deep collaboration we can rise to the collective challenge before us.

This report presents five case studies on how public policy can accelerate private sector action on three transitions key to achieving the SDGs: digitalization, energy transition and decent work and social protection.[3] These three transitions were chosen for their relevance to SDG impact areas, their interdependencies and the possibility of synergies to advance sustainable development. If we can collectively navigate these transitions based on a shared vision and action grounded in comprehensive, integrated planning and execution, we will progress toward a future that is connected, green and just. In so doing, we will reap the considerable benefits of sustainable economies and societies, from cleaner air, water and a stable climate to accessible citizen services, connected societies, expanded banking access as well as greater economic opportunity, entrepreneurship and innovation. We can also accelerate progress on multiple SDGs and move closer to realizing our commitment to leave no one behind.

Based on a combination of primary and secondary research, this report identifies public policy enablers to accelerate private sector action on three key SDG-aligned transitions.[4] Against a backdrop of increasing complexity, uncertainty and resulting risk, the private sector requires strong public sector partners to play an effective and mutually reinforcing role in advancing the SDGs. And now, as UN member states gather to support the *Pact for the Future*, is the ideal time to pair high-level commitments with concrete, practical steps to accelerate progress toward the future they envision.

The report identifies opportunities to accelerate business engagement through public policy that enables and boosts private sector ambition and contribution to SDG progress. It highlights the role of tailored policies in fostering digital, green and inclusive economies that reflect and remain resilient in the face of global complexities. Above all, it emphasizes the critical importance of strong partnerships across the public and private sectors in pursuit of the SDGs. These factors together create an "ambition loop" — a positive feedback loop in which bold Government policies and private sector leadership reinforce each other, and together take sustainable action to the next level.[5]

The report finds that across the five countries, the private sector's journey toward SDG-aligned transitions varies widely, reflecting diverse starting points in infrastructure, education and public sector resources driven by differences in economic stability and the state of governance. Yet, common themes also emerge, enabling the creation of a framework for key policy enablers.

COMMON CHALLENGES TO PRIVATE SECTOR ACTION

The private sector in all five countries identified common challenges, albeit with specific national dimensions, related to their ability to support digitalization, energy transition and decent work and social protection.

INFRASTRUCTURE

While each country is at a different stage of development across transitional areas, the state of infrastructure proves to be a significant challenge across transition areas.

FINANCING AND RISK

Limited access to financing, exacerbated by perceived risks and high costs, is a significant barrier for entrepreneurs and MSMEs in implementing transition-related projects.

REGULATORY REQUIREMENTS

The regulatory environment for transitions is complex, making it challenging to navigate requirements related to standards, approvals and compliance.

LEGACY INDUSTRIES

Business leaders supporting energy transitions and digitalization face challenges from entrenched legacy industries and outdated technologies.

WORKFORCE

Availability of workforce skills is a challenge due to lack of skilled labour, low formal education levels, high informal employment rates and cultural barriers, particularly affecting women and youth.

TRANSNATIONAL BARRIERS

Regional and transnational barriers complicate cross-border cooperation, increase supply chain complexity and costs and ultimately hinder scaled private sector action on the SDGs.

INFRASTRUCTURE

While each country is at a different stage of development in terms of energy, digital connectivity and workforce development, business leaders consistently pointed to the state of infrastructure as a significant challenge. For example, the Angolan business community is challenged by low electrification and digital connectivity rates outside urban centres. South Africa, meanwhile, is challenged by aging energy infrastructure powered by coal, which leads to supply issues including load shedding.

FINANCING AND RISK

Business leaders in all five countries noted the challenge of gathering financing for costly transition-related projects. When financing is available, the perceived risk among financial institutions results in terms that render projects unviable. Financial challenges are greatest among would-be entrepreneurs and micro, small and medium enterprises (MSMEs) who often lack the credit history necessary to secure a loan, are even less able to absorb risk-based market interest rates and do not have access to micro-finance programmes. In Angola, risk perception and high financing costs frequently hinder access to capital for both digitalization and renewable energy projects. Financing exists for renewable energy projects in India but there are limited options for funding energy efficiency initiatives, which are crucial for managing overall energy demand. Meanwhile, Egypt's high inflation rates and devalued currency have increased the costs associated with digital transformations, leaving many businesses, especially MSMEs, struggling to secure the financing necessary to invest in digital technologies and infrastructure.

REGULATORY REQUIREMENTS

Business leaders in each of the five countries studied struggle to navigate the regulatory environment related to all three transitions. From labour standards for 'independent contractors' working in the digitally enabled service industry (what are sometimes called 'gig workers' in Western nations) to importation standards, project approvals, licensing and reporting against regulations, business leaders find the regulatory environment complex, confusing and occasionally contradictory. South African business leaders are not just worried about their ability to meet national sustainability compliance and reporting requirements, but also fear the business impact of international carbon tariffs. In India, the rapidly growing 'gig economy' has made the issue of defining regulatory frameworks that balance employer and employee interests increasingly pressing.



COMMON CHALLENGES TO PRIVATE SECTOR ACTION (CONT.)

LEGACY INDUSTRIES

Business leaders looking to support the energy transition face stiff competition from legacy industries, including the fossil fuel sector. Businesses, especially MSMEs, that aim to use or produce renewable energy and clean fuels face a competitive disadvantage. This is because of fossil fuel subsidies, Government reliance on legacy industry revenues and existing specialized infrastructure. Digitalization efforts, meanwhile, are limited by legacy systems and a reliance on outdated technology due to the rapid pace of technological change and the high cost of updating the technological backbone of a business. Angola and South Africa have entrenched fossil-fuel sectors in oil and gas and coal respectively that introduce logistical and social complications to their green energy transitions, placing increased importance on transition initiatives in these countries that are just, equitable and realistic. Digitalization in South Africa also faces hurdles, as companies, particularly MSMEs, often struggle to complete the complex internal implementation and change management projects necessary to replace legacy systems with new technologies, leaving them to operate without the benefit of global innovation.

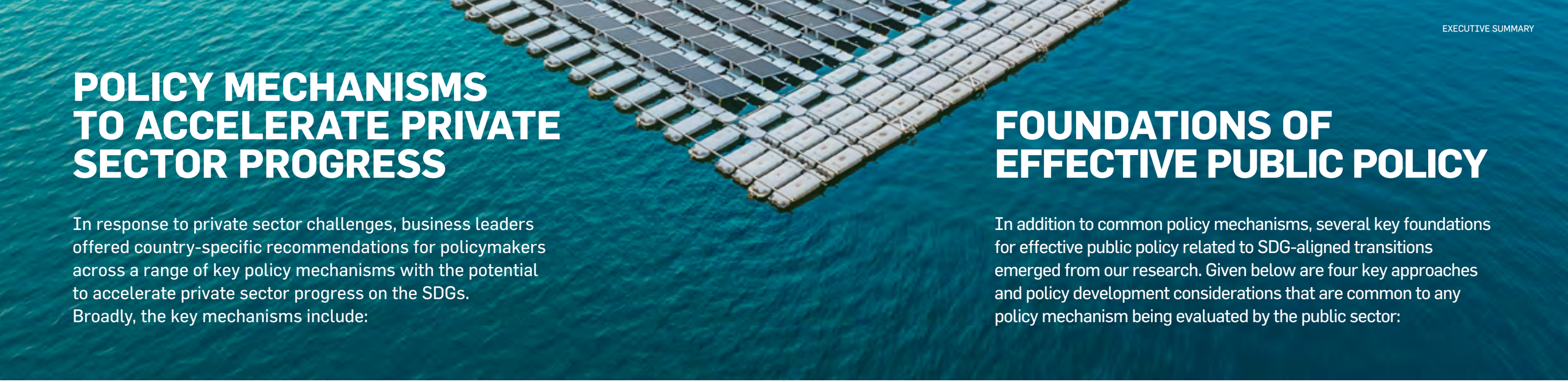
WORKFORCE

Without fail, business leaders in all five countries identified workforce skills as a challenge to all three transitions. A lack of local skilled labour has led businesses to import talent and technologies that might otherwise be developed locally. The root causes have national dimensions but generally relate to a lack of incentives to entice workers into a formal economy, limited formal education and a lack of skills relevant to the energy transition or digital economy. Angola, for example, suffers from low literacy and numeracy rates, while South Africa has low upper secondary school completion rates. Extremely high proportions of the workforce in Angola, India and Egypt are employed in the informal economy. Moreover, cultural norms reinforce these trends for segments of the population, most notably women, in individual countries. The effects of these challenges also have national dimensions regarding the most affected segments of the workforce. Youth employment is a particular issue in South Africa, which had an unemployment rate of 45.5 percent among individuals aged 15 to 34 in the first quarter of 2024. In Egypt and India, female employment is a challenge, with labour force participation rates of 16 percent and 33 percent respectively among women.[6] Similarly, Brazil's unemployment rate varies across demographic groups; in 2021, the country's unemployment rates were 11.3 percent for white residents, 16.5 percent for Black persons and 16.2 percent for brown persons.[7]

TRANSNATIONAL BARRIERS

Regional and transnational barriers limit greater private sector action on the SDGs by complicating cooperative action across borders as well as increasing the complexity, cost and climate effects of supply chains for MSMEs, national companies and multinational corporations. The number and range of transnational barriers to scaled and accelerated SDG action are beyond the scope of this paper. However, business leaders consistently highlighted regional and transnational barriers as a challenge, from linguistic barriers to the adoption of digital technologies in Angola to import regulations in India and concerns about carbon tariffs in markets important to the South African economy. While the report focuses on challenges and enablers on a national scale, regional and transnational barriers also limit private sector action on the SDGs within national contexts.





POLICY MECHANISMS TO ACCELERATE PRIVATE SECTOR PROGRESS

In response to private sector challenges, business leaders offered country-specific recommendations for policymakers across a range of key policy mechanisms with the potential to accelerate private sector progress on the SDGs. Broadly, the key mechanisms include:

SIGNALS

Provide a clear path and rate of change by addressing all three SDG-aligned transitions in tandem, through comprehensive, integrated and carefully sequenced strategies to inspire private sector confidence and aligned action.

FINANCE AND DERISKING

Crowd in private sector investments by sharing the costs and risks of transition areas through blended finance programmes, innovation challenges and "first loss" or "last out" provisions for public funding or tailored insurance policies, for example.[8] Collaborate with the private sector to approach financial institutions, pension funds, donors and multilateral development banks to present a well-documented investment case that incorporates all three transition areas (similar to a broader version of South Africa's Just Energy Transition Partnership).[9] Attend to the particular needs of marginalized groups, rural and remote communities and MSMEs through tailored financial solutions, such as micro-finance.

LEGISLATION AND REGULATION

Increase compliance and align partners through clear and coherent regulatory obligations, simplified reporting and clear links to related Government programmes. Single-window online resources for regulatory and related programmatic information, with information relevant to different classifications of regulated parties including MSMEs, can greatly ease compliance and reporting.

PLANNING AND PROGRAMMES

Jumpstart progress for long-term success by coordinating large investments and partnering with the private sector to focus on strong foundations. Incorporate near-term wins that build toward long-term goals such as more rapidly deployable solutions including renewable energy-enabled micro-grids and innovative solutions for rural and remote connectivity.

FOUNDATIONS OF EFFECTIVE PUBLIC POLICY

In addition to common policy mechanisms, several key foundations for effective public policy related to SDG-aligned transitions emerged from our research. Given below are four key approaches and policy development considerations that are common to any policy mechanism being evaluated by the public sector:

PEOPLE EMPOWERMENT

Policy can accelerate the development of human capital and ensure that a workforce is available to support specific transition projects. It is important to make certain that residents, workers, communities and rights bearers reap equitable benefits through lifelong learning pathways focused on skilling youth, upskilling workers and reskilling those displaced by transitions. Ensuring that all policies properly consider the needs and realities of MSMEs and traditionally marginalized or under-represented communities can drive inclusivity, entrepreneurship and innovation.

SUSTAINABLE PUBLIC FINANCE

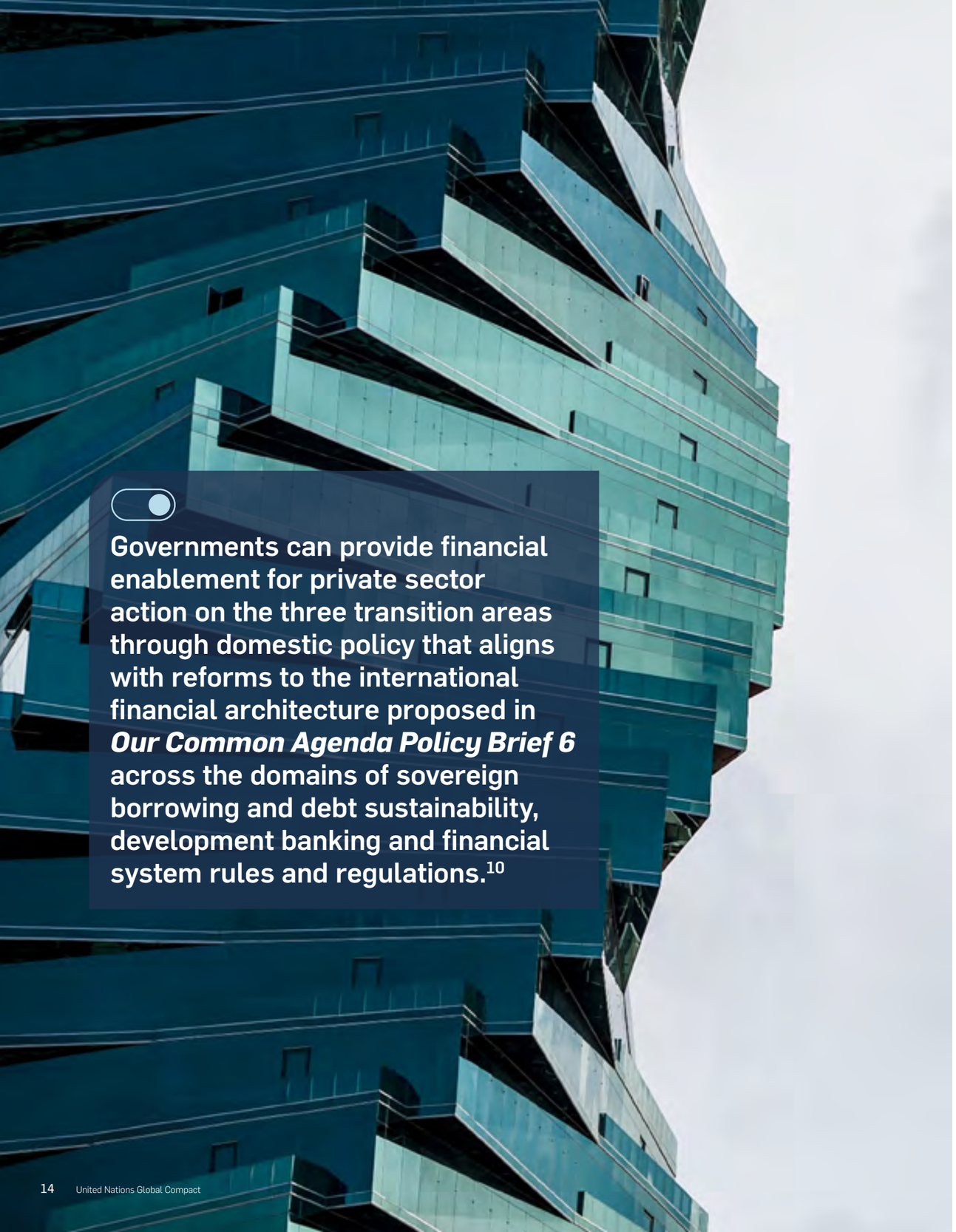
There is a significant diversity in financial positions across countries at varying stages of development, coupled with the post-pandemic strain on public finances, cost of living challenges and rising interest rates. Governments must consider how to fund their financial contributions to these transitions in ways that minimize public expenditure, debt and tax burdens for citizens and businesses.

PARTNERSHIP, ENGAGEMENT & GOVERNANCE

Inclusive policy development — including businesses of all sizes, labour, affected communities (with an emphasis on marginalized and under-represented groups including youth, women, racialized groups and indigenous groups, among others) and research institutions — strengthens policy design and outcomes and stimulates innovation by attending to partners' diverse realities and needs from the outset. Establishing forums for regular and ad-hoc collaboration on public policy design and implementation can pay dividends in terms of the outcomes achieved.

DATA & TECHNOLOGY

Current data and analytics provide the information needed to design, track and report against public policies and can also enhance public service delivery. Accurate data can inform the design of effective policies, while committing to regular reporting against objectives and implementing a data strategy that supports transparency. This approach can help ensure that strategies and programmes stay on track and that adjustments can be made quickly in response to accurate and timely information.



Governments can provide financial enablement for private sector action on the three transition areas through domestic policy that aligns with reforms to the international financial architecture proposed in *Our Common Agenda Policy Brief 6* across the domains of sovereign borrowing and debt sustainability, development banking and financial system rules and regulations.[10]

FINANCIAL ENABLEMENT FOR SDG-ALIGNED INVESTMENT



SOVEREIGN BORROWING & DEBT SUSTAINABILITY

Expenditure- and Debt-Neutral Financing
Governments can finance SDG transitions through mechanisms that do not significantly increase public debt or tax burdens.

Actions
- Land Value Capture
- Debt Swaps
- Redirecting Misaligned Subsidies

Partnerships
- Public-Private Partnerships

DEVELOPMENT BANKING

Financial Enablement & Derisking
Governments can incentivize private sector investment in SDG-aligned transitions by addressing investment transaction costs, risks and customer demand.

Actions
- Tax Incentives
- Carbon Pricing Mechanisms
- Demand Signals & Government Procurement

Partnerships
- Loan Guarantees & Concessional Financing
- Blended Finance

FINANCIAL SYSTEM RULES & REGULATIONS

Aligning Private Finance with Public Goals
Governments can align private finance with public goals by promoting frameworks to streamline sustainable finance.

Actions
- Advocate for International Financial Architecture Reforms
- Develop Sustainable Finance Taxonomies
- Tailor Sustainability Standards to Local Circumstances

For more detail, see the UN Global Compact Revolutionizing Sustainable Finance report. Revolutionizing Sustainable Finance. Visual adapted from summary image found in Our Common Agenda Policy Brief 6, p 32.

PRIORITY POLICY RECOMMENDATIONS FOR EACH COUNTRY OF FOCUS

As UN member states gather to endorse the Pact for the Future, we have a prime opportunity to identify concrete actions to kick-start progress against high-level commitments. The table below distills private sector perspectives, as communicated by business leaders during primary research, into immediate actions that Governments could take to address the challenges identified. Note that where the challenges and enablers identified by business leaders do not fully reflect the current state of public policy, limited awareness underscores a potential need to enhance public sector promotional and awareness campaigns.

		TOP PRIVATE SECTOR CHALLENGE	NEAR-TERM PUBLIC POLICY ENABLER (NON-EXHAUSTIVE)	ANTICIPATED PRIVATE SECTOR RESPONSE
ANGOLA	DIGITALIZATION	Concentration of digital and energy infrastructure in urban areas limits access	Develop integrated digital, energy and decent work transition plan through a multi-stakeholder engagement process with a focus on rural and remote infrastructure	Increased investment, innovation and rural and remote MSMEs
	ENERGY TRANSITION	Economic reliance on fossil fuels and financing for renewables	Shift subsidies from fossil fuels to renewables with a focus on just transition for communities, workers and consumers	Increased investment in renewables and local workforce
	DECENT WORK AND SOCIAL PROTECTION	Limited workforce skilled in transition areas; informal employment	Invest in teacher training and community-based education infrastructure to increase literacy and numeracy	Increased hiring of local workers and investment in skills training
BRAZIL	DIGITALIZATION	Limited broadband and mobile penetration; access gap for MSMEs	Revise digital strategies with an innovation challenge focused on quick-win last-mile rural and remote access	Increased investment, talent, innovation and MSME creation
	ENERGY TRANSITION	Financial and economic obstacles hinder private sector investment, particularly among MSMEs	Review financial incentives for business investments in renewable energy projects and launch a public information campaign around new Industrial Policy to drive awareness and uptake by potential investors	Increased investment and expanded renewable energy sector
	DECENT WORK AND SOCIAL PROTECTION	Ill-defined 'just transition' and unclear social protection responsibilities in face of rapid technological change	Review and revise, as necessary, national just transition guidance as well as social protection policies for digital workers, including 'gig workers'	Improved conditions for workers affected during transitions and those entering emerging sectors
EGYPT	DIGITALIZATION	Inadequate digital infrastructure in rural and remote communities limits investment and innovation	Review and update the eMisr Broadband Plan with clear targets and strategies to expand access and digital services to remote and underserved communities	Increased investment, innovation and rural and remote MSMEs
	ENERGY TRANSITION	Inadequate clean energy and fuel infrastructure; competition from fossil fuel industry	Develop an infrastructure plan for clean energy and fuel distribution, including EV and hydrogen stations paired with an innovation challenge	Increased investment, innovation and expanded clean energy and fuel sector
	DECENT WORK AND SOCIAL PROTECTION	Limited workforce skilled in transition areas; informal employment; gender gap in employment	Invest in community-based training for digital skills and green energy, including mentorship, targeting marginalized communities	Increased hiring of local workers and investment in skills training
INDIA	DIGITALIZATION	Affordability limits digital connectivity in both urban and rural areas	Expand mobile connectivity initiatives with standards for a secondary mobile device market	Increased investment in digitalization and secondary mobility market
	ENERGY TRANSITION	Technological and infrastructure challenges limit EV adoption; supply chain and resource quality issues inhibit process and logistics optimization	Expand the FAME initiative, i.e. increase the budget to cover more vehicles, components and consumers and loosen open access restrictions for customers with smaller sanctioned loads	Increased investment in local manufacturing and workforce
	DECENT WORK AND SOCIAL PROTECTION	Limited workforce skilled in transition areas; informal employment; gender gap in employment	Develop integrated digital, energy and decent work transition plan through a multi-stakeholder process, with a focus on dependencies among transitions and under-represented workers, informal employment	Increased and targeted hiring of local workers and skills training
SOUTH AFRICA	DIGITALIZATION	Rapid technological change is leaving some businesses behind; state of-the-art technology is not penetrating	Create a forum for the private sector, especially MSMEs, to share best practices around data privacy and cybersecurity and update policies to address cutting edge technology	Increased investment in security and privacy; increased demand
	ENERGY TRANSITION	Load shedding threatens equipment, is a drag on productivity and limits overall investment across sectors	Finalize negotiations with Eskom and donors on JET-IP to accelerate transition to expanded and reliable energy production	Increased investment in renewable energy, equipment and expanded operations
	DECENT WORK AND SOCIAL PROTECTION	Limited workforce skilled in transition areas; gender gap in employment	Introduce targeted vocational training within the National Development Plan 2030 to address skill training for transition needs	Increased and targeted hiring of local workers and skills training

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POLICY ENABLERS FOR PRIVATE SECTOR SDG ACCELERATION



INTRODUCTION

> **"Halfway to the deadline for the 2030 Agenda, we are leaving more than half the world behind… Unless we act now, the 2030 Agenda will become an epitaph for a world that might have been."** [11]
>
> **- UN Secretary General**
> **António Guterres**

A confluence of multiple, overlapping catastrophic events has placed humanity in a perpetual state of crisis. From geopolitical turmoil and emerging global health challenges to climate-related natural disasters, crises dim global development prospects and are stalling or reversing progress against the Sustainable Development Goals (SDGs). The effects of these crises are not experienced equally, with vulnerable populations shouldering a disproportionate share of the resulting hardship. Yet, the experience of these crises also demonstrates that investing in the SDGs is a cost-effective strategy to increase resilience. Those investments simultaneously address the economic, social and environmental challenges that increase global vulnerability to catastrophic events.

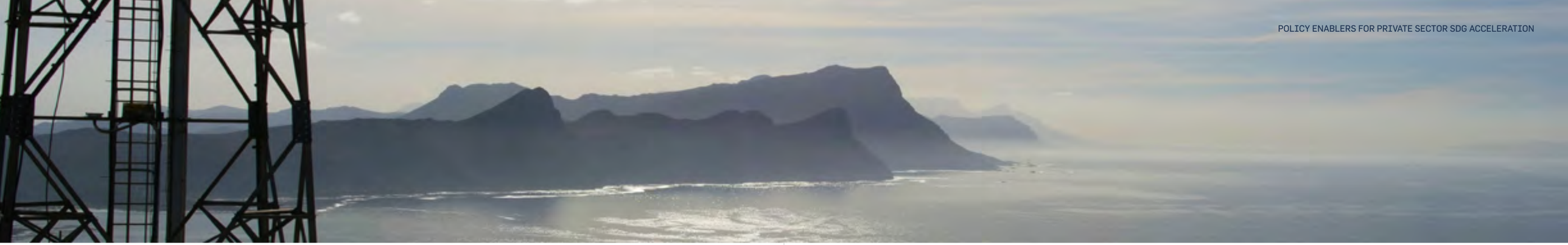
Notwithstanding the potential of the SDGs for increasing resilience, the world is not on track to achieve the Global Goals. With less than six years left before 2030, only 17 percent of the SDG targets are on track, while close to half are moderately to severely off track. One-third have either seen no movement or regressed below the 2015 baseline, including climate action and efforts to end hunger.[12] In light of global crises and their effects on SDG progress, the UN Secretary-General has identified six transitions — or investment pathways — which, if successfully navigated, would build resilience while simultaneously advancing progress on the SDGs through 'high impact, sustainable, resilient and innovative solutions.'[13] These foundational transitions include food systems, energy access and affordability (with a focus on clean energy), digital connectivity, education, jobs and social protection and climate change, biodiversity loss and pollution.

The need for progress on these six key transitions has never been more urgent. Enabling them will require a whole-of-society approach, including the private sector. Businesses are not just profit-generating entities but potential engines of sustainable lives and livelihoods, and those committed to sustainability are in a unique position to drive innovation and foster inclusive economic growth in support of the SDGs. Data shows that the private sector recognizes this role — 96 percent of business leaders believe that the private sector plays a crucial role in achieving the SDGs.[14] More than 20,000 companies in more than 160 countries have committed to the Ten Principles of the UN Global Compact.[15] The Forward Faster initiative of the UN Global Compact initiative aims to accelerate private sector action to achieve the SDGs by 2030 through enhanced commitments and collaboration, and over 130 companies are already taking action through the initiative as of 2023.[16] However, only 49 percent of business leaders believe that the world will achieve the SDGs by 2030.[17] Greater and accelerated action is needed from all facets of society if we are to close this confidence gap and achieve the SDGs.

Businesses, in particular, play a crucial role in this effort, as they are at the forefront of navigating significant economic transitions — such as the shift to a green economy, expanding digitalization and the rise of generative artificial intelligence (AI). Taken together, these crises and economic transitions present a series of macro-environmental challenges and opportunities directly linked to the six transitions considered critical to achieving the SDGs.



**Analysis based on data from the 2024 Sustainable Development Report*



The future is uncertain and growing more so. Businesses must navigate an operational environment of increasing complexity. Political polarization is intensifying within and across nations. The global consensus around the need for climate action, the urgency of advancing the SDGs and the injustice of growing inequality, which seemed solid nearly a decade ago, is now fracturing. With firm lines drawn by political parties promoting radically different political agendas, the resulting uncertainty in the political direction of travel creates investment risk for the private sector.

The scale and pace of change is fast and accelerating. Green and digital transformations are occurring at a staggering scale and pace, necessitating significant investment for businesses that wish to remain competitive and relevant. While this rapid evolution presents significant opportunities for the private sector to support the SDGs through investments in a range of tech innovations and inclusive economic development more broadly, it also requires new policies to steer these changes in a positive direction. Without such policies, the benefits of change are not equitably distributed, exacerbating already high levels of inequality within and between countries.

The world is getting noisier and noisier. There is increasing complexity in decision-making processes. The proliferation of information and rise of mis- and dis- information, already a challenge, will potentially be exacerbated by generative AI. The resulting cacophony of views and flood of information has a compounding effect on all the macro-environmental trends described here. Noise makes it harder for facts to rise above the din and for companies to plan with confidence without exerting significantly more time, effort and expense than would otherwise be required.

Action has become more expensive. The costs involved in the six key transitions are large and rising. While competing priorities strain Government budgets and the public sector increasingly relies on blended finance options, the cost of transition financing has surged as central banks raise interest rates to control inflation. Inflation itself limits the private sector's ability to price the cost of investments into their goods and services as the consumer's ability to absorb those added costs is limited. Additionally, high upfront capital costs, weak governance and inadequate capacity and planning are significant barriers to overcome.[18] Innovations in sustainable finance that show promise for providing additional funding to support private sector action will need to scale to support the amount of money involved in each of the six key transitions.

The global population is growing and changing. With the exception of Africa, the world is aging. Also, more people live in the Global South and in cities than ever before. These shifts are changing the services required as well as where they are delivered. Anticipating the pace and scale of these changes will be essential for private sector investments in longer-term transitions. Demographic changes also affect the location and availability of talent pools needed to facilitate the six key transitions.

Governments have competing priorities. In the context of concurrent global crises, it is scarcely surprising that public officials are grappling with a multitude of competing, often urgent priorities. These include ongoing geopolitical turmoil, disrupted supply chains, post-pandemic recovery efforts and more frequent and severe climate-related events. Though often short-term in nature, competing priorities strain Government budgets and require immediate attention, limiting public funds and the political focus needed to advance the six transitions. This compromises the ability of Governments to function as reliable partners to companies in their efforts to navigate and support longer-term socio-economic transitions.

Regional and transnational barriers complicate coordinated action across borders. The speed and scale of SDG-aligned transitions could be accelerated if regional barriers to private sector action were addressed. Currently, significant barriers exist to the sort of transnational corporate action that might drive greater progress on key SDG transitions. These barriers may include a lack of cross-border infrastructure, misaligned priorities among regional Governments, protective tariffs, differing technical standards, fragmented regional energy markets, inconsistent regulatory frameworks, strict intellectual property laws, a limited number of technology transfer agreements and limited foreign credential recognition. Such barriers complicate or prevent cooperative agreements among regional companies operating in different countries. Additionally, regional barriers make supply chains more expensive, complicated and emissions-intensive than otherwise needed.

Beyond the regions studied in this report, access to important foreign markets is growing more complicated due to environmental policy affecting imports as well as evolving corporate reporting and disclosure requirements, such as the European Union Carbon Border Adjustment Mechanism and the EU Corporate Sustainability Reporting Directive.

In this complex operating environment, the private sector is seeking strong, reliable, aligned and consistent Government partners in its efforts to mitigate global crises and harness the potential of the profound economic changes underway. From vaccine development to poverty alleviation and the deployment of basic utilities to underserved populations, examples abound of the incredible and rapid progress that is possible if Government and business unite in pursuit of a common goal.

Public policy lays the foundation for an operational environment that either enables or complicates private sector investment and innovation in pursuit of the six transitions that support the SDGs. UN Deputy Secretary-General Amina Mohammed summarized the situation well, noting that we "urgently need powerful private sector partnerships that invest in the transitions necessary to accelerate development progress and get the [Goals] back on track."[19] It is only through both public-sector enablement and private sector action that the 2030 Agenda can be transformed into a global reality.

POLICY ENABLERS FOR PRIVATE SECTOR SDG ACCELERATION: METHODOLOGY AND SCOPE

This report presents a private sector perspective on the public policy enablers for businesses to accelerate action on three of the six key SDG-aligned transitions identified by the Secretary-General: digitalization, energy transition and decent work and social protection. Each of these three transitions was chosen due to their relevance to SDG impact areas and dependencies that exist among them, presenting possible synergies in both investment and action that would significantly advance the overall achievement of the SDGs.

Digitalization is not only a key driver of economic growth and innovation (SDG 8) but also enhances access to education (SDG 4), healthcare (SDG 3) and essential services, thereby reducing inequalities and promoting inclusive development (SDG 10). It can also support the energy transition (SDG 7) through smart-grid technologies, efficiency and real-time demand management. The rapid expansion of AI to existing technologies has the potential to multiply this impact. Energy transition, through the adoption of renewable energy sources and improved energy efficiency, directly addresses climate action (SDG 13) and supports sustainable cities and communities (SDG 11), while also promoting responsible consumption and production (SDG 12). Decent work and social protection are foundational to eradicating poverty (SDG 1) and hunger (SDG 2), ensuring gender equality (SDG 5) and fostering peaceful and inclusive societies (SDG 16). By focusing on these three critical transition areas, the report highlights the cascading benefits across multiple SDG impact areas and underscores the need for integrated and holistic approaches to sustainable development.

The report presents the relevant policy landscape in five countries: Angola, Brazil, Egypt, India and South Africa, chosen based on private sector engagement, stage of development based on investments and infrastructure, representativeness across demographic indicators, respect for human rights and overall UN presence. From original primary research, this report presents high-level private sector perspectives from business leaders on the current challenges they face in each country and provides prioritized public policy solutions to those challenges. The analysis draws out common themes and suggestions for how each of the five national Governments can enable greater and accelerated private sector action on the three transitions studied within specific national contexts. The description of challenges, public policy enablers and prioritized actions is necessarily broad, as any one of the policy mechanisms proposed — from commitments and strategies to legislation and regulation, financing and programmes — could also constitute a stand-alone study.

This report aims to provide a clear picture of the policy challenges and enablers in five countries and extrapolates common themes that may be applied across these countries and other countries at similar points of development. It encourages decisionmakers to enact policies and create partnerships that enable the private sector across the three transitions. It also aims to provide the private sector with a platform to share challenges and enablers with potential public-sector collaborators. It offers a glimpse into a future where policy catalyzes and accelerates the private sector's contributions to digitalization, energy transition and decent work and social protection, advancing toward a world that is green, digital and just for all.

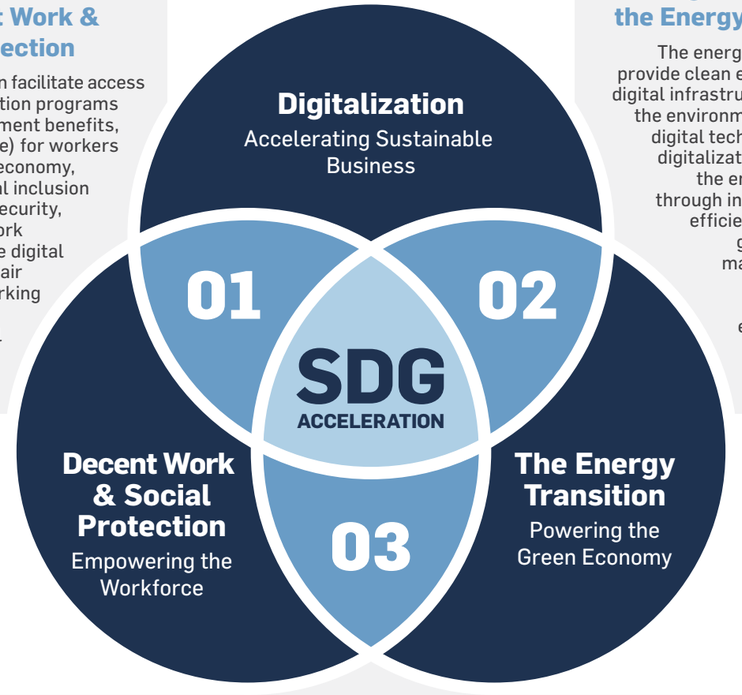
Overview of Key Transitions of Focus

01 Digitalization and Decent Work & Social Protection

Digitalization can facilitate access to social protection programs (e.g., unemployment benefits, health insurance) for workers in the informal economy, enhancing social inclusion and economic security, while decent work conditions in the digital economy (e.g., fair wages, safe working environments) can drive digital adoption and innovation.

02 Digitalization and the Energy Transition

The energy transition can provide clean energy to power digital infrastructure, reducing the environmental impact of digital technologies, while digitalization can support the energy transition through increased energy efficiency (e.g., smart grids, predictive maintenance) and the integration of renewable energy sources.



03 The Energy Transition and Decent Work & Social Protection

The energy transition can create new employment opportunities in renewable energy sectors, supporting economic growth and job creation, while a just transition that ensures decent work and social protection for workers affected by the shift away from fossil fuels is crucial for a socially responsible and sustainable energy future.

TRANSITION AREAS OF FOCUS FOR THIS REPORT

Each transition area analyzed in this report can support or hinder the achievement of SDGs. Identifying and addressing these interconnections will help business to build holistic and systemic solutions that amplify progress and minimize negative impacts.*

TRANSITION AREA	MAXIMIZE LIKELIHOOD OF POSITIVE IMPACT ON:	MINIMIZE LIKELIHOOD OF NEGATIVE IMPACT ON:
DIGITALIZATION Accelerating Sustainable Business	2 ZERO HUNGER 6 CLEAN WATER AND SANITATION 7 AFFORDABLE AND CLEAN ENERGY 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE 11 SUSTAINABLE CITIES AND COMMUNITIES 12 RESPONSIBLE CONSUMPTION AND PRODUCTION 13 CLIMATE ACTION	5 GENDER EQUALITY 10 REDUCED INEQUALITIES 13 CLIMATE ACTION 14 LIFE BELOW WATER 15 LIFE ON LAND 16 PEACE, JUSTICE AND STRONG INSTITUTIONS
ENERGY TRANSITION Powering the Green Economy	1 NO POVERTY 3 GOOD HEALTH AND WELL-BEING 8 DECENT WORK AND ECONOMIC GROWTH 7 AFFORDABLE AND CLEAN ENERGY 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE 10 REDUCED INEQUALITIES 11 SUSTAINABLE CITIES AND COMMUNITIES 13 CLIMATE ACTION	1 NO POVERTY 2 ZERO HUNGER 10 REDUCED INEQUALITIES 15 LIFE ON LAND
DECENT WORK AND SOCIAL PROTECTION Empowering the Workforce	2 ZERO HUNGER 3 GOOD HEALTH AND WELL-BEING 4 QUALITY EDUCATION 5 GENDER EQUALITY 8 DECENT WORK AND ECONOMIC GROWTH 10 REDUCED INEQUALITIES 16 PEACE, JUSTICE AND STRONG INSTITUTIONS	10 REDUCED INEQUALITIES 13 CLIMATE ACTION 14 LIFE BELOW WATER 15 LIFE ON LAND

*More information may be found in the Blueprint for Business Leadership on the SDGs

DIGITALIZATION

Digitalization can act as a powerful catalyst for the private sector to expedite progress across all SDGs. By advancing digital infrastructure, digital protection and data-enabled digital transformation, businesses can unlock new efficiencies, foster innovation and drive economic growth that is both inclusive and sustainable. The United Nations Environment Programme (UNEP) has forecasted that digitalization could reduce global CO2 emissions by at least 20 percent, the use of natural resources in products by 90 percent and waste by a factor of 10 to 100 times.[20] Realizing even a fraction of these potential benefits would be a transformational economic change in support of accelerated progress toward many SDGs. Policy lays the foundation for affordable and secure digital infrastructure, sets essential guardrails and supports equitable access, all of which are necessary to ensure that digital connectivity can grow rapidly among industry, business and society at large while safeguarding technological integrity and promoting equitable socio-economic benefits.

ENERGY TRANSITION

The case for increased investment in the energy transition is driven by its broad impact on multiple SDGs. While global investment in clean energy in emerging markets and developing economies reached a record USD 1.7 trillion in 2023, this figure needs to almost double, to USD 2.8 trillion per year, by 2030 to satisfy escalating energy demands and align with the Paris Agreement.[21] The private sector is instrumental in facilitating the shift to clean fuels and increasing electrification while ensuring equitable access and affordability for all populations and enterprises. Industrial sectors, in particular, which account for nearly one-third of global carbon emissions, must reduce their carbon footprint significantly.[22] Emphasizing energy efficiency, both in production and use, supports the adoption of efficient equipment and buildings. Against this backdrop, public policy can create a supportive regulatory environment, a clear path of travel with timebound targets, support for affected workers and industries, investments in needed infrastructure, financial support, tax treatment, derisking and incentives for energy transition. Additionally, clear and stable policies and standards provide the certainty and direction needed for private investments in a green future.

DECENT WORK AND SOCIAL PROTECTION

Decent work and social protection are the foundation for economic stability, social equity and personal well-being. However, by latest estimates, only 47 percent of the global population has access to at least one social protection benefit, meaning that more than 4 billion people still lack any social protection.[23] Additionally, estimates by the International Labour Organization (ILO) indicate that the global jobs gap — a measure of labour underutilization — stood at 453 million people in 2023, with about two billion people employed in the informal sector.[24] High levels of informal sector employment are associated with high levels of poverty and income inequality. Digitalization and energy transition pose particularly unique challenges to workforce and social protection systems; if their benefits are not equitably distributed, socio-economic inequality will grow. The private sector also has a critical role to play in skills development by providing the workforce with lifelong learning opportunities. Public policy instruments, such as those that provide social safety nets, actively promote diversity, inclusion and equity and ensure health and safety standards, have become key enablers for the private sector to maintain safe and fair employment practices and facilitate a just workforce transition.

2

COMMON POLICY MECHANISMS AND FOUNDATIONS FOR SUCCESS

COMMON POLICY MECHANISMS AND FOUNDATIONS FOR SUCCESS

The private sector is seeking a strong and reliable partner in its efforts to support the energy transition, digitalization and decent work and social protection. Each transition requires deep partnerships between the public and private sectors in line with the whole-of-society approach that is required if the world is to achieve the Sustainable Development Goals (SDGs). Public policy can provide the long-term certainty required for private sector investments, which are otherwise measured by short-term metrics.

Each of the five countries analyzed is starting from a different baseline of development. To successfully navigate the three transitions examined here through partnership with the private sector, national Governments must ensure that the foundations of functional governance and economies are in place. These foundational elements include systems of open, transparent and stable Government, rule of law (including contract law and enforcement, human rights and anti-corruption laws), a stable currency, and a clear, consistent and coherent regulatory environment focused on the ease of doing business. The importance of these foundational political, social and economic public policies is well-documented and unpacked in various studies, which serve as a complement to this report. For more information on this, please see the UN SDG Actions Portal.[25]

Additionally, each of the five countries starts from differing levels of citizen services, infrastructure, education and public sector financing. While each requires tailored solutions, several common policy mechanisms have emerged as potential priorities. The mechanisms described below are not country or transition-specific but capture private sector perspectives across national boundaries and transition topics. For country-specific private sector challenges and public policy enablers, please refer to the country prioritization matrices contained in the country-level analysis in Part 3 of this report.

POLICY MECHANISMS FOR SDG ACCELERATION

SIGNALS:
Send clear signals for private sector alignment

The private sector needs a clear direction to understand the speed of travel for each SDG-aligned transition. Sending clear and unequivocal signals in support of the SDG transition areas can align private sector investments. Strong signals include national commitments, alliances, public statements, strategies with time-bound targets for transition and financial indicators such as subsidies and budget allocations. Governments will also have to deconflict any mixed signals that exist or result from SDG-aligned transitions. For example, in heavily oil-dependent economies, time-bound targets for the energy transition should address both the progressive increase of renewable energy in the energy mix and clean fuels. It should also articulate the future of Government support for oil and gas use across the economy, specifically as it pertains to the phase-out of fossil fuels while ensuring a just transition. Clear signals can help ensure that the private sector has a detailed blueprint for the new economy, creating a predictable and stable environment that encourages long-term investment and ultimately accelerates progress toward the SDGs.

The private sector understands the deep interrelation and dependencies among digitalization, energy transition and decent work. Governments could recognize as much by designing and pursuing comprehensive, coherent and sequenced strategies that capitalize on the dependencies among transitions as well as efficiencies and innovation possible when pursuing multiple transitions in tandem. For instance, robust digital infrastructure can drive the efficiency of energy systems, while access to reliable and affordable clean energy is essential for digital platforms and educational technologies. Both depend on a skilled workforce and can simultaneously enhance decent work and social protection, presenting new employment and entrepreneurship opportunities as well as new modes of training and skill development. Additionally, Governments can build stronger investment cases when considering the dependencies among transitions holistically. Citizen and business services, such as health, identification, taxation, employment, education, business registration, licensing, and regulatory compliance, can collectively address energy access, digitalization, and workforce challenges.

Multiple individual plans will fail to address the dependencies among the transitions critical to SDG achievement. Similarly, stand-alone plans will not capitalize on the potential efficiencies to be achieved through comprehensive, coherent and sequenced planning and implementation. Instead, each national Government could mandate responsible ministries to draft and implement a detailed, sequenced approach to energy transition, digitalization and decent work and social protection, recognizing the challenges, opportunities and dependencies within and across each transition. Doing so can identify choke points, accelerators and create efficiencies that improve SDG-aligned outcomes.



> According the 2021 CEO Study published by the United Nations Global Compact, 93 percent of CEOs feel that short-term pressures limit their ability to invest in long-term resilience actions.[26]

CASE STUDY:

PLAN VIVE DIGITAL OF COLOMBIA

COLOMBIA

Colombia's "Plan Vive Digital" is a comprehensive national strategy launched in 2010 to improve digital connectivity and promote the use of Information and Communications Technology (ICT) across the country.[27] The plan aims to bridge the digital divide, particularly in rural and remote areas, by expanding broadband infrastructure and fostering digital literacy. The Government allocated significant public funds to build and upgrade broadband infrastructure in underserved areas, including the deployment of fiber-optic network and the establishment of community internet access points. The Government also introduced regulatory changes to facilitate the entry of private sector players into the broadband market and offered financial incentives and subsidies to private companies to encourage the expansion of broadband services in remote regions. Plan Vive Digital fostered strong collaboration between the Government and the private sector. The Government partnered with private telecom companies to leverage their expertise and resources in deploying broadband infrastructure, as well as contracted with them to provide broadband services in rural areas.

Plan Vive Digital had a transformative impact on the digital development of the country. The plan significantly increased internet penetration in Colombia. By 2012, internet penetration had risen to 17.2 percent from just 7.2 percent in 2010. The number of broadband connections grew substantially, reaching 6.2 million by 2012, up from 2.2 million in 2010. Additionally, there was an increase in the proportion of MSMEs connected to the internet. By 2022, broadband access in Colombia rose to 72.8 percent of the population, and the country enjoys one of South America's highest mobile coverage rates. Plan Vive Digital serves as a case study in how public policy can effectively enable rural and remote broadband connectivity through comprehensive infrastructure development, digital literacy programmes and supportive regulatory frameworks.



FINANCE AND DERISKING:
Address investment risk, transition costs and customer demand

The private sector needs partners to help mitigate transition risks. Private sector informants consistently highlighted the significant sums of money and risk involved in the three transitions studied. As noted in UN Policy Brief Number 6, Reforms to the International Financial Architecture, Governments can drive SDG-aligned transitions by derisking private sector investments through loan guarantees, "first loss" and "last out" provisions for public sector investments, investment and production tax credits as well as blended finance and formal public-private partnerships.[28] Derisking the required investments can unleash private capital in support of inclusive economic growth and environmental stewardship in tandem.

The private sector cannot bear the costs of these transitions alone. Governments have a range of tools at their disposal to share in the cost of SDG transitions and take on risks that are difficult for the private sector to trade off in the market. This is particularly true for MSMEs, which often lack access to financing opportunities. Blended finance programmes, which leverage public sector money to crowd in private finance, can be highly effective in encouraging private sector investment and aligning private sector investments with public policy goals.[29] Similarly, tax treatment — whether investment or production based — can make investments more attractive for companies and can be tailored to company size and sector based on risk and associated costs. Governments could issue bonds to drive investment in digitalization or the energy transition. Officials might also consider establishing programmes to support private sector companies by collaborating on applications and negotiations for funds available through development banks, international organizations and multilateral initiatives. For MSMEs, access to financing can be increased through the adoption of mobile and digital technologies, which expand the reach of digital credit, digital loans and other microfinance tools.[30] Consideration should also be given to establishing a sustainable finance strategy, and developing and implementing an internationally aligned, country-specific taxonomy for sustainable finance to encourage financial sector investments in SDG transitions.

The private sector needs clear demand signals for transition-aligned investments. Where demand is weak, as in early phases of a transition, Governments can play a pivotal role in driving sustainable development simply by leveraging their considerable purchasing power. Even in cases where demand exists, government spending decisions can increase the demand for transition-aligned goods and services. Implementing green and digital procurement strategies, which prioritize clean energy for government operations, in partnership with responsible suppliers and digital delivery, could align Government spending with SDG targets and private sector needs. Fostering collaboration on sustainable finance initiatives among domestic institutional asset managers can help to ensure that domestic capital can be directed towards SDG-aligned investment. Additionally, Governments could support modern workforce development by prioritizing local hiring and upskilling internally as well as incorporating provisions for local employment and training in public sector contracting and economic development programmes.

> Blended finance can be leveraged to derisk investment in key transitions and has mobilized approximately USD 226 billion for sustainable development initiatives to date.[31]

> Public procurement expenditure has accounted for approximately 12 percent of GDP across the OECD over the past decade, representing a significant lever for driving demand for sustainable goods and services.[32]

> In the UN Global Compact's most recent SDG Stocktake survey, 84 percent of business leaders stated that uncertainty around measurement and calculations of impacts towards SDGs is a major barrier to action.[33]

Finally, Governments could consider how best to align private finance with public goals, as suggested in UN 'Our Common Future: Policy Brief 6, Reforms to the International Financial Architecture,' to crowd in more investment dollars aligned with key SDG transitions.[34] Governments could take relevant action by actively advocating for the reforms outlined in UN Policy Brief 6 and the Addis Ababa Action Agenda. This could include multilateral development bank (MDB) reform to better leverage private sector finance focused on SDG impact, public sector sharing in equity upsides and better use of Special Drawing Rights to support SDG-aligned efforts, developing a sustainable finance taxonomy and tailoring International Sustainability Standards Board standards to national circumstances in support of standardized measurement, verification and reporting against sustainability commitments. Doing so can make (inter)national investments in projects and companies more attractive for investors by aligning national and international standards for sustainable finance and give clear direction to in-country economic sectors regarding which activities, good, services and projects qualify as a sustainable investment. National taxonomies and standards will have to carefully balance the need to build strong foundations — including energy access and affordability, digital connectivity and strong, inclusive labour standards — which may not traditionally be considered 'sustainability projects' with a longer-term vision for SDG-aligned transitions that would be considered as such. Transitional categories may be required, where foresight cannot clearly link short-term needs like expanded energy access with longer-term visions such as a clean grid, through measures such as renewable energy enabled microgrids.

CASE STUDY:
THE DIGITAL ACCELERATOR OF LATVIA

LATVIA



The Digital Accelerator of Latvia (DAoL) is a national initiative designed to spur digital transformation and innovation across various sectors of the economy by supporting startups and small and midsize enterprises (SMEs). DAoL helps organizations attract financing from financial institutions, investors and European Union Funds through the provision of funding strategy consultations, project preparation and monitoring. Specific forms of funding include grants, seed funding and venture capital investments. These mechanisms enable support for experimentation, piloting and testing activities, as well as consulting and mentoring services. In addition, startups and micro, small and medium enterprises (MSMEs) benefit from extensive networking opportunities, access to international markets and collaboration with established industry players.

The impact of the DAoL has been substantial, fostering a vibrant ecosystem for innovation and entrepreneurship. The project has supported over 1,236 organizations in their digital transformation journeys, providing digital maturity assessments and creating digital transformation roadmaps.[35] Additionally, DAoL aims to facilitate the development of at least 300 new digital solutions and significantly boost investment in ICT research and development, making Latvia a leading example of successful digitalization in the European Union (EU).[36] By fostering a collaborative environment between the public and private sectors, DAoL demonstrates how targeted public policies can drive substantial private sector engagement and innovation in digitalization efforts.

LEGISLATION AND REGULATION:
Establish clear and easily navigable regulations for SDG-aligned investments

The private sector needs coherent, clear and easily navigable regulations and related Government programmes to provide long-term certainty in their operating environment. Creating transparent and coherent regulatory frameworks where none exist and updating regulations where necessary can foster certainty and security for SDG-aligned investments. By implementing rigorous and transparent rules, Governments can mitigate risks and reduce uncertainties, making it easier for businesses to plan and execute long-term, SDG-aligned projects. Across all five countries, public sector informants consistently identified stronger cybersecurity and data protection frameworks, as well as new labour regulations for emerging sectors like the gig economy, as a key area for improvement. Clear labour standards not only help to ensure decent working conditions but can also have a positive impact on economic performance and productivity.[37]

Governments could also help the private sector navigate an increasingly complex and sometimes opaque regulatory landscape and related Government programmes. Private sector representatives have consistently identified the complexity of regulatory compliance and awareness of related Government programmes as a challenge. Similarly, clarity around SDG reporting requirements and guidelines can facilitate compliance across private sector actors. National authorities could create 'single windows' online, bringing regulations and regulated Government programmes together on a single, plain-language platform designed with an easily navigable user interface. Where multiple levels of government have shared roles and responsibilities, the national Government could coordinate with sub-national authorities to create a true single window for companies, communities, workers and residents. The consolidation of regulatory requirements and programmes can facilitate compliance and allow businesses to more easily locate and make use of Government programmes.

PLANNING AND PROGRAMMES:
Build interlocking foundations across all SDG transitions and focus on fundamentals through immediate solutions that support long-term success

With six years left to achieve the SDGs, UN member states have endorsed the *Pact for the Future*, including a commitment to 'plan for the future and strengthen our collective efforts to turbocharge the full implementation of the Agenda for Sustainable Development by 2030 and beyond.[38] To realize this vision, Governments require an eye on the future while also driving short-term progress on the SDGs. The surest way to balance a future orientation with accelerated progress is to deploy near-horizon solutions that will remain relevant throughout each of the SDG-aligned transitions. Moreover, Governments can play a powerful role in coordinating large industrialization or infrastructure modernization projects that can advance progress across transition areas. Early actions could prioritize solidifying the foundations required to successfully navigate all three transitions.

For countries like Angola, where energy access and affordability remain challenging, especially beyond urban areas, foundational actions could focus on expanding the energy grid through rapidly deployable renewable energy enabled microgrids in anticipation of tying distributed energy solutions into larger national grid expansion efforts later. Leveraging renewables to expand electricity access not only accelerates progress on digitalization and decent work and social protection, but it can also have a tremendous impact on health and education through the electrification of healthcare facilities and schools. For countries with near universal energy access — like Brazil, India and Egypt — lower cost and rapidly deployable solutions like solar energy could be considered, understanding that solar is likely to continue playing a significant role in the future energy mix. By using Government buildings to deploy solar, leveraging public procurement policies and offering attractive lease rates for public lands, Governments can increase demand for renewable energy and entice public sector investments. Similarly, Governments can also play a role in coordinating investment and managing risk to infrastructure resulting from the increasing incidence of climate-related disaster, such as drought or flooding in the case of South Africa and Brazil. Climate-related events, like drought, also complicate renewable energy generation in countries where hydroelectric generation is important, like Brazil and Angola.

Likewise, in all countries studied, digital connectivity remains an issue — most notably in rural and remote communities — and among sub-populations. In India, for example, internet and mobile connectivity in rural and remote communities lags urban centers. The same is true for Angola, Brazil and South Africa and, to a lesser extent, Egypt. Immediate solutions with long-term vision include subsidized innovations for rural and remote connectivity paired with community-based internet hubs.



> Digitalization has the potential to increase the operational efficiency of buildings and lower their total energy consumption by as much as 10% through 2040.[39]

> A successful energy transition is expected to create 40 million additional jobs in the global energy sector by 2050.[40]

FOUNDATIONS FOR EFFECTIVE PUBLIC POLICY

In addressing the challenges that the private sector faces in SDG acceleration it will be important for Governments to ground public sector action in foundational principles for effective policy. These principles not only guide the development and implementation of policies but also ensure they are inclusive, sustainable and responsive to the needs of all stakeholders.

Several key foundations for effective public policy related to SDG-aligned transitions emerged from private sector perspectives. The way in which specific policy enablers are designed and implemented will vary based on nuances across the five countries analyzed in this report and beyond. Therefore, the following considerations can inform policy design by Governments across the spectrum of capacity and development.

> Approximately 2 billion people, or almost 60 percent of employed people in the world today, work in the informal economy, often with very few labour protections.[41]

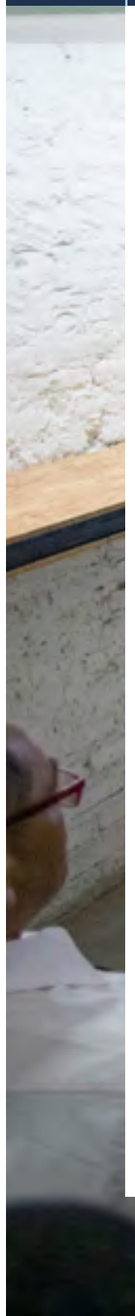
PEOPLE EMPOWERMENT:
Invest in human capital development to empower people

People-centred public policy empowers individuals to pursue the lives they desire. The private sector needs a skilled local labour force to support the energy transition and digitalization. Developing domestic human capital and empowering communities through lifelong learning policies that prioritize investment in workforce development, education and community-based initiatives is paramount for sustainable development. By focusing on transitioning workers from the informal to the formal economy and supporting economically marginalized groups like youth, Governments can drive the transitions critical to the SDGs and promote inclusive growth. This approach includes bolstering basic literacy and numeracy as well as providing targeted skills training tailored to local needs, thereby equipping individuals with the tools required to thrive in emerging sectors. Public-private collaboration to take an inventory of skills gaps can ensure that upskilling programs are targeted towards achieving a country's specific transition goals. Leveraging investments in electrification and digitalization can further bolster local efforts, such as establishing community internet and education centers that foster digital literacy and access to training programmes. Recognizing skills through formal credentials and expanding social benefits coverage, including unemployment benefits, are crucial steps to support workers entering the formal economy while also providing a safety net for those displaced by economic transitions, ensuring a sustainable and equitable transition for all stakeholders involved.

Governments could also prioritize empowering MSMEs, as they play a crucial role in driving local economies and supporting the energy transition and digitalization efforts. Governments can explicitly support MSMEs through targeted policies that address their unique challenges and opportunities. For instance, they can provide financial incentives for MSMEs to invest in employee training and development programmes. Additionally, creating streamlined pathways for MSMEs to access digital tools and technologies, including subsidies or tax incentives for digital adoption, can enhance their operational efficiency, market reach and ability to innovate.

CASE STUDY:
PROSPERA PROGRAMME OF MEXICO

MEXICO





Mexico's Prospera Programme, formerly known as Oportunidades, is a conditional cash transfer programme aimed at breaking the cycle of poverty by investing in human capital.[42] The programme targets low-income families, providing financial assistance conditional on fulfilling health, education and nutrition requirements. Prospera is part of Mexico's broader social development strategy and operates under the Secretaría de Desarrollo Social (SEDESOL). It involves significant Government investment to ensure its effectiveness and sustainability.

Prospera provides two types of grants to families. The first are health and nutrition grants, wherein families receive financial support contingent on attending regular health check-ups, ensuring children receive vaccinations and participating in nutrition programmes. The second are educational grants, which are conditional on school attendance and performance. They help cover costs associated with education, such as uniforms, supplies and transportation.

The private sector is actively engaged in Prospera through various mechanisms. Private companies collaborate with Prospera to provide vocational training and employment opportunities for programme beneficiaries. These partnerships enhance the skills and employability of participants, facilitating their transition into the formal labour market. Financial institutions offer microloans and financial literacy training to Prospera participants, enabling them to start small businesses and improve their economic self-sufficiency. Private healthcare providers work with the programme to offer medical services and health education, ensuring that beneficiaries receive quality healthcare and support.

Prospera has reduced poverty and improved health and education outcomes for millions of families across Mexico. It proved notably effective in Mexico's poorest regions, such as Chiapas, where 93 percent of families benefited from the programme's stipends. Additionally, Prospera contributed to a 17 percent decrease in infant mortality rates in Mexico.[43] By integrating conditional cash transfers with health, education and livelihood components, and fostering partnerships with private companies, Prospera has created a comprehensive approach to poverty reduction and social inclusion. This case study highlights the importance of multi-sectoral collaboration in achieving decent work and social protection.

PARTNERSHIP, ENGAGEMENT AND GOVERNANCE:

Engage potential parties and affected stakeholders early and often in the design of public policy for SDG-aligned transitions

Inclusive policy development, including businesses of all sizes, labour, research institutions and affected communities (with an emphasis on marginalized and under-represented groups including youth, women, racialized groups and Indigenous groups among others), not only strengthens policy design and outcomes but also stimulates innovation by attending to partners' diverse realities and needs from the outset. The *Pact for the Future*, recently endorsed by UN Member States, acknowledges as such, placing particular emphasis on the importance of bringing women, youth and vulnerable communities into national and international public policy processes and increasing their economic participation. Establishing forums for regular and ad hoc collaboration on public policy design and implementation can pay dividends in terms of the outcomes achieved.

Public policies should be developed, implemented, reviewed and revised or scaled in consultation with the full set of partners and stakeholders involved. From ad hoc consultations on policy adjustments or individual programmes to annual events that bring sectors together in discussion of common issues or advisory councils to undertake studies and provide sound advice on a regular basis, Governments would reap dividends by deeply engaging partners and stakeholders as standard practice. Where specific sectors — such as organized labour — are currently under-developed in specific countries, Governments could consider community-based consultations as a proxy for worker engagement. Where feasible, business and affected groups (again with a particular focus on under-represented and marginalized groups), could be included in public sector governance structures, specifically through ministerial advisory councils and government appointments.

SUSTAINABLE PUBLIC FINANCE:

Fund public policy mechanisms through long-term strategies that limit effects on public debt and tax burdens

Successfully navigating the energy transition, digitalization and decent work and social protection requires significant investment from both the public and private sectors. For developing economies, careful planning will be required to finance sustainable Government programmes without increasing debt or tax burdens to unmanageable levels, particularly considering current interest rates, public debt and cost of living challenges. In addition to well-known mechanisms like Government bonds, official development assistance, and bilateral or multilateral grants or loans — often developed through key forums such as the World Bank, International Monetary Fund, G20, or UNFCCC — there are numerous others available to Governments for financing transition programs, including multilateral development banks and philanthropic organizations.[44] At a time when UN member states, supported by the wider UN system, have endorsed the *Pact for the Future*, including a pledge to close the SDG financing gap for developing countries, each of the five countries studied could enhance efforts to secure more traditional sources of development funding by partnering with business leaders to build compelling investment cases for integrated action across all three transitions.[45] Partners could then approach international organizations, financial institutions, MDBs, bilateral or multilateral donors and pension plans with multisector delegations speaking with a single voice on financing.

Partners could also consider enlisting international organizations and donors for technical support in building out the investment case, as was done with South Africa's Just Energy Transition Partnership. Additionally, all five Governments could consider strengthening the support they receive from the international financial system by actively advocating for the reforms described in the UN's 'Our Common Future: Policy Brief 6, Reforms to the International Financial Architecture' and the Addis Ababa Action Agenda, including deeper engagement with the private sector by multilateral development banks, with a focus on SDG impact per dollar spent, public sector sharing in equity upsides, and more effective use of Special Drawing Rights to better support SDG-aligned transitions.[46]

Given the developing economies analyzed in this report, the financial enablement approaches below focus on those that minimize or leverage Government expenditures and debt loads.

Carbon Pricing — whether a cap-and-trade system or fixed price per ton of carbon emissions across economic sectors (i.e. a carbon 'tax') — is a compelling potential expenditure- and debt-neutral funding option for Government transition programming. Moreover, as noted in the High-Level Expert Group on Net Zero Emissions Commitments of Non-State Entities, carbon pricing programmes can be designed to be cost-neutral to most national households.[47] Though primarily designed to support the energy transition, carbon pricing can also be designed to support decent work and social protection through a just transition for the renewable energy and clean fuels sector. For instance, by including conditions for local workforce upskilling in the granting process for projects funded by carbon pricing proceeds, Governments can drive a shift to clean energy while they build a modern labour force.

The effectiveness of carbon pricing programmes lies in their design and implementation as one element in a suite of complementary policies. Each country is best positioned to determine whether and how to implement carbon pricing within their own national context. When doing so, however, Governments should consider key elements such as a 'ratchet' to increase the price over time, regulatory and voluntary carbon markets, government backed carbon contracts for difference, and a commitment to reinvest proceeds in green solutions. In line with the recommendations of the High-Level Expert Group on Net Zero Commitments of Non-State Entities (HLEG), a rights-based approach to carbon markets is essential for ensuring positive outcomes for the workers, communities and rights bearers, who often steward the natural resources upon which carbon credits are based. Consideration could also be given to transparency, retirement of credits, additionality and the potential effects on consumers and workers. Additional consideration could be given to earmarking proceeds for MSMEs.[48]



CASE STUDY:

CARBON PRICING IN GERMANY

GERMANY

Germany has been a leader in implementing robust carbon pricing mechanisms to reduce greenhouse gas emissions and transition towards a low-carbon economy. The country utilizes both the EU Emissions Trading System (EU ETS) and a national emissions trading system (nEHS). The EU ETS, a cap-and-trade system, covers the power sector, energy-intensive industries and intra-EU aviation, significantly reducing emissions in these areas.[49]

Complementing this, the nEHS, introduced in 2021, targets transport and buildings with an initial fixed carbon price, transitioning to a market-based system post-2025.[50] This approach includes additional levies on fossil fuels in transport and incentives for energy-efficient building renovations. Furthermore, Germany launched its first tenders for carbon contracts for difference (CCfDs) in March 2024, becoming the first EU country to do so with a funding call of EUR 4 billion aimed at decarbonizing high-carbon industries like steel, cement and paper.[51]

Germany's carbon pricing strategy has led to significant emissions reductions, an accelerated transition to renewable energy and economic growth with job creation in the renewable sector. The share of emissions covered by an explicit carbon price has increased by 37.6 percentage points since 2018 following the introduction of the nEHS, and explicit carbon prices have increased to an average of EUR 35.98 per tonne, up by 330.9 percent since 2018.[52] The new CCfDs funding scheme is estimated to save up to 350 megatonnes of carbon emissions up to 2045.[53] Key lessons include the effectiveness of aligning international and national policies, the benefit of a phased implementation approach, the importance of engaging stakeholders, and the strategic use of carbon pricing revenues to fund climate actions and support vulnerable groups. This case study highlights the value of a well-designed, multi-faceted approach that balances environmental goals with economic and social considerations, providing valuable insights for other countries aiming to implement effective carbon pricing mechanisms.



Successfully navigating the energy transition, digitalization and decent work and social protection requires significant investment from both the public and private sectors.

Foreign direct investment (FDI) and public-private partnerships (PPP), depending on their design, are other means to finance transitions without increasing public expenditure or debt. Governments could increase the attractiveness of FDI by providing expedited risk-based regulatory and licensing 'fast lanes', access to public lands or resources and in-country or export navigator services for companies launching projects aligned with their energy transition and digitalization goals. To further support government transition and economic development goals, public officials could incorporate sustainability, technology transfer and local hiring and skilling provisions in FDI or PPP agreements. Tailored services for FDI and PPP investors could offset potential resistance to provisions ensuring that governments, local businesses and residents benefit from the inflow of foreign investment dollars.

Debt swaps can be an effective debt-neutral means to finance government transition programmes. In their current form, debt swaps are available for a range of transition related commitments including climate action, nature and broader economic development. Countries recently using debt-for-climate swaps to help finance their energy transition include the Seychelles, Belize and Grenada. Other developing countries, such as those under study here, could consider employing this mechanism to finance their energy and digitalization transitions through debt-for-climate and debt-for-development swaps. Swaps do not improve public sector balance sheets but can effectively shift public debt from legacy decisions to future-oriented SDG-aligned transitions.

Realigned subsidies are a potential source of funding for SDG-aligned transitions. For example, phasing-out subsidies for the oil and gas sector could provide a significant source of funds to finance Government transition programmes including tax treatment, blended finance and subsidies for the clean energy and digitalization transitions. Redirecting subsidies to sectors and initiatives aligned with SDG progress has the added benefit of sending clear signals to the market about the direction and speed of travel. However, a potential trade-off exists with economic development and affected workers, households, communities and consumers during the transition. The phase-out of subsidies must be carefully planned and staged to support the needs and realities of potentially affected residents.

Land value capture (LVC) is an innovative approach to financing large-scale infrastructure projects, including grid expansion, which can be paired with renewable energy goals and digitalization. Infrastructure improvements, meanwhile, offer the opportunity to support decent work through the creation of good jobs and social protections through participation in the formal economy. LVC works on a cost-recovery basis, recouping part of the increased land value resulting from infrastructure improvements to cover the cost of infrastructure projects through property or land value taxes, development charges or an increase in the sale price of public land. While LVC typically involves Government outlays for upfront development costs it provides a means to recover any public expenditures. For example, in South Korea, LVC has been used for developing areas near subway stations through land readjustment projects, and in Japan, the approach has been applied to railway construction projects.[54] Trade-offs with LVC include upfront costs with unclear timelines for recouping the Government expenditures and the potential of lower than anticipated land sales or leasing.

With UN member states endorsing the *Pact for the Future*, pledging to close the SDG financing gap for developing countries, Governments could partner with business leaders to build investment cases for integrated action across the three transitions.

Blended finance is an increasingly popular financing approach whereby the Government contributes a percentage of project costs based on similar commitments from other investors, most often other levels of government, industry players and financial institutions. More complex agreements may include international organizations or NGOs. These approaches can be highly effective in aligning private sector investments with public policy goals.[55] Given that the Government itself may be the largest investor in these projects, blended finance can be effective at signaling public sector commitment to a long-term development strategy. Infrastructure funds, for example, are often based on the principle of blended finance, with Government(s) and private sector companies sharing the cost and risk of large-scale infrastructure projects. These mechanisms are well-suited for renewable energy, grid expansion and fibre optic projects yet depend on stable and sufficient public financing to cover the Government's share of costs. Other developing countries, such as those under study here, could consider solidifying public finances by drawing more workers into the formal economy to increase the national tax base, leasing public lands and expanding application and licensing fees.

CASE STUDY:
NIGERIA ELECTRIFICATION PROJECT

NIGERIA



The Nigeria Electrification Project (NEP) is a government initiative aimed at increasing access to electricity in unserved and underserved areas of Nigeria through off-grid solutions.[56] The NEP employs several financial enablement mechanisms, including performance-based grants, minimum subsidy tenders and results-based financing. These mechanisms have successfully attracted substantial private sector investment, with USD 350 million from the World Bank and USD 200 million from the African Development Bank, leveraging an additional USD 660 million from private entities. The project focuses on various components such as standalone solar home systems for households and MSMEs, mini grids for rural communities and the Energizing Education Programme, which aims to provide reliable power to federal universities and teaching hospitals.

The impact of the NEP has been significant, with over 600,000 households, 4,000 MSMEs and numerous educational institutions benefiting from improved energy access. This has not only enhanced the quality of life for many Nigerians but also fostered economic development by enabling businesses to operate more efficiently and educational institutions to function without power interruptions. It has also driven gender inclusion in the energy sector, with women playing crucial roles across the value chain. Overall, the NEP can serve as a model for other countries in sub-Saharan Africa, demonstrating how a well-designed public policy framework can effectively mobilize private sector resources to achieve large-scale, sustainable energy access.



CASE STUDY:

RENEWABLE ENERGY INNOVATION FUND OF URUGUAY

URUGUAY

The Renewable Energy Innovation Fund (REIF) offers loans with flexible terms and conditions to Uruguayan businesses, including MSMEs, to support investments in new energy transition initiatives that advance energy sector competitiveness, social inclusion, gender equality and expanded capabilities at the local level.[57] Supported by the UN Joint SDG Fund and in partnership with several major commercial banks in Uruguay, the REIF has an initial capitalization of USD 7 million and is leveraging USD 68 million from the local banking sector. The REIF offers both loans and technical assistance to businesses to support green projects in the areas of electric mobility, energy storage and demand management, power to x (technologies that transform electrical energy into another type of energy) and waste management and treatment.

In 2023, the REIF approved its first three financial operations for a total of USD 1 million of reimbursable financing leveraging USD 3 million of bank lending. The approved projects include a car rental company that will acquire and rent electric vehicles and chargers, a roadside assistance company that will replace part of its diesel fleet with electric trucks and a hotel that will use an efficient water heating system with heat pumps. This case study demonstrates the viability of concessional or blended finance to support businesses, particularly MSMEs, in implementing green initiatives and provides valuable insight as Governments seek to support business-level energy transitions globally.



DATA AND TECHNOLOGY:
Harness data and technology to inform decisions and optimize investments

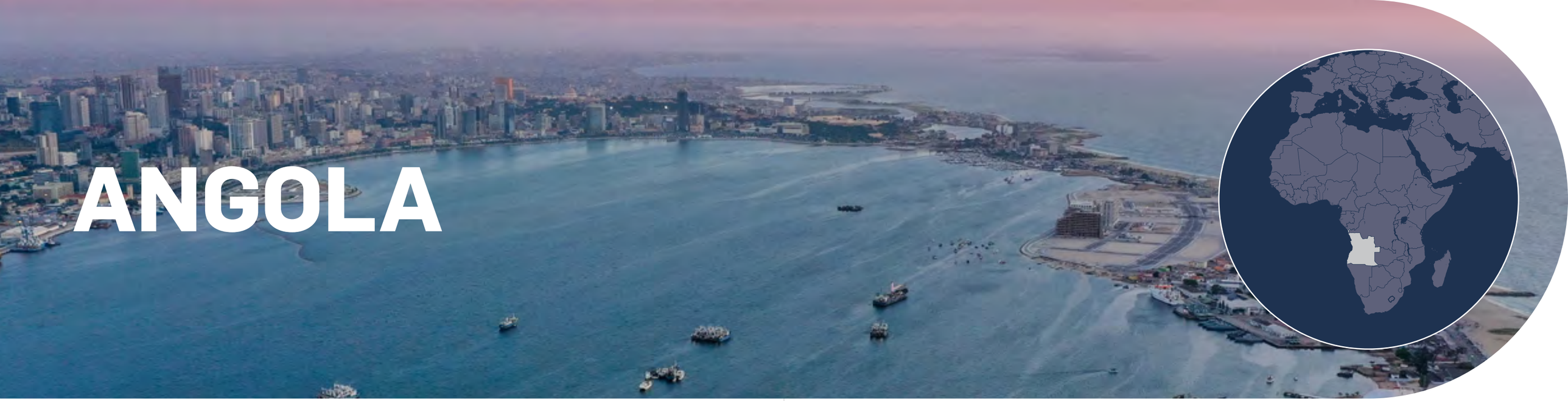
Leveraging data and technology can enhance and accelerate sustainable development through effective planning, implementation, reporting and continuous improvement. By harnessing data, Governments can make informed decisions, strategically target interventions and optimize investments in areas that have the greatest SDG impact. Advanced technologies, including responsible AI, can significantly enhance and accelerate policy by providing deeper insights and predictive analytics, leading to improved citizen services and more efficient resource management.[58] However, access to data and technology varies, especially with newer technologies, which can create disparities in the ability to leverage these tools effectively across regions and sectors. Addressing these potential and actual disparities is crucial to ensure equitable progress and to maximize the benefits of technological advancements for all communities.

> Digital public services can be up to 74 percent faster than their in-person equivalents and 95 percent cheaper for public institutions to deliver. [59]

3

COUNTRY ANALYSIS





ANGOLA

OVERVIEW

In support of the country's aspiration of economic diversification, Angola is building its digitalization and energy transition strategy by enhancing workforce capacity. Concurrently, Angola remains committed to tackling fundamental sustainable development challenges such as hunger, poverty and access to clean water. Angola is emerging from a five-year recession, driven in part by its economic reliance on the oil and gas sector and the COVID-19 pandemic's demand effects on the fossil fuel industry. The country's medium-term macroeconomic outlook has stabilized, and its national economic policy is now focused on diversification, human capital and improving access to quality socio-economic services through initiatives such as the National Development Plan and the 'Angola 2050' strategy.[60]

Angola's strategy to diversify its economy has centered on harnessing foreign direct investment and fostering public-private partnerships to stimulate expansion in sectors beyond oil and gas extraction.[61] However, the outcomes of these diversification efforts have been varied, and a consistent trajectory of growth has not been firmly established. Notably, vital industries like agriculture and fisheries have seen deceleration in their growth since 2021.[62]

As early as 2021, the World Bank noted the importance of digitalization as a strong foundation for economic development, forecasting that "digital technologies can promote inclusive economic growth by enhancing productivity, reducing transaction costs and expanding access to markets and services."[63] Similarly, the United Nations Development Programme (UNDP) has noted that the implementation of digital public infrastructure (DPI) in the finance sector can speed up economic growth by up to 33 percent.

The digital transition of Angola is characterized by a dramatic disparity in access between urban and rural communities. In 2021, only 48 percent of the population had access to electricity, with electrical and ICT infrastructure concentrated in urban areas, leaving rural areas with significantly lower rates of electrification and internet connectivity.[64] In turn, restricted access hinders the ability of many rural Angolans to develop digital skills and experience. The existing gap in connectivity and expertise prevents many residents and businesses from reaping the benefits of the digital economy. Many Angolans also lack the necessary protections against the cybersecurity risks inherent in a virtual presence. Notwithstanding the limited reach of ICT connectivity, Angola has the potential to harness the power of cutting-edge technologies to forge a more resilient and diversified economy.

Angola's long-term economic prospects remain closely tied to its current reliance on the oil and gas sector, which it plans to use to finance a national energy transition. Currently 50 percent of GDP, 70 percent of Government revenue and 90 percent of exports are generated by oil and its supporting activities in Angola.[65] This dependence leaves the Angolan economy vulnerable to oil sector volatility which is reflected in its national GDP growth.[66] For instance, while geopolitical turmoil and the war in Ukraine have elevated global oil prices and stabilized Angola's economic outlook in the near term, it has also driven year-on-year inflation as high as 24 percent in 2024.[67] In response, the National Bank of Angola has raised its policy rate to 19 percent.[68] Inflation and the high cost of servicing debt have put Angola on a conservative fiscal footing. Coupled with high borrowing costs, this has resulted in limited financing for private sector initiatives aligned with the SDGs. Unless Angola successfully diversifies its economy, in part through navigation of the three transitions covered in this report, global decarbonization will continue to reduce oil demand, deflating prices and leaving the country exposed to economic recessions.

A shift to clean energy and a digital economy presents an opportunity to provide decent work and social protection to the workforce of Angola. However, these transitions alone are likely not sufficient to secure sustainable livelihoods for the country's 16.5 million working age adults. The population of Angola is 36 million and continues to expand, placing ongoing strains on the labour market. Between 2022 and 2023, 550,000 new workers joined the labour force while only 10,000 jobs were added, with the country's unemployment rate documented at 31.9 percent in 2023.[69] The majority of workers in Angola are employed in the informal sector, resulting in unreliable income and contributing to the estimated 54 percent of Angola's population living in multidimensional poverty.[70] The country's income and employment

OVERVIEW (CONT.)

vulnerability limits the market potential of consumer-facing digital and green products and services. Yet, targeted policies on re-skilling, job creation and social support can harness the young and growing population's potential to yield rapid economic growth and contribute to the country's diversification goals.

Economic diversification creates an opportunity to accelerate private sector action aligned with the SDGs. Recent progress on the SDGs has been mixed, showing improvements in climate action (SDG 13), affordable energy (SDG 7) and quality education (SDG 4). Similar to global trends during the pandemic, the country has experienced regression or stagnation in reducing poverty (SDG 1), alleviating hunger (SDG 2) and improving clean water and sanitation (SDG 6).[71] However, according to its most recent voluntary national review (VNR), the Government's efforts to improve social and economic conditions have started yielding positive results, as Angola shifted to a country with a medium Human Development Index.[72] Nevertheless, Angola's focus on economic diversification presents a chance to shape the economic path to a future that is digital, green and inclusive. To seize this opportunity and align with the SDGs, Angola must harness the power of the private sector's role as a revenue generator, innovator, investor and employer.

Note: Country Reports reflect the perspectives of business leaders interviewed and are not intended as a comprehensive review of public policy in any of the countries studied. Where inaccuracies exist or sentiments and solutions do not reflect the current state of public policy, the authors respectfully suggest that the lack of awareness among business leaders itself constitutes a challenge and propose – in those cases – that Government awareness and promotional campaigns be launched to align private sector perspectives with public sector action.

ANGOLA PRIORITY NEAR-TERM POLICY ENABLERS

The table below details immediate actions that the Government of Angola could take to address the challenges identified by business leaders during primary research. Additional medium and long-term policy enablers are presented at the end of the country report.

		TOP PRIVATE SECTOR CHALLENGE	NEAR-TERM PUBLIC POLICY ENABLER (NON-EXHAUSTIVE)	ANTICIPATED PRIVATE SECTOR RESPONSE
ANGOLA	DIGITALIZATION	Concentration of digital and energy infrastructure in urban areas limits access	Develop integrated digital, energy and decent work transition plan through a multi-stakeholder engagement process with a focus on rural and remote infrastructure	Increased investment, innovation and rural and remote MSMEs
	ENERGY TRANSITION	Economic reliance on fossil fuels and financing for renewables	Shift subsidies from fossil fuels to renewables with a focus on just transition for communities, workers and consumers	Increased investment in renewables and local workforce
	DECENT WORK AND SOCIAL PROTECTION	Limited workforce skilled in transition areas; informal employment	Invest in teacher training and community-based education infrastructure to increase literacy and numeracy	Increased hiring of local workers and investment in skills training

CONNECTED SOCIETIES: DIGITALIZATION

In recent years, Angola has taken significant steps to accelerate progress on digitalization. Notable policy initiatives include investment in a unified national cloud infrastructure, digitalization of public services and the establishment of a data protection agency.[73] Through partnerships with organizations such as the World Bank, International Labour Organization and International Telecommunication Union, Angola is prioritizing digital skills development for the country's youth.[74] Additionally, Angola has created digitalization investment opportunities for the private sector through programmes such as the Inclusive Digitalization in Eastern and Southern Africa (IDEA), which aims to advance digital inclusion, access to digital services and Angola's digital economy.[75] Angola is well-connected to international internet infrastructure through Angola Cables. As a result, the country has access to the bandwidth required to serve its entire population today. However, current internet penetration is limited to 39.3 percent of the population, largely due to last-mile connectivity, high poverty rates and limited rural infrastructure.[76]

The private sector faces several challenges in the advancement of their digitalization journey. Greater investment and support for digitalization, internet access, and environmentally safe technologies are still needed to enhance global economic integration and competitiveness.[77] Concentrated access to electricity and urban-centric ICT infrastructure limits the ability of many Angolan businesses, especially MSMEs, to participate in the digital economy. Businesses are hesitant to undertake digitalization projects since, in many instances, strong support and investment from Government is needed to enhance cybersecurity protections and safeguard long-term investment. Beyond businesses, the broader Angolan population and thus workforce has limited access to and knowledge of digital tools and services, making it hard for businesses to undergo digital transformations.

Supportive public policies are crucial for overcoming challenges faced by the private sector, enabling Angola to maximize the economic development benefits offered by digitalization. Providing accessible finance, equitable access and support for digital opportunities will derisk innovation among businesses, fostering economic growth and productivity through new technologies. The expansion of ICT infrastructure into rural areas will ensure greater access, across the population and businesses, to the opportunities of a digital economy while simultaneously advancing the energy transition through innovative approaches to electrification. The economic rewards of digitalization are clear; it is estimated that the implementation of digital public infrastructure (DPI) in the finance sector alone can speed up economic growth by up to 33 percent.[78] By creating an environment conducive to business action, Angola can fast-track the digital transition and the accompanying benefits of a resilient, inclusive and dynamic digital economy.

ANGOLA: DIGITALIZATION CHALLENGES

Concentration of digital infrastructure in urban centers leaves rural areas without access to digital tools and services. Difficulties installing, accessing and maintaining ICT equipment in rural areas has resulted in a centralization of digital infrastructure and internet providers in urban areas such as Luanda. The urban-rural digital divide has contributed to the country's limited internet penetration rate of 39 percent.[79] The concentration of internet providers in cities further limits the scale and viability of digital products, services and businesses in rural areas, leaving rural populations unable to participate in the digital economy.[80]

A lack of a digital ecosystem and entrepreneurial support limits business innovation. Some businesses are not aware of digital tools designed to address their challenges and even those who are aware may have limited capacity to adopt new technologies due to the lack of an industrialized digital ecosystem. The country's uncompetitive markets and limited support for entrepreneurial initiatives hinder private sector innovation and expansion of digital infrastructure. The most recent Herfindahl-Hirschman Index for the mobile technology segment of the market of Angola is 6,350, indicating a highly concentrated market not fully benefiting from competition.[81] Additionally, state intervention in market prices introduces uncertainty to business planning. For example, the recent rollback of fuel subsidies, which increased businesses' operating costs, served as a driver of inflation with cost increases that were passed on to consumers.[82]

Inconsistent access to — and knowledge of — digital services limits participation in the digital economy. The high relative cost of acquiring smartphones and internet access, along with high levels of digital illiteracy, prevent the rapid expansion of new technologies to individuals and small businesses.[83] The absence of accurate data on the number of digital services users complicates business attempts to plan for market demand.[84] The predominance of the informal economy leads to many businesses operating outside the formal financial system, which limits their access to credit and financial services essential for digital investments.[85] Moreover, the lack of access to digital technology in rural areas limits the spread of more accessible forms of digital finance. The absence of formal financial resources creates significant barriers to digital transformation, particularly for micro and small enterprises.

Unreliable electricity inhibits widespread use of digital tools. Electrification rates in Angola range from 43 percent in most cities to less than 10 percent in rural areas.[86] As a result, the electrical grid is often incapable of supporting internet service distribution centers. Likewise, unreliable electricity raises operating costs for businesses seeking to employ digital tools, as they must maintain expensive generators or other local power sources. Electricity is a prerequisite for community and business utilization of any quality-of-life or productivity enhancing digital tools. Lack of access to reliable electricity precludes any related economic benefits and hinders the deployment of ICT infrastructure.[87]

A lack of strong cybersecurity infrastructure leaves businesses exposed to cyber threats. Without established cybersecurity policies, monitoring and threat detection, and the automation of cybersecurity protocols, the private sector remains exposed to cyber risks. In 2024, the Angolan Central Bank alone has seen an average of 250 attempted cyberattacks each day. While the Bank of Angola is a significant target, the high volume of cyberattacks it experiences is nonetheless indicative of a broader exposure to cyber risk for institutions and businesses throughout Angola.[88] Uncertainty around cybersecurity risk can deter investment in digital technologies as companies are wary of exposure to cyberattacks.

ANGOLA: DIGITALIZATION ENABLERS

EXPAND ICT AND GRID INFRASTRUCTURE IN PARALLEL

Build the foundation. The Government of Angola could consider leveraging previous national investments in international internet cable connectivity and cloud infrastructure. Capitalizing on those investments outside of cities, however, requires expanding the national power grid. Short-term policy enablers could include reviewing national policies and programmes to ensure the inclusion of current, specific, prioritized targets and timelines for rural broadband connectivity and electrification. In the mid-term, concrete targets could be paired with an open innovation challenge for internet service providers focused on solutions for rural and remote communities that are broadly affordable, based on average incomes, including last mile connectivity and connectivity and innovations for rural and remote connectivity. Other critical medium-term actions include the deployment of micro-grids to provide reliable, affordable sources of energy to power the digital transformation throughout Angola. Over the longer-term, the Government of Angola could focus on more hardware intensive measures in its ICT policies, including pairing rural electrification efforts and internet coverage through infrastructure investments delivering both power and internet connectivity.[89]

ENHANCE FINANCIAL SUPPORT FOR PRIVATE SECTOR DIGITAL TRANSFORMATION

Embed digitalization throughout development plans. The Government of Angola could review its economic diversification strategy and plans to ensure that digitalization is reflected as a foundational, future-oriented and enabling element. The Government might also enhance linkages among digitalization and its industrial priorities so that expanded and mechanized agriculture, for example, applies a digital-first approach.[90]

Unleash government finance to derisk digitalization. The funding allocated for economic diversification efforts could drive private sector investment through blended finance programmes and could consider apportioning public funding for digitalization in accordance with its importance to all other development efforts.[91] Likewise, the Government could partner with the private sector to approach financial institutions, pension funds, donors and multilateral development banks to present a well-documented investment case for digitalization that also incorporates the energy transition and decent work and social protection transition areas. The Government might also consider derisking investments in the digitalization transformation in its financial agreements through "first loss" and "last exit" provisions. Angola might also consider how its public sector purchasing power and supply chains could drive the development of a national innovation ecosystem through demand side measures such as a 'green and digital first' procurement strategy building off its industrial policy preferential procurement measures.[92]

PROVIDE ACCESS TO ACCURATE USER DATA REFLECTING DEMAND FOR DIGITAL SERVICES

Harness and share the power of data. The public sector could leverage the Angolan National Regulatory Institute for Communications' (INACOM) online platform to provide accurate information on who is using digital services and where demand for increased access exists. Similarly, the collection of user data can provide better visibility into where digital tools are being used improperly and where cyber vulnerabilities exist, which can allow private sector action to protect vulnerable actors, like children, on the internet.[93]

ANGOLA: DIGITALIZATION ENABLERS (CONT.)

PROMOTE DIGITAL ACCESS

Reduce the cost of connectivity to drive market formation. Increasing access to digital technology will require financial support for Angolans such as installment payments for the purchase of smartphones or subsidizing the cost of connectivity packages.[94] Regulations related to the right to repair and standards for a second-hand mobile device market could also drive down costs of digital technology and could be coupled with skill development initiatives on device repair and refurbishment to drive entrepreneurship in secondhand technology services. Increased access to digital technology across Angola can drive progress on pressing social issues, as digital tools can be leveraged to boost educational initiatives in under-resourced communities, improve public health measures where access to a hospital is limited and provide online public services to rural and remote areas.

EDUCATE ON CYBER RISK

Share best practices. The Government could consider sharing actionable best practices for companies to mitigate cyber-risks and an accompanying education campaign to broadcast knowledge of these best practices among businesses as they enter the digital economy.[95]



GREEN ECONOMIES: THE ENERGY TRANSITION

Angola has established ambitious plans to address its current energy needs and complete a green energy transition. The country has introduced numerous policies to support its energy goals, including the General Electricity Law of 2015, National Renewable Energy Strategy, Public Private Partnership Law, Angola 2025 Long Term Strategy and Sustainable Energy for All 2030 Goals.[96] Angola emphasizes the importance of renewable energy in its policy, with a goal of a 60 percent electrification rate by 2025, including 66 percent hydro-electric generation and prioritization of biofuels in support of sustainable rural development through its production and export.[97] With these initiatives, Angola seeks to harness its significant renewable energy potential particularly in hydropower and solar, with Africa's third largest hydropower generation capacity and a high average solar irradiation.[98]

Yet, the oil and gas sector continues to serve as the economic foundation of Angola (accounting for 75 percent of national revenue) and source of funds that will drive economic diversification and the energy transition.[99] Only 10 percent of total final energy consumption is from renewables, though this number has increased steadily from 5 percent in 2015.[100] The country has intensified petroleum exploration and introduced new tax measures designed to incentivize the revitalization of the fossil fuel sector. In doing so, Angola has locked in longer term fossil fuel production while generating tax revenue that it plans to use for the energy transition. As part of this plan, Angola will promote natural gas as a transition fuel from diesel with a longer-term view of clean fuels for industrial applications.

The economic dominance of oil and gas complicates the nation's path towards a just transition. Given the country's reliance on the sector for GDP growth, export income and Government budgets, the fossil fuel industry will be necessary to continued economic development in the near term. Likewise, the effects of displacement on the fossil fuel industry as investment in renewables grows must be carefully monitored and accounted for. Even in this context, opportunities arise for green energy. Revenue from the oil and gas sector could be channeled towards the development of clean fuels, and there exists enough unmet demand for electrification in the country to provide an ample market for renewable sources of electricity without supplanting economic activity driven by fossil fuels.

Alongside the economic dominance of oil and gas, the private sector in Angola faces challenges in the energy transition. Limited access to finance for renewable energy initiatives and high costs of implementation limit the viability of new projects. Inconsistent infrastructure and technical capacity — coupled with geographic variability — make the implementation of energy distribution projects complex and costly for businesses. Moreover, the uncertainty on pinpointing demand further adds to this challenge.

As Angola seeks to accelerate private sector activity in renewable energy generation, the nation stands at a critical juncture in aligning its economic development with global climate imperatives. Providing clear signals to the clean fuels sector, expanding electric grid connectivity across the country and de-risking private sector investment in clean energy projects will be essential to this endeavor. By leveraging its current progress and seizing the opportunities presented by the green transition, Angola not only aims to achieve a diverse and sustainable economy but also contribute to the global fight against climate change. This approach can transform Angola into a leader in climate resilience in Africa, reducing greenhouse gas emissions and fostering a low-carbon future while ensuring long-term economic growth and energy security.

ANGOLA: THE ENERGY TRANSITION CHALLENGES

Limited access to finance deters investment in renewable energy projects and electrification expansion. Businesses in Angola struggle to secure funding for renewables projects. This includes small-scale solar projects, due to their perceived risks, as well as larger scale projects, due to the significant upfront investment required.[101] Moreover, despite significant potential for renewable energy generation, only 42 percent of the nation's hydroelectric capacity and 17 percent of its total solar capacity was utilized in 2021.[102] Similarly, investments in electrification expansion projects come with high costs and serve unpredictable markets. The considerable risks associated with long-term investments in new technologies and markets restrict the ability of the private sector to obtain the financing needed to fuel the energy transition.

Inadequate infrastructure and technical capacity hinder implementation of renewable energy initiatives. The energy infrastructure of Angola, particularly the electricity grid, is limited in reach — with only 10 percent of rural residents connected — and it is often unreliable, posing challenges for integrating renewable energy sources.[103] Even as electricity capacity is added, it may not be distributed to some residents due to challenges reaching rural or remote communities. Moreover, there is limited access to advanced technologies needed for renewable energy projects, and the private sector often lacks the technical skills and expertise to effectively implement and scale up these solutions, leading to reliance on expensive foreign labour.[104] These technical challenges serve as roadblocks to private sector action to expand renewable energy and electrification across Angola.

The high consumer cost of renewable energy curbs adoption. The high costs of installing energy infrastructure, producing hydro and solar electricity, battery storage and the distribution of electricity to remote areas makes the price of green fuels relatively high.[105] With more than 80 percent of workers employed in the informal economy, 50 percent of the population below the age of 17 and over a third of the country living on under USD 2.15 per day, the customer base for renewable energy is perceived as limited, particularly in rural areas.[106] The perception of a limited market for renewables, coupled with their high cost, deters adoption and private sector implementation of renewable initiatives.

Geographic constraints and grid expansion planning obstacles impede the private sector's ability to accelerate change. The country's diverse geography and climate necessitate tailored solutions for renewable energy generation.[107] Infrastructure challenges, such as difficulty accessing remote rural areas and lack of adequate planning for grid expansion to align with demand, mean that only 70 percent of the country's currently installed 5.7 GW electric capacity is in use.[108] Angola has an estimated 16.3 GW of potential solar capacity, yet climate conditions across the country, particularly the prevalence of dust and sand in the arid south, raises the cost of maintaining solar panels compared to more humid regions in Africa where solar has been widely adopted.[109] Given these unique geographic conditions, the approaches to energy transition successful in other countries at similar stages of development must be adapted before they are deployed in Angola.[110]

Economic reliance on oil and gas and uneven implementation of the national energy transition strategy complicate the private sector's operating environment. The Angolan economy is heavily reliant on oil and gas, which presents challenges to the private sector as the country navigates its energy transition. There continues to be significant expansion of investment in oil and gas extraction and production to boost economic growth.[111] Subsidies on fuel, which Angola has begun to phase out, limit the price competitiveness of costly green fuels. The absence of available alternatives to fossil fuels for essential industries like the maritime sector, complicates efforts to adopt renewables.[112] While national and sectoral energy transition strategies exist, they often do not translate into a conducive operating environment for businesses to implement renewable initiatives. This is partly due to insufficient collaboration between businesses and the public sector on the articulation of national strategies, resulting in a misalignment of policy objectives and abilities of the private sector to act.[113]

ANGOLA: THE ENERGY TRANSITION ENABLERS

FACILITATE ACCESS TO FINANCING FOR RENEWABLE ENERGY PROJECTS

Innovate to unlock additional transition support. The public sector could leverage innovative financing mechanisms to unleash domestic and foreign private sector investment in renewable energy projects. While the sovereign wealth fund of Angola currently supports renewable energy projects, the Government could consider sustainable finance standards for national banks, expanded blended finance programmes and public-private partnerships to unlock additional funding for private sector action.[114] Similarly, targeted tax treatments such as performance-based tax credits for companies could drive renewable energy investments. Finally, Government purchasing power could drive demand and support market creation for renewable energy through green procurement policies. Short-term work to drive these investments might begin with developing a taxonomy for green or sustainable finance, providing clear guidance for financial sector investments in the energy transition. Enhanced grant and blended finance programmes for renewable energy projects could be developed over the medium-term. The Government could also consider how it might derisk energy transition investments through its role as purchaser (increasing demand) and finance partner ("first loss" or "last out" provisions in partnership agreements and blended finance programmes).

ADDRESS INFRASTRUCTURE AND AFFORDABILITY TO DRIVE DEMAND FOR RENEWABLE ENERGY

Expanded infrastructure means increased demand. Supply side measures are only one side of the equation. Angola could consider expanding its grid infrastructure in the medium-term by unleashing the power of the private sector to deploy renewable energy micro-grids through public-private partnerships, performance-based tax credits and financial incentives including innovation challenges.[115] A "capillarization" approach could be considered where regional power hubs are first established and connectivity to more remote communities is pursued over time. New grid infrastructure could be centered around government services, schools and hospitals to ensure they are the first to benefit from increased energy access.

Support a reliable customer base. With infrastructure in place, Angola could also consider affordability issues. Subsidies paid directly to rural and remote residents are unlikely to be effective among the unbanked, which in 2021 constituted fully 50 percent of the population. Consideration, therefore, could be given to subsidizing the cost of electricity for poor households through national electricity distributor Empresa Nacional de Distribuição de Electricidade (ENDE) and other providers.[116] Innovative community-based billing, supported by national financing, could also be considered for regions with high poverty rates or involvement in the informal economy. In the long-term, partnerships with regional partners, the African Union and UN Agencies could also be explored to harness renewable energy potential and export it beyond national borders.

COMMUNICATE CLEARLY WITH THE PRIVATE SECTOR ON ENERGY PRIORITIES

Further define timelines and the path of travel. Policymakers could guide private sector action in renewable development and grid expansion by sending clear signals on energy priorities and prioritizing energy production for domestic distribution over export projects.[117] Communicating clear timelines for the phase out of subsidies in the domestic fossil fuel market and any forthcoming shift towards favourable policies for clean fuel production will diminish uncertainty over market dynamics for businesses considering engaging in the green energy sector. As a near-term step, the Government of Angola could renew the Angola Energy 2025 strategy, with updated time-bound targets for grid expansion and growing the share of renewable energy in the grid. In doing so, the Government could apply an equity lens to determine clear strategies for reaching the country's traditionally marginalized communities.

ANGOLA: THE ENERGY TRANSITION ENABLERS (CONT.)

COLLABORATE WITH THE PRIVATE SECTOR TO COORDINATE ENERGY TRANSITION PLANNING

Enhance engagement and governance. Direct collaboration between policymakers and the businesses responsible for implementing energy transition initiatives will accelerate the execution of the country's transition strategies. As part of the work to update the Angola Energy 2025 strategy, the Government could engage private sector energy providers to redefine, as required, roles and responsibilities in the Angolan power sector. Likewise, as the Government seeks to execute on its revised nationally determined contribution (NDC) strategy, it could collaborate with the private sector on tactical actions to meet goals and targets.[118] This can be done by establishing a forum where the public sector can hear from private sector actors of all sizes on the operational challenges they face in supporting a national energy transition.

Gather and share critical information. Similarly, mapping where energy demand currently exists and where it will grow in the future through data gathering and development planning supports the renewal of the Angolan national energy strategy as well as supportive business investments.[119] Given the geographic complexity of Angola, sharing information on the feasibility of certain renewable energy sources in specific geographies, for instance how different locations are best suited to solar, wind or hydro-electric generation, and overall geographic conditions can better inform private sector investment and endeavor.

LEAVE NO ONE BEHIND: DECENT WORK AND SOCIAL PROTECTION

Amidst rapid population growth and a focus on economic diversification, Angola has made significant strides to expand access to decent work and social protection. In addition to the country's core social protection policy, 2004's Basic Law on Social Protection, recent efforts have been made to leverage digital tools to centralize access to government services, notably the 2019 launch of the Portal for Electronic Public Services.[120] The National Development Plan 2023–2027 of Angola introduces programmes including the modernization and expansion of the country's education system and the promotion of innovation, entrepreneurship and technological education.[121]

The rapidly growing population of Angola presents both obstacles and opportunities for sustainable development. Recent expansion of the country's workforce highlights the importance of a commensurate expansion of job opportunities, as the unemployment rate ticked up to 30 percent between 2018–2022 despite the creation of 2 million jobs.[122] As of 2022, coverage of all basic social protection programmes in Angola was limited to less than 1 million beneficiaries, or 5 percent of the country's poor population.[123] This is partly driven by the vast informal economy, representing 79.2 percent of the economically active population and 87.8 percent of economically active women, which significantly limits the reach of employment-based social protection schemes.[124]

Transitioning to a digital and green economy could accelerate the country's economic diversification and tackle existing issues. However, the private sector still grapples with challenges such as workforce skills, technical capacity and a reliance on foreign labour. Providing access to adequate education and training in digital and green energy skills can enable Angola to capitalize on its coming demographic dividend to bolster economic growth and sustainable private sector dynamism. As Angola charts new paths for its economy, the private sector will be an essential partner in ensuring that access to decent work and social protection expand alongside economic diversification and growth.



ANGOLA: DECENT WORK AND SOCIAL PROTECTION CHALLENGES

Lack of access to standardized training available in multiple languages leads to inconsistent skillsets. Portuguese is the official language of Angola, but the country has 38 living languages.[125] School is taught in Portuguese, but insufficient proficiency of teachers and students in the language leads to learning inefficiencies throughout the education system.[126] Similar problems persist for adult education, as a lack of multilingual training materials complicates efforts to provide consistent skills across the population and hinders human capital development.

Significant skill gaps and difficulties retaining talent lead to the import of skilled foreign labour. The Human Capital Index score of Angola was 0.46 in 2022, lower than the Middle African average of 0.49, and ranks 158th out of 204 countries and territories in the United Nations Development Programme's Human Development Index.[127] Lower scores in human capital and limited skill development stem from inconsistent access to quality education and hands-on time with new technologies. In the past several years there has been an increase of highly skilled Angolans emigrating from the country, mainly because of socio-economic challenges. Very often, businesses import technically skilled foreign labour, which deprives Angolan residents of opportunities to further job skills in technical industries essential to the energy and digital transitions.[128]

Lack of internal capacity across industries leads to the import of products and a lack of on-the-job skill development. Angola imports a significant portion of its finished products from abroad, including almost half of its food and around 80 percent of its demand for refined petroleum products.[129] This is despite the country's economic dependence on fossil fuel production and the reliance of the population on subsistence farming. The lack of Angola's domestic capacity to produce finished goods is both a symptom and underlying cause of the shortage of skilled workers. This shortfall in technical expertise results in the outsourcing of production, thereby denying Angolan workers of experience gained in the manufacturing process.[130] This cycle poses roadblocks to private sector growth, digitalization and the ability of businesses to provide decent jobs to Angolans.

Lack of clear regulation detailing inclusive transition creates uncertainty. Without a clear framework steering the private sector toward an inclusive energy transition, businesses remain uncertain on the most effective actions to take.[131] There is also a gap in sustainability-focused regulation, such as extended producer responsibility, and assistance for technicians working in green professions.[132] The absence of clear guidelines and protections for local communities results in misalignment between the objectives of the public sector and private sector action.

Prevalence of informal employment reduces spread of social protections. The size of the informal economy, at around 80 percent of the working population, limits the impact of the country's employment-tied social protection schemes. Workers and businesses may struggle to transition into the formal economy, leaving many of these workers vulnerable and without a safety net.

ANGOLA: DECENT WORK AND SOCIAL PROTECTION ENABLERS

FOCUS ON LITERACY, MATH AND EDUCATIONAL ACHIEVEMENT

Increase educational rates. Increased focus on educational infrastructure could move residents out of multidimensional poverty through decent work and social protections. Investing in schools, teacher training and educational accessibility — particularly for women and girls and rural and remote residents — could increase educational levels and open new opportunities for employment. Supporting families with educational grants is one means to ensure youth do not leave school early to participate in the informal economy. The Government's current vocational support could additionally be supplemented with expanded national post-secondary scholarship programmes and greater awareness programmes. Also for consideration is targeted support, including outreach and awareness campaigns and scholarships, to address the barriers faced by women and girls and rural and remote residents as well as added support for students enrolled in programmes linked to high-priority future economic sectors.[133]

EMPHASIZE LOCAL CONTENT DEVELOPMENT AND DIGITAL SKILLS FOR TRAINING ADULTS AND YOUTH

Enable new skill development. For residents with a strong basic educational foundation, the development of the country's human capital could include expanding the NGOLA DIGITAL model from school-based programmes to community-based programmes.[134] As ICT infrastructure is expanded, this could be coupled with the establishment of internet-enabled digital skills centers in rural areas to provide training and access to digital resources for underserved communities. In both cases, the Government could establish an accreditation programme to formally recognize the skills learned in rural and urban skills centers. Empowering the Ministry of Education to produce local-language digital skills curriculum for workers, particularly those in the informal economy, can empower them to seek access to digital technologies and jobs. Support for non-formal technical and vocational education and training providers, such as community learning centers, can likewise accelerate new skill development.

INCREASE FORMAL EMPLOYMENT

Establish minimum standards. Establishing fixed compensation rates and standards for benefits packages in the form of a living wage and national unemployment insurance benefits, including retraining benefits, could draw residents into formal work.[135] Supporting employee mobility, through relocation support, for example, could similarly bring workers into formal employment.[136] Collaboration with businesses to target training and job placement in priority areas could also allow Angola to benefit from its demographic dividend and lower the costs inherent to importing foreign labour and expertise.

CREATE AN ENVIRONMENT CONDUCIVE TO STARTING NEW BUSINESSES

Foster innovation. A national innovation strategy focused on tax treatment, concessional finance and building a national innovation ecosystem — with a strong mentorship component — could be a medium-term focus for Angola. Public sector support for startups through micro-finance, preferential public procurement policies and financial support for trade events can help Angola establish new jobs and build capacity among young professionals.[137]

ANGOLA DECENT WORK AND SOCIAL PROTECTION ENABLERS (CONT.)

ENFORCE POLICIES MANDATING LOCAL LABOUR FOR FOREIGN INFRASTRUCTURE PROJECTS

Link foreign investment and local labour skills. Building on the "Angolanization Principle," which mandates 70 percent of those hired at companies of more than five employees must be Angolan citizens, the public sector could consider additional requirements for companies to actively train Angolan workers for work in emerging sectors.[138] The Government could be an active participant in this requirement by sharing training and retraining costs to ensure that Angolan residents benefit from foreign investment in the Angolan economy. Enhanced support could be considered for companies whose training efforts expand local skillsets relevant to priority transitions, such as digital or renewable energy infrastructure projects.



ANGOLA POLICY ENABLERS PRIORITIZATION MATRIX[139]

Priority private sector challenges and corresponding policy enablers have been identified to accelerate SDG progress in Angola now, in the mid-term, and in the long-term. The table below summarizes public policy enablers across these time frames for the SDG-aligned transitions studied in this report. These enablers align with the short and medium-term development priorities in Angola of expanding internet access and improving digital literacy, increasing the share of renewable energy sources and developing human capital.

Prioritized policies are directional and non-exhaustive. Actual implementation and timeline will depend on country context.

TOPIC	SHORT-TERM ENABLERS NOW – 2025	MED-TERM ENABLERS NEXT – 2030	LONG-TERM ENABLERS FUTURE – 2050
DIGITALIZATION	**SIGNALS:** Review national policies and programmes for rural broadband, electrification and workforce development with objective of developing an integrated plan and investment case covering all three transitions	**PLANNING & PROGRAMMES** Negotiate quick solutions (e.g., satellite broadband coverage) and pair with open innovation challenges for ISPs focused on solutions for rural communities	**PLANNING & PROGRAMMES** Invest in integrated community-based infrastructure programmes (e.g., pairing rural electrification efforts with internet coverage) to ensure widespread digital access
ENERGY TRANSITION	**SIGNALS** Renew the Angola Energy 2025 strategy, with updated time-bound targets for grid expansion and increase in renewable energy share	**FINANCE & DERISKING** Incentivize grid expansion (e.g., RE enabled micro-grids) through risk-based regulatory fast-lanes as well as production tax incentives and subsidies financed by phasing out subsidies for legacy industries	**FINANCE & DERISKING** Enhance access to financing through carbon pricing, public procurement provisions, public-private partnerships, blended finance programmes and FDI provisions
DECENT WORK AND SOCIAL PROTECTION	**FINANCE & DERISKING** Target immediate investments in education, teacher training and community-based adult learning to increase literacy and numeracy rates.	**PLANNING & PROGRAMMES** Review national employment standards including compensation rates and benefits packages. Scale relevant training programmes like NGOLA Digital into community-based programmes for wider impact	**PLANNING & PROGRAMMES** Implement life-long learning programmes for all residents and strengthen supports through unemployment insurance programmes with (re) training benefits



BRAZIL

OVERVIEW

Brazil is a regional and global economic power, a leader in digitalization strategy and ranks among worldwide leaders in the energy transition. It has made substantial progress in the three transitions analyzed here: digitalization, energy transition and decent work and social protection.

The real GDP of Brazil grew 2.9 percent in 2023, driven by private consumption and supported by a strong labour market and fiscal stimulus.[140] Economic growth over the past two decades has been driven primarily by agriculture, which has grown by nearly 97 percent since 2000 and established the country's position as the world's third-largest agricultural and food exporter.[141] Micro and small enterprises (MSEs) form an essential part of the Brazilian economy, accounting for 94 percent of all legally constituted companies as of 2023.[142] In terms of business competitiveness, Brazil scored 43.77 on IMD Business School's World Competitiveness Index in 2024, which assesses the capacity of nations to create and maintain an environment conducive to enterprise competitiveness, taking into account factors such as Government efficiency alongside business and economic performance.[143] This score placed Brazil 62nd of the 67 countries analyzed, indicating there is opportunity for public policy to facilitate an improved competitive environment.

According to its most recent National Development Plan for 2024–2027, the country's SDG priorities are focused on recovery from COVID-19, sustainable environmental development and global governance reform.[144] Additionally, the country's most recent United Nations Sustainable Development Cooperation Framework (UNSDCF) focuses their upcoming interventions around five axes: economic transformation, social inclusion, environment and climate change, governance and institutional capacity, and the relation between humanitarian and sustainable development actions.[145] To meet the SDG targets, however, work remains to be done and is complicated by an economic context characterized by strained government budgets and high inflation in the post-pandemic recovery period.

The country and policy governance frameworks of Brazil are evolving to support digital transformation, which can benefit more than two-thirds of the SDG targets.[146] However, despite being a regional leader in digital innovation, Brazil grapples with issues such as regulatory complexity and infrastructure disparities. Expanding quality broadband to rural and remote areas also remains a significant challenge.[147] The UNSDCF defines digital transformation as a critical output of economic transformation, but it remains one of the most difficult to facilitate.[148] It is vital that innovative technologies develop within a framework of sustainability that applies to global production chains and addresses digital asymmetries.[149]

Meanwhile, as digitalization accelerates, Brazil has made significant progress in transitioning to affordable and clean energy (SDG 7), with 49 percent of its energy matrix now comprised of renewable sources. PROINFA, short for Programa de Incentivo às Fontes Alternativas de Energia Elétrica, is a Government programme whose primary goal is to promote the use of alternative energy sources, such as wind, small-scale hydropower and biomass, to diversify the country's energy mix and reduce greenhouse gas emissions. By the end of 2011, PROINFA had successfully implemented 119 projects, including 41 wind farms, 59 small hydropower plants and 19 biomass plants.[150]

The nation's natural endowments and access to natural resources and renewables position Brazil to grow in GDP as the world shifts to low-carbon economic sectors and markets. According to the World Economic Forum's Energy Transition Index, Brazil ranks twelfth in the world, accounting for a degree of factors such as regulation and political commitment, infrastructure and finance and investments.[151] However, one of the main hurdles in the energy transition is the need for substantial investment to reduce private sector emissions. According to insights from a recent United Nations agency roundtable hosted by the Global Compact Brazil, 58 percent of companies are responsible for 80 percent of greenhouse gas (GHG) emissions in Brazil.[152] An estimated USD 200 billion is required by 2030 to achieve Brazil's climate transition goals and more effort is needed to provide a stable policy environment backed by ambitious targets to accelerate the transition.[153]

Despite declining poverty rates, Brazil still struggles with overcoming income inequality (SDG 1 and 10). In 2022, the country had a Gini coefficient[154] of 52, almost double the long-term objective of the indicator.[155] The persistence of

OVERVIEW (CONT.)

racial and gender discrimination poses systemic barriers that limit the ability of marginalized groups to break the cycle of inter-generational poverty.[156] As such, the impact of climate change will be concentrated in the poorest regions of country, like the North and the Northeast, where populations have lower incomes, education levels and generally poorer housing.[157] Thus, it will be crucial to center climate policy around its impact on people and communities, especially those that have been historically underserved.[158]

Deforestation continues, despite recent commitments to end and reverse it by 2030, intensifying the nation's climate risks. The proportion of land area covered by forest declined from 66 percent in 2000 to 60 percent in 2020.[159] Decreased forest cover increases local heat, increases flooding risk and eliminates the protective effects that forests have on extreme weather events. These risks are especially acute in the Amazon Basin, which supports hydropower, clean water and air and various national industries. In Brazil, the effects of deforestation manifest across various systems, including public health, the energy sector, the wider economy and livelihoods.

In response to these challenges, the Brazilian Government has developed policies prioritizing sustainable economic growth, social equity and environmental protection. Luz para Todos (Light for All) is a Government programme launched in 2003 with the goal of providing electricity to rural and remote areas and has connected millions of people to the power grid.[160] This programme remains active in regions of Brazil where there is still a need for universal access to energy, particularly in remote rural areas. The Nova Indústria Brazil policy aims to stimulate technological innovation and sustainable practices by investing in digitalization, energy transition, and infrastructure, promoting public-private collaboration, and enhancing global competitiveness.[161]

Meanwhile, the Framework for Business and Human Rights, currently under discussion in Congress, establishes a comprehensive legal framework to hold companies accountable for human rights violations, supporting a just transition.[162] The Bolsa Familia Programme — which transfers cash to families in exchange for a commitment to send children to school and be vaccine compliant — has been widely successful in providing social protection as the country develops, helping to protect over 19.7 million people from poverty.[163]

Furthermore, Brazil has set ambitious climate targets, committing to reduce its greenhouse gas emissions by 53.1 percent by 2030 from 2005 levels and achieve net-zero emissions by 2050 in its most recent nationally determined contributions (NDCs).[164] The Government has also highlighted protecting the Amazon rainforest from deforestation as a key priority, setting a target of zero deforestation by 2030.[165] The country's most recent UNSDCF highlights governance, social participation, promotion of gender, racial, ethnic and age equality, and the need to implement evidence-based policies as key tenets that will define future policies.[166]

By further capitalizing on opportunities for collaboration among the Government, private sector and civil society, Brazil can accelerate its path to a more sustainable and equitable future, setting a global example for integrated development.

Note: Country Reports reflect the perspectives of business leaders interviewed and are not intended as a comprehensive review of public policy in any of the countries studied. Where inaccuracies exist or sentiments and solutions do not reflect the current state of public policy, the authors respectfully suggest that the lack of awareness among business leaders itself constitutes a challenge and propose – in those cases – that Government awareness and promotional campaigns be launched to align private sector perspectives with public sector action.

BRAZIL NEAR-TERM POLICY ENABLERS

The table below details immediate actions that the Government of Brazil could take to address the challenges identified by business leaders during primary research. Additional medium and long-term policy enablers are presented at the end of the country report.

	TOP PRIVATE SECTOR CHALLENGE	NEAR-TERM PUBLIC POLICY ENABLER (NON-EXHAUSTIVE)	ANTICIPATED PRIVATE SECTOR RESPONSE
BRAZIL — DIGITALIZATION	Limited broadband and mobile penetration; access gap for MSMEs	Revise digital strategies with an innovation challenge focused on quick-win last-mile rural and remote access	Increased investment, talent, innovation and MSME creation
BRAZIL — ENERGY TRANSITION	Financial and economic obstacles hinder private sector investment, particularly among MSMEs	Review financial incentives for business investments in renewable energy projects and launch a public information campaign around new Industrial Policy to drive awareness and uptake by potential investors	Increased investment and expanded renewable energy sector
BRAZIL — DECENT WORK AND SOCIAL PROTECTION	Ill-defined 'just transition' and unclear social protection responsibilities in face of rapid technological change	Review and revise, as necessary, national just transition guidance as well as social protection policies for digital workers, including 'gig workers'	Improved conditions for workers affected during transitions and those entering emerging sectors



CONNECTED SOCIETIES: DIGITALIZATION

Digitalization is steadily advancing in Brazil, spurred by both governmental initiatives and private sector investments. The Brazilian Digital Transformation Strategy, launched in 2018, focuses on easing the regulatory burden in the telecommunications market through collaboration initiatives across various sectors, with an emphasis on artificial intelligence and the Internet of Things (IoT).[167] The National Internet of Things Plan aims to position Brazil as a leader in this space within five years, leveraging IoT within four core verticals expected to benefit from IoT applications: smart cities, healthcare, agribusiness and manufacturing. Additionally, Brazil is stepping up support for the diffusion of digital technologies across the economy, with the Brazilian Economic Development Bank and the Brazilian Agency for Innovation and Research increasingly supporting investments in digital technologies.

However, businesses still face hurdles in their efforts to advance digitalization. Inadequate infrastructure results in limited and uneven internet connectivity, hampering the adoption of digital technologies, especially in rural areas. Regulatory and bureaucratic hurdles add complexity, further slowing innovation and the implementation of new technologies. Additionally, financial constraints impede progress, as many companies struggle with the high costs associated with digital transformation. As digitalization advances, it has the potential to create a complex new set of challenges, including exacerbating inequalities that negatively impact vulnerable populations.[168]

Public policy plays a pivotal role in overcoming these challenges. By investing in expanded digital infrastructure, the Government can ensure broader and more reliable internet access across urban and rural areas, leveling the playing field between large companies and MSMEs and extending access to rural residents. Streamlining regulatory frameworks and reducing bureaucratic red tape can foster a more conducive environment for innovation and encourage swift adoption of new technologies. Financial enablement, including subsidies and tax breaks for tech investments, can help alleviate the financial burden companies face undertaking digital transformation. As Brazil advances in its digitalization journey, it is imperative for the public sector to implement measures that enable the private sector to play a more active role in this transition.



BRAZIL: DIGITALIZATION CHALLENGES

Limited penetration of fixed and mobile broadband restricts access to digital tools and services. Broadband penetration in Brazil, at just 16 percent in 2022 compared to the Organization for Economic Cooperation and Development (OECD) average of 35 percent, hampers digitalization in the private sector. Brazil has the potential for USD 9.5 billion in broadband Internet infrastructure investments to expand penetration, which could trigger GDP growth of 2.4 percent.[169] Despite this, expanding quality broadband to rural and remote areas remains a significant challenge. This limitation is particularly problematic for the agricultural sector and MSMEs.[170] Furthermore, low broadband penetration makes it less attractive for investors aiming to reach a large consumer base, thus affecting the private sector's ability to attract funding for expansion and modernization, exacerbating the investment gap.

Lack of cybersecurity is causing digital fragility and vulnerability.[171] Brazil ranks 70th in the International Telecommunication Union's cybersecurity index and is the second-most impacted nation affected by global ransomware attacks, indicating significant digital vulnerability.[172] Despite 55 percent of Brazilian companies depending on technology in their operations, 44 percent lack contingency plans or budgets to combat digital security incidents, leaving them vulnerable to severe downtime from technology-related problems.[173] MSMEs particularly struggle to update data protection systems generally designed for large companies. This low cybersecurity negatively impacts Brazilian companies attempting to advance digitalization by increasing the risk of cyberattacks, eroding trust in digital systems and potentially leading to financial losses and reputational damage.

There is a digital connectivity gap between MSMEs and large enterprises.[174] Micro-enterprises, which constitute most firms in Brazil, have lower internet connections (88 percent) and computer use (89 percent) compared to enterprises with ten or more employees (both 97 percent).[175] Large corporations often have access to advanced digital infrastructure, sophisticated software and robust cybersecurity measures, while MSMEs frequently struggle with limited access to high-speed internet and digital tools. The digital connectivity gap between MSMEs and large enterprises in Brazil exacerbates the productivity gap, limits innovation and export capabilities, and leaves MSMEs struggling to achieve competitive growth.

High adoption costs for new technologies present a barrier for investment. Although advanced manufacturing and IoT are key strategic objectives for the Brazilian Government, the proportion of Brazilian manufacturing firms utilizing Industry 4.0 technologies like IoT and automation remains below the OECD average.[176] System integration companies play the role of intermediators between emerging technologies and enterprises, but because there are a limited number of companies operating in this space, they mainly serve large companies with more purchasing power. The cost barrier to adopting new digital solutions inhibits private sector innovation in developing sustainable products and services.

A lack of digitally-proficient talent limits innovation and productivity.[177] Brazilian employers report difficulties in recruiting technicians, skilled trades, engineers and ICT professionals, with ICT professionals representing the second largest shortage.[178] This digital skills gap reflects a broader challenge in bridging the technology proficiency needed for modern business operations, creating a digital divide where low skills prevent internet users and workers from using digital technologies effectively. This lack of skills contributes to Brazil's low productivity levels and constrains the private sector's capacity for innovation, leading to reduced competitiveness and missed opportunities in the digital economy.

BRAZIL: DIGITALIZATION ENABLERS

EXPAND INFRASTRUCTURE DEVELOPMENT TO INCREASE BROADBAND COVERAGE AND CLOSE THE DIGITAL CONNECTIVITY GAP

Set clear targets and goals. Short-term policy enablers could include reviewing national policies and programmes to ensure the inclusion of current specific, prioritized targets and timelines for rural connectivity as well as plans to publicly report against these targets on an annual basis. In the mid-term, concrete targets and public reporting could be paired with an open innovation challenge for internet service providers focused on innovations for rural and remote connectivity including, but not limited to, backhauling, fixed wireless access and TV white space, for example. The Government could drive rural connectivity by offering streamlined regulations, expanded spectrum allocation and performance-based rewards as part of the innovation challenge.[179]

Leverage subsidies and existing government infrastructure. The Government could consider subsidies for rural residents to ensure the affordability of high-speed packages while maintaining market dynamics and consumer choice. Over a longer-term horizon, the Government of Brazil could focus on more hardware intensive measures in its ICT policies, including the use of existing energy transmission infrastructure as well as government buildings, hospitals, schools and other public infrastructure to expand broadband coverage in rural areas.

FOSTER DIGITAL SECURITY TO MITIGATE CYBERSECURITY RISK[180]

Establish a national data protection authority. The recently introduced National Cyber Security Policy is an important refresh of its approach to cybercrime. Notwithstanding an important governance framework, principles and a commitment to public-private cooperation, the Strategy lacks a national data protection authority within the established framework. Given the importance of personal data in security breaches and the risks to which it exposes business and consumers Brazil could consider establishing a data protection authority, staffed by technical experts in personal data security. Over the longer term, the Government could consider including a right to digital security in the National Human Rights Policy.[181]

LOWER THE COST OF DIGITAL TRANSFORMATION TO ENCOURAGE INVESTMENT IN NEW TECHNOLOGIES

Offer financial support for digital transformation. The updated national industrial policy will drive innovation and lower its associated costs throughout the country. Significant investment has been allocated to the policy, in order to achieve the goal of digitalizing 90 percent of Brazilian industry and to triple the share of nationally produced new technologies. In addition to the newly announced funding, the Government could consider derisking investments in new technologies by partnering in ways that provide insurance for others' investments including "first loss" and "last exit" provisions in financial partnering agreements. Scalable tax credits for innovation and entry to new, critical markets (such as semi-conductors) to drive accelerated progress could be considered. The Government could also consider raising funds on behalf of industry through the creation of public bonds that directly support innovators in the Brazilian economy.

Develop a sustainable national procurement strategy. In addition to addressing the cost of digital transformation the Government could consider how its own purchasing power and supply chains can drive the development of a national innovation ecosystem through demand side measures including a Green and Digital First Government Procurement Strategy (building off its industrial policy preferential procurement measures) and enhancing linkages among its industrial priorities so that expanded and mechanized agriculture, for example, applies a digital-agriculture-first approach.

BRAZIL: DIGITALIZATION ENABLERS (CONT.)

SUPPORT TRAINING AND UPSKILLING TO CLOSE THE DIGITAL SKILLS GAP

Provide financial support for worker retraining. The next two decades will see the global economy reshaped in fundamental ways through digitalization and the energy transition, among others. Displaced workers will require retraining while emerging economic sectors and growing companies will compete for a skilled pool of talent. Creative destruction and innovation will continue this trend well into the future. To support current workers who wish to stay current in their fields, Brazil could consider annual training allowances for workers, funded through corporate taxes and supportive of workers through tax breaks and regulated leave of absence policies. The Government could provide additional incentives for training linked to skills in demand among priority industrial sectors, including ICT and innovation, and those required to function in a new work environment (digital health, for example). Displaced workers in economic sectors affected by the transitions described here (e.g., analog record-keeping or the oil and gas sector), could be supported with retraining allowances that replace income, cover fees and apprenticeships to foster opportunity at a time of potential hardship. The Government could expand educational accreditation standards to include formal recognition of skills acquired through online courses and on-the-job training.

Align curricula and scholarships with workforce development priorities. Continually reviewing and updating public school curricula and criteria for the National High School Exam to incorporate the latest digital skills and knowledge relevant to the future job market will help prepare future generations for the digital economy.[182] Increasing funding for scholarships in science, technology, engineering, the arts and mathematics (STEAM) fields could further incentivize equitable workforce development of digital skills. Workforce support could particularly focus on women, Indigenous populations and refugees.[183] It will be particularly important to embed provisions to teach immigrants and refugees Portuguese in these policies.[184]



GREEN ECONOMIES: THE ENERGY TRANSITION

Brazil ranks among the top countries on the sustainability of its energy system, largely due to its high share of renewables in the energy mix, which was 49 percent in 2023.[185] Investment in wind and solar power have surged in recent years, positioning the country's electricity sector as one of the least carbon-intensive in the world.[186]

The Government continues to implement policies to drive the energy transition, including establishing a new legal framework for low-carbon hydrogen and tightening rules to renew energy distribution concessions.[187] The country's distributed power-generation regulation has spurred significant investments in renewable energy.[188] The Auctions for Renewable Energy Support programme, launched in 2004, aims to stimulate new renewable energy projects through a competitive bidding process. These auctions have effectively lowered the cost of renewable energy in Brazil to be more competitive with traditional energy sources while also attracting substantial investment. In the A-4 energy auctions held in 2022, the Government allocated 188 MW for wind and 170 MW for solar, alongside biomass and hydro projects.[189]

Furthermore, the Ecological Transformation Plan aims to create green jobs, promote equitable development and reduce the environmental footprint of economic activities.[190] Brazil has also implemented net metering and the Energy Compensation System for Micro and Mini-Generation to encourage distributed solar generation, which now constitutes 14 percent of the installed capacity of the Brazilian Interconnected System.[191]

Additionally, the Brazilian Development Bank and the Ministry of Environment and Climate Change have signed a contract for up to USD 1.8 billion from the Climate Fund, to facilitate reimbursable financing for projects mitigating and adapting to climate change and its effects. The Fund will use part of the resources raised by the Ministry of Finance in November 2023, when it issued USD 2 billion in sustainable sovereign bonds on the international market.[192] Additionally, the new Growth Acceleration Programme, known as Novo PAC, leverages partnerships between the federal Government, private sector and municipalities to invest USD 200 billion across various sectors over the next four years, including energy.[193]

Brazil has become the largest producer of wind energy in Latin America and ranks among the top ten largest producers in the world.[194] The Programme of Incentives for Alternative Electricity Sources has established local manufacturing capacity for wind turbines and related components.[195]

In 2020, the national biofuels policy, RenovaBio, was introduced, setting transportation emission targets and using decarbonization credits to boost biofuel production and consumption. RenovaBio also promotes the development of advanced biofuels with lower emissions, contributing to Brazil's status as the world's second-largest biofuel producer.[196] As a consequence, foreign direct investment (FDI) continues to increase. For instance, the state of Ceará has partnered with Australian firm Enegix Energy to build the world's largest green hydrogen plant, with an investment of USD 5.4 billion.[197]

To address these challenges and maximize clean energy investments, the public sector in Brazil can implement innovative solutions and collaborative actions. Prioritizing an "efficiency first" policy would involve investing in energy efficiency upgrades for buildings and factories, alongside deploying smart metering technologies to manage demand effectively and encourage the development of network infrastructure for these areas. To meet financing needs, the Government can allocate substantial funding, utilize blended finance models, and foster public-private partnerships.

De-risking policies, such as leveraging Government purchasing power through a green government strategy committing to renewable energy procurement, can further incentivize private sector involvement. Incorporating "first loss" and "last out" provisions in infrastructure investments ensures that the Government aborbs initial losses and retrieve their investments only after project completion or sustained operational viability based on consumer demand. These efforts focus on upgrading and expanding the national grid, particularly in remote areas abundant in renewable energy potential. Streamlining regulatory frameworks and providing clear, stable policies will reduce uncertainty, fostering a conducive environment for long-term investments in grid modernization and resilience against climate impacts like droughts.



BRAZIL: THE ENERGY TRANSITION CHALLENGES

There are a lack of Government tax incentives for the development of emerging climate technologies. The tight fiscal balance in Brazil limits the Government's ability to provide robust financial incentives for new technologies that are not yet scaled, like sustainable fuels, storage and low-carbon hydrogen. Furthermore, existing incentives like tax breaks and grants are often insufficient or not effectively targeted towards smaller enterprises. Combined with the lack of a carbon market in Brazil, this hinders the ability of MSMEs to decarbonize their supply chains.

The World Economic Forum estimates that robust financing structures are needed to attract the approximately USD 200 billion required by 2030 for the climate transition.[198] Economic volatility due to geopolitics and other macroenvironmental conditions, including fluctuations in currency value and economic growth, creates an uncertain investment environment, increasing the perceived risk for private investors and making them more hesitant to commit to long-term clean energy projects. Additionally, there is no unified database that tracks SDG-related metrics like investment or economic impact.[199] This lack of financial support and high-risk perception results in slower progress and less capital being directed towards energy initiatives in emerging sectors, decelerating the private sector's efforts in contributing to the energy transition.

Regulatory bureaucracy and complex legal frameworks create mixed signals. In Brazil, the process of obtaining licenses and approvals for renewable energy projects is often lengthy and bureaucratic.[200] The complex regulatory framework, coupled with overlapping jurisdictional authorities, can lead to prolonged delays in project implementation. This not only increases the time and cost associated with renewable energy projects but also creates uncertainty for investors and developers, who may face unpredictable timelines and regulatory hurdles. For the private sector, these delays can hinder the scaling of renewable energy initiatives, slow down the deployment of new technologies and ultimately impact the overall pace of the country's energy transition.

Infrastructure and grid integration disparities hinder clean and renewable energy distribution, particularly to underserved areas.[201] In rural areas, inadequate grid infrastructure and the lack of robust transmission networks not only impede the reliable supply of clean energy but also exacerbate energy access issues, making it difficult for the private sector to develop and scale renewable projects. Additionally, these areas often lack the necessary infrastructure to support a stable clean fuel supply chain, crucial for the viability of clean energy solutions. Urban centers, on the other hand, grapple with infrastructure saturation, where outdated grid systems struggle to accommodate the increasing demand for electricity from renewable sources, further exacerbating transmission inefficiencies. The high costs and limited availability of electric charging infrastructure for trucks also complicate efforts to transition to cleaner transportation.[202] These transmission bottlenecks not only complicate the logistics of implementing clean energy projects but also increase costs and reduce the efficiency and reliability of energy distribution, particularly in remote and underserved regions.

Lack of global standards for biofuel production limit the growth of the Brazilian biofuel market. Biofuels have the potential to significantly reduce dependence on fossil fuels by providing a renewable, low-carbon alternative that can be integrated into existing energy systems with minimal infrastructure changes. Brazil, with its abundant natural resources, strong agricultural sector and expertise in renewable energy, is a global leader in biofuel development and is the second largest producer in the world, following the United States.[203] However, the World Energy Council notes that the absence of international specifications and standards for biofuels creates barriers to global trade and growth.[204] For example, European sustainability standards for biofuels are generally stricter than those in Brazil, imposing stringent GHG emissions savings and land-use requirements.[205] While Brazil has made significant strides in biofuel sustainability, its standards are often seen as less stringent, particularly in terms of certification and enforcement. This disparity can create challenges for Brazilian biofuel exports that must meet different standards to gain market access. Challenges of participating in the global supply chain are often exacerbated by the lack of free trade agreements in Brazil, which result in high direct and indirect costs of doing business in the country, often referred to as the "Custo Brazil" or the "Brazil Cost."[206]

Reliance on hydropower and climate variability leaves energy systems vulnerable to climate disruptions. Hydroelectric sources account for 12.1 percent of the 2023 energy matrix and approximately 60 percent of the electricity matrix.[207] However, while hydropower is a renewable and low-emission energy source, it is highly susceptible to climate variability. In Brazil, climate change has led to more frequent and severe droughts, which seasonally reduce water availability in reservoirs, potentially limiting hydroelectric power generation.[208] As water levels in reservoirs drop, the capacity for electricity generation diminishes, leading to potential energy shortages and increased operational risks for industries reliant on consistent power supply. This challenge is particularly pressing for the private sector, which must navigate the dual pressures of ensuring energy security and investing in alternative renewable sources that provide operational flexibility to mitigate the impacts of climate-induced variability.

Renewable energy intermittency leads to supply fluctuations. Wind and solar energy are inherently variable and intermittent, leading to supply fluctuations that pose significant challenges for the energy grid. The lack of adequate energy storage solutions intensifies these issues, hindering the reliable integration of these renewable sources. For instance, energy storage systems, such as batteries and pumped storage plants, are crucial for balancing the variability of wind and solar power, but their deployment in Brazil has been limited.[209] Without sufficient storage capacity, the grid must rely on fossil fuel backup energy during periods of low renewable generation and water scarcity. For the private sector, this challenge not only increases the complexity and hampers the expansion of other renewable energies in the grid but also raises concerns about system security and stability. Without a robust storage infrastructure, the full potential of wind and solar energy cannot be realized, undermining the private sector's ability to contribute effectively to the energy transition and meet growing demand in a sustainable manner.



BRAZIL: THE ENERGY TRANSITION ENABLERS

CREATE AN ENABLING FINANCIAL ENVIRONMENT TO MAKE CLEAN ENERGY PROJECTS FINANCIALLY VIABLE

Develop financial incentives for sustainability and disincentives for pollution. In the short-term, the Government could seize the opportunity presented by its new Industrial Policy, which aims to guide the country's development for the next 10 years, to review financial incentives for businesses investments in clean energy projects, including enhanced tax incentives and grants.[210] Additionally, the Government could consider a public information campaign for its new Industrial Policy to drive awareness and uptake by potential investors. Government purchasing power could drive demand for renewable or clean energy sources through mechanisms like power purchase agreements. If the Brazilian Greenhouse Gas Emissions Trading System (SBCE) is enacted, carbon pricing proceeds could be directed towards MSMEs, small-hold farmers and local communities to fund renewable energy and clean energy projects, fostering broader participation in Brazil's energy transition and further addressing the need to expand access to credit for small farmers and businesses.[211]

Leverage a confluence of enabling infrastructure, comprehensive legal frameworks and accessible financing to attract FDI. The Government could invest in infrastructure improvement to decrease operational costs for businesses, as well as position financial incentives to lower entry barriers and provide capital for business development. The Government could target its investment and developmental efforts toward special economic zones (SEZs), which can attract investors by offering a conducive and efficient business environment. Moreover, the Government could partner with the private sector to promote Brazil as a clean and green locale for business activity, enabling the private sector (including digital enterprises) to meet its climate commitments, as well as a producer of cleaner and greener products as a boost for exports in a context of carbon border adjustments and increasingly stringent climate reporting requirements abroad.

STRENGTHEN AND CLARIFY REGULATORY REQUIREMENTS TO HELP BUSINESSES NAVIGATE COMPLEX POLICY ENVIRONMENTS

Strengthen clean energy regulatory and compliance frameworks. Ensuring a clear regulatory environment aligned with the SDGs to reduce investment risks is crucial. Among the regulations to be considered, the Government could pass a bill that regulates the carbon market in Brazil, providing a structured framework for carbon trading to further support clean energy initiatives.[212] Additionally, expedited land regularization processes are essential to clarify property rights and reduce uncertainty for investments.[213] Requiring companies that emit more than 10,000 tCO2e to report in SIRENE Organizacionais (a Government initiative that enhances organizational transparency and sustainability by facilitating the voluntary reporting of GHG emissions inventories) can ensure transparency and accountability in emissions management, further supporting regulatory clarity and environmental governance.[214] Mandatory reporting requirements could be paired with a user-friendly online Government-operated platform to ease disclosure requirements.

Simplify the licensing process for clean energy projects. Streamlining regulatory procedures and reducing bureaucratic hurdles can significantly accelerate project development and attract investment in the renewable energy sector. This could involve consolidating multiple permits into a single application process, implementing fast-track approvals for projects that meet certain sustainability criteria and leveraging digital platforms to manage applications and track progress in real-time. Additionally, establishing clear guidelines and standardized requirements for different types of clean energy projects can reduce uncertainty and administrative burdens.

IMPROVE INFRASTRUCTURE TO MITIGATE LOGISTICAL CHALLENGES AND ENSURE EQUITABLE ACCESS TO RENEWABLE ENERGY

Invest in clean energy infrastructure. To tackle logistical challenges, mitigate the effect of intermittency and ensure equitable access to clean energy infrastructure in Brazil, the Government could consider prioritizing public and private investments in clean energy infrastructure, including electric vehicle charging stations, micro-grids for rural areas and a modernized smart grid.[215] Public lands, for example, could be used for charging stations. The Government could expand and add to existing renewable energy generation projects that successfully operate through a substation or a robust transmission point connected to a larger complex, which allows them to function effectively even in remote areas. The Government could manage increased electricity demand through grid modernization initiatives focused on reducing power loss and improved balancing capabilities through smart grid technologies. Efforts could also emphasize enhancing energy efficiency for buildings, farms and factories. According to a study launched by UN Global Compact Brazil, the Government could invest in four critical elements of the energy transition: battery electric vehicles, biomethane, renewable diesel and fuel cell vehicles.[216]

Finally, in the longer term, the Government could plan for and partner with the private sector to build an effective renewable energy and clean fuel distribution network through "capillarization," with a particular focus on equitable access for agricultural, remote or underserved communities.[217] Programmes that promote energy access in rural and underserved areas, including low-income energy assistance and energy efficiency programmes, are crucial for extending the benefits of the energy transition to all and garnering public support for clean energy projects.

ALIGN DOMESTIC AND GLOBAL STANDARDS AND CERTIFICATIONS FOR BIOFUELS

Engage in international collaboration on standards. The Government could engage in multilateral negotiations to develop and harmonize international biofuel standards. By leveraging its position as leader of the Group of 20 (G20) and working with international organizations such as the International Energy Agency (IEA) and the World Energy Council, Brazil can help shape global specifications that align with its production capabilities.

Enhance domestic standards on biofuel production. The Government could consider strengthening Brazil's biofuel certification and enforcement standards to align more closely with those of key international markets. Additionally, it could expand the RenovaBio programme to include mechanisms that facilitate the trading of CBios (decarbonization credits), which would allow biofuel production facilities outside of Brazil to become certified to provide decarbonization credits and incentivize global partnerships that enhance the export potential of Brazilian biofuels.

SUPPORT INNOVATION TO DIVERSIFY RENEWABLES AND IMPROVE RESILIENCY OF THE ENERGY MIX

Map climate risk and promote resilience across hydropower generation assets and key biofuel inputs. The Government could support the mapping of physical risks of climate change, including flood, drought and extreme rainfall, to renewable inputs including hydropower generation assets, soybean feedstock and sugarcane used in ethanol. Building on this mapping initiative, the Government could partner with the private sector to develop and implement innovative climate resilience programmes targeting high-risk energy inputs, such as water management and conservation systems or drought resistant crops to mitigate against the impact of drought on agricultural yield and water flows.[218]

BRAZIL: THE ENERGY TRANSITION ENABLERS

Derisk investments in new energy sources and storage solutions. The Government could leverage public-private partnerships, blended finance and tax incentives to derisk private sector investment in new biofuel feedstocks (including second-generation biofuel production from agricultural residues) diversified sources of renewable electricity generation (e.g., solar and wind) and energy storage solutions (e.g., pumped hydropower storage). This approach would not only increase the dynamism and diversity of the renewable energy sector but also reduce the country's dependency on hydropower and its vulnerability to intermittency.



LEAVE NO ONE BEHIND: DECENT WORK AND SOCIAL PROTECTION

Brazil has, in the last four decades, made significant advances in reducing poverty and inequality, including efforts to provide equitable and formal job opportunities. In 2022, the poverty headcount ratio at USD 2.15 per day fell for the third year in a row.[219] Landmark programmes including Bolsa Família, the General Social Security System and the Plano Brazil Sem Fome provide support to the population through programmes focused on basic social protection for most residents and combating hunger. Bolsa Família, for example, has helped to protect over 19.7 million people escape poverty by providing funds to the poorest 40 percent of the population to purchase food, school supplies and clothes.[220] The Government has also provided over USD 17 million in direct trust funds for Fundamental Principles and Rights at Work, including engagement with LGBTIQ+ and Afro-descendent marginalized populations and indigenous people.[221] Most recently, in November 2023, the Government established an interministerial working group to develop a proposal for a National Policy on Business and Human Rights, which aims to promote human rights in business and address human rights violations.[222]

Despite significant progress, the recent COVID-19 pandemic highlighted several constraints that prevent some segments of the population from benefiting from economic growth. For example, poverty rates remain significantly higher for Afro-descendent families, children, women and residents of the North and Northeast regions. Similarly, the skills and education of Brazilian children vary widely by municipality, race, gender and family income.[223] In 2021, the unemployment rates were 11.3 percent for white persons, 16.5 percent for Black persons and 16.2 for brown persons.[224]

The informal labour market has shrunk in the past decade but remains significant at 38.5 percent of the total employed population due to factors like economic instability, regulatory burdens associated with formalization and weak enforcement of labour laws. This creates low and unstable incomes for workers with limited professional qualifications and leads to challenges in the equitable distribution of social benefits.[225] Moreover, trends like demographic aging, climate change and new forms of work highlight the emerging needs of a workforce hopeful to share in Brazil's prosperity.

The private sector is met with several challenges as it seeks to contribute to decent work and social protection in Brazil. In the face of rapid technological change and the energy transition, digitalization is transforming Brazil's labour market. With the gig economy and remote work opportunities rising, updates in labour regulations and workplace training programmes are needed to ensure living wages and job security. The energy transition is creating new job opportunities that demand the reskilling of workers from traditional energy sectors for emerging roles in the green economy. Despite an interest in contributing to a just transition, businesses across the private sector are struggling to understand how to do so effectively.

To help mitigate these challenges, there is an opportunity for the public sector to provide regulatory, programmatic and financial support that enables businesses to become active participants in improving the skillset and job security of the Brazilian workforce. Specific policies might include updating educational curricula to meet private sector needs for digital skills, promoting science, technology, engineering, the arts and mathematics (STEAM) education for girls and women and supporting workforce training and reskilling through incentives and unemployment insurance for retraining periods. Clear and supportive public policy on workforce transitions can unleash the private sector as a force for positive social change.



BRAZIL: DECENT WORK AND SOCIAL PROTECTION CHALLENGES

Limited digital skills hinder the employability and productivity of the Brazilian workforce.[226] In the 2023 Network Readiness Index, one of Brazil's weakest indicators was ICT skills in the education system, where the country ranked 95th globally.[227] This is partly driven by a lack of access to ICT technology in some schools, with research by Nic.br indicating that only 58 percent of Brazilian schools have computers and network connectivity for student use and rural schools in particular lacking access to reliable educational technology.[228] Varying levels of technological familiarity among generations and widespread functional illiteracy prevent many workers from participating in the digital economy. Yet, businesses seek employees familiar with digital tools. Similarly, limited digital skillsets in the workforce mean that businesses cannot fully benefit from the enhanced productivity and growth potential of new technologies.

As Brazil transitions to a digital and green economy, workers will need to be reskilled for new jobs.[229] Reskilling will be needed for workers in low-skill, highly transactional jobs at risk of automation as well as those working in legacy industries like fossil fuels at high risk of disruption. As existing roles become obsolete, affected workers may need assistance transitioning to new jobs while remaining financially secure. Without support and access to effective retraining programmes, the private sector may be driven to replace rather than reskill as businesses seek out labour with digital and green skillsets.

A lack of guidance for a just energy transition in Brazil deters private sector action. Many private sector actors do not have visibility into the risks and opportunities that Brazil's energy transition presents for the workforce. Likewise, there is no consensus framework detailing how businesses can execute on key components of a just energy transition, such as how they can contribute to the creation of a bioeconomy in Brazil. Limited availability of hard data and evidence supporting the efficacy of certain workforce transition programmes over others creates additional hesitation.[230] Brazilian businesses are in the early stages of discussion on what actions they could take to support a just transition.

Balanced social protection policy is necessary in the face of rapid technological change. The absence of labour laws related to digitalization presents a challenge in ensuring fair working conditions, employee rights and equitable access to technology in increasingly digital and remote work environments. In considering new labour laws that balance the needs of both the workforce and consumers, it will be important for policies to bear in mind the implications of digital transformation on employment and consumer protection. Without clear and balanced guidance, the pace of technological change may introduce blind spots to private sector labour practices as certain public policy initiatives rapidly become antiquated.

Inconsistent distribution of critical infrastructure deters private sector investment in workforce development. In certain rural areas of Brazil, limited public infrastructure such as schools, hospitals and access to energy deters private sector investment. Access to infrastructure such as water systems illustrates this divide, with approximately 93.3 percent of urban populations served by public water systems compared to 30.8 percent of the population in rural areas. Brazilians are also leaving rural areas for cities at almost twice the global average, with the percentage of rural residents in the country declining by 34 percent in the last 22 years. A dearth of infrastructure and the shift of the population to urban areas leaves the private sector uncertain as to the viability of workforce investments and digitalization or renewable energy projects in rural areas.

BRAZIL: DECENT WORK AND SOCIAL PROTECTION ENABLERS

LEVERAGE THE EDUCATION SYSTEM TO BUILD IN-DEMAND SKILLS

Update educational curricula. Policy enablers could meet the private sector's need for digital skills by updating public school curriculum to include more hands-on time with critical and emerging digital technologies, such as artificial intelligence. Likewise, collaborating with the private sector to ensure that standardized testing, like the Exame Nacional do Ensino Médio, is relevant to the evolving job market, including emphasis on digital and renewable energy, can prepare the next generation of workers for gainful employment in the economy of the future.[231]

Promote the active participation of girls and women in STEAM subjects.[232] This could be done through inclusive curriculum highlighting the contributions of women and countering stereotypes, teacher training standards and the creation of extracurricular clubs or mentorship programmes in schools. These efforts have been shown to increase representation in the future workforce.

SUPPORT TRAINING AND RESKILLING FOR THE WORKFORCE

Incentivize academic innovation.[233] Public policy could address private sector needs related to workforce skills by establishing R&D incentives for Brazilian universities to encourage the development of new technologies and skills that create new job markets.

Provide support for worker retraining. The extension of unemployment insurance to cover time spent in re-training between jobs and direct payment to cover the fees associated with accredited courses could be used to incentivize adult re-education in priority economic areas, like the energy sector. Consideration could also be given to programmes that actively match newly retrained workers with jobs in related fields. Similarly, building platforms and programmes to share best practices, available resources and mentoring opportunities for adopting and implementing digital technologies among businesses can help drive a cultural transformation in support of digitalization across the private sector.

IMPLEMENT CLEAR GUIDANCE FOR AN INCLUSIVE AND JUST ENERGY TRANSITION

Define a just transition. Brazil could consider leveraging the insights generated during its current G20 Presidency, including Task Force 02 on Sustainable Climate Action and Inclusive Just Energy Transition, to update related policies and define the key dimensions of a "just" energy transition in Brazil. By defining a just transition, identifying affected industries, setting targets for both the energy transition and the impacted workforce and creating incentives for implementing best practices, businesses can be effectively guided in their actions.

LEVERAGE PUBLIC PURCHASING POWER

Align public procurement with just transition priorities. The Government could consider how to align public procurement policies with the energy and digital transitions, specifically with the goal of creating inclusive and just transitions by supporting affected and traditionally marginalized workers. For example, procurement policy could be revised to include diverse supplier criteria, requiring that contractors demonstrate how a defined percentage of public dollars flow to displaced workers, businesses owned by women, members of racialized or Indigenous communities.

BRAZIL: DIGITALIZATION ENABLERS (CONT.)

ENACT BALANCED GUIDELINES FOR WORKFORCE PROTECTION IN A DIGITAL ECONOMY

Adapt worker protection standards. The emergence of a digital economy is paralleled by the rise of gig workers, digital nomads and remote workers. The nature of their work, where it is performed and rapid technological change are challenging traditional employee and employer relationships and require new rules to ensure the continued availability of decent work. By collaborating on workforce protection with both the World Bank, which focuses on companies, and the ILO, which focuses on people, the public sector could adapt workforce policies to new realities, in ways that balance the needs of employers and labour. For example, the Government could build off the Partnership for Workers' Rights — a partnership with the United States focused on fair and inclusive employment standards in the digital economy — and its recently introduced bill on the rights of drivers working for ride-hailing apps by considering further reforms to unemployment insurance policies, broader social protections and labour relations including collective bargaining. Likewise, applying a human rights framework that considers local producers, rural communities and historically marginalized groups can ensure equal access to the economic benefits of a digital economy. Finally, expanding and revamping active labour market programmes can align skill development with worker history and private sector needs.[234]

BRAZIL POLICY ENABLERS PRIORITIZATION MATRIX[235]

Priority private sector challenges and corresponding policy enablers have been identified to accelerate SDG progress in Brazil now, in the mid-term, and in the long-term. The table below summarizes public policy enablers across these time frames for the SDG-aligned transitions studied in this report. These enablers align with the short and medium-term development priorities in Brazil of digital infrastructure development, furthering sustainable agriculture practices and investing in inclusive and green jobs.

Prioritized policies are directional and non-exhaustive. Actual implementation and timeline will depend on country context

TOPIC	SHORT-TERM ENABLERS NOW – 2025	MED-TERM ENABLERS NEXT – 2030	LONG-TERM ENABLERS FUTURE – 2050
DIGITALIZATION	**SIGNALS:** Review national policies and include specific, prioritized targets, timelines, and annual reporting mechanisms to connect rural communities	**PLANNING & PROGRAMMES:** Launch an open innovation challenge for rural connectivity	**REGULATORY COHERENCE:** Establish a data protection authority staffed by technical experts in personal data security
ENERGY TRANSITION	**SIGNALS:** Review financial incentives for private sector investments in renewable energy projects and R&D in energy storage technologies; launch a public information campaign around new Industrial Policy to drive awareness and uptake by potential investors	**FINANCE & DERISKING:** Enact legislation to regulate the carbon market in Brazil, expedite land regularization processes and simplify licensing requirements for clean energy projects	**PLANNING & PROGRAMMES:** Partner with the private sector to execute an infrastructure modernization plan that includes building out a renewable energy and clean fuel distribution network and deploying smart grids, targeting equitable access for remote and underserved communities
DECENT WORK AND SOCIAL PROTECTION	**PLANNING & PROGRAMMES:** Revise procurement policies to include diverse supplier requirements, requiring government contractors to demonstrate that a portion of public funding flows to marginalized workers and businesses	**PLANNING & PROGRAMMES:** Extend unemployment benefits to cover time spent in re-training and subsidize costs associated with accredited courses to equip the workforce with necessary skills	**PLANNING & PROGRAMMES:** Collaborate with the World Bank and ILO to enact balanced guidelines and apply a human rights framework for workforce protection in the digital economy. Expand ALMPs to align skill development with private sector needs



EGYPT

OVERVIEW

The macroeconomic landscape of Egypt is characterized by a diversified economy with significant contributions from sectors such as tourism, agriculture, manufacturing and services.[236] The country's GDP in current prices was USD 396 billion in 2023 (17 percent decrease from 2022 despite a global GDP increase) and USD 477 billion in 2022 (12 percent increase from 2021)[237]. The decrease in GDP in 2023 was driven by multiple factors, including the global economic slowdown, lingering effects of COVID-19 and the Russia-Ukraine war.[238] The private sector landscape is dominated by 2.5 million MSMEs, which represent 97 percent of entities and 75 percent of employment.[239]

The country has a current population of 113 million, which has increased steadily from 107 million in 2020.[240] GDP per capita has been growing in recent years, with an average growth rate of 1.8 percent since 2020.[241] The start of COVID-19 and its global impact on the supply chain sparked a challenging socioeconomic situation, as there was an outflow of foreign direct investments that caused fluctuations in the economy and uncertainty in the investment climate, making it difficult for businesses to thrive. The war in Ukraine also posed challenges, as the country was dependent on Russian and Ukrainian grain, which accounted for 80 percent of Egyptian wheat imports before the war.[242] Shortages drove inflation as high as 33.8 percent in 2023 (versus 13.8 percent in 2022), increasing fiscal pressure. Outflows of investment caused the Central Bank to devalue the exchange rate three times in 2022 and raise key interest rates several times throughout 2023.[243] The exchange rate is now 48 CBE to 1 USD, an increase of 208 percent since the beginning of 2022.[244]

Yet, Egypt has made great strides in its Sustainable Development Goals (SDGs) progress, advancing six spots in the global rankings with an SDG Index score of 69 percent, reflecting the country's dedicated efforts towards achieving the goals.[245] The country's United Nations Sustainable Development Cooperation Framework (UNSDCF) for 2023-2027 emphasized five primary development pillars: people, planet, prosperity, governance and women and girls.[246] Despite the challenges posed by the COVID-19 pandemic and other global issues, Egypt's economy is transitioning into acceleration mode, with growth rates expected to be 60 percent higher than the global average by 2024–2025.[247] However, the Sustainable Development Goals Report 2024 indicates that with just six years remaining until the 2030 deadline, Egypt, like many other nations, must accelerate action in critical areas such as climate change, peace and security, and reducing inequalities in support of the SDGs.

Digital transformation in Egypt is advancing rapidly. The country has seen a substantial increase in internet users, reaching 72 percent of the population compared to 47 percent in 2018.[248] This digital expansion is supported by the United Nations Development Programme (UNDP), which has partnered with the Ministry of Communications and Information Technology to implement the Digital Strategy 2022–2025, with a focus on creating inclusive local digital ecosystems.[249] However, in its digitalization journey, policies will need to address inequality, disruption of the labour market, insufficient national infrastructures and an unfavourable investment climate.[250]

Meanwhile, Egypt has also made significant progress on climate action. International financial flows in support of clean energy research and development of renewable energy production increased from USD 11 million in 2000 to USD 153 million in 2021.[251] In 2022, the Government launched its 2050 National Climate Change Strategy, which laid out national priorities and actions for strengthening mitigation and building climate resilience, shortly followed by the release of a revised nationally determined contributions (NDCs). The Nexus of Water, Food and Energy (NWFE) programme is an initiative launched in July 2022 to mobilize climate finance and private investments from multiple international financing institutions to implement the NDCs and National Climate Change Strategy.[252] Egypt Vision 2030 sets concrete targets to address climate change, such as reducing greenhouse gases by 10 percent from the energy sector by 2030 compared to 2016 levels.[253] However, achieving these targets is challenged by the need to balance rising energy demand for cooling due to increasing temperatures and urbanization, with the efficiency of power generation from natural gas, solar photovoltaics and wind, amidst a backdrop of climate change and variability in precipitation.[254]

OVERVIEW (CONT.)

Despite the recently challenging economic environment, unemployment has remained largely steady at 7.2 percent at the end of 2022.[255] However, official unemployment rates fail to fully capture labour market dynamics, given the large proportion of workers working in the informal economy (62.5 percent) or withdrawing from the formal labour market, especially women.[256] Against the backdrop of rapid inflation, the Government launched three packages of mitigation measures in 2022, aimed especially at increasing decent work and social protection for vulnerable populations. These included expansion of the Takaful and Karama programme, which provides cash transfers to vulnerable households, higher minimum wage for public sector workers and tax relief.[257] Additionally, the Hayah Karima programme is an initiative launched in 2019 that aims to improve the living conditions of people in rural areas by upgrading social, health, educational, economic and housing levels. The programme aims to benefit 1,500 villages, with the number of beneficiaries representing 20 percent of the overall Egyptian population.[258]

As Egypt digitalizes, accelerates its energy transition and supports decent work and social protection for all, the role of the Government will be critical in ensuring that public policy is in line with the SDGs while ensuring economic resilience.

Note: Country Reports reflect the perspectives of business leaders interviewed and are not intended as a comprehensive review of public policy in any of the countries studied. Where inaccuracies exist or sentiments and solutions do not reflect the current state of public policy, the authors respectfully suggest that the lack of awareness among business leaders itself constitutes a challenge and propose – in those cases – that Government awareness and promotional campaigns be launched to align private sector perspectives with public sector action.

EGYPT PRIORITY NEAR-TERM POLICY ENABLERS

The table below details immediate actions that the Government of Egypt could take to address the challenges identified by business leaders during primary research. Additional medium and long-term policy enablers are presented at the end of the country report.

		TOP PRIVATE SECTOR CHALLENGE	NEAR-TERM PUBLIC POLICY ENABLER (NON-EXHAUSTIVE)	ANTICIPATED PRIVATE SECTOR RESPONSE
EGYPT	DIGITALIZATION	Inadequate digital infrastructure in rural and remote communities limits investment and innovation	Review and update the eMisr Broadband Plan with clear targets and strategies to expand access and digital services to remote and underserved communities	Increased investment, innovation and rural and remote MSMEs
	ENERGY TRANSITION	Inadequate clean energy and fuel infrastructure; competition from fossil fuel industry	Develop an infrastructure plan for clean energy and fuel distribution, including EV and hydrogen stations paired with an innovation challenge	Increased investment, innovation and expanded clean energy and fuel sector
	DECENT WORK AND SOCIAL PROTECTION	Limited workforce skilled in transition areas; informal employment; gender gap in employment	Invest in community-based training for digital skills and green energy, including mentorship, targeting marginalized communities	Increased hiring of local workers and investment in skills training

CONNECTED SOCIETIES: DIGITALIZATION

The digital landscape in Egypt is rapidly evolving, propelled by both Government-led initiatives and private sector investments. The Government has made a significant push towards digitalization as part of the broader Egypt Vision 2030 strategy, which supports national SDG targets.[259] Remarkable progress in expanding internet penetration has occurred in recent years, notably through projects like "Digital Egypt," which aims to encourage the widespread adoption of digital technologies across sectors. An example of this progress is seen with the expansion of ICT infrastructure upgrades in 72 Hayah Karima villages and 48 public schools in 2022.[260] Additionally, the fintech sector has witnessed significant growth over the past few years, with the Egyptian fintech startup ecosystem expanding by more than five times in the past five years.[261] As a result of advances in digitalization, Government services have become more accessible to residents, simplifying interactions with Government agencies and opening new economic opportunities.

Despite this progress, several challenges continue to impede the country's full digital transformation. Inadequate digital infrastructure, particularly in rural and low-income areas, limits access to reliable and affordable connectivity. Complex regulatory and bureaucratic requirements create obstacles for digital businesses, slowing innovation and limiting investment. Additionally, there is a growing shortage of skilled personnel proficient in modern technologies, coupled with resistance to digital adoption among employees according to key private sector informants. The absence of comprehensive data privacy regulations and vulnerability to cyberthreats further hinder progress.

Addressing these challenges will be crucial to ensure that the country's digital transformation is inclusive, secure and beneficial for all. Clear, coherent and easy-to-understand regulatory processes presented on a comprehensive and user-friendly online platform and updated policies aligned with the current state of digitalization may create a more conducive environment for digital transformations. Continued investment in digital infrastructure, particularly in underserved areas, is key to ensuring equitable and inclusive access to the digital world. Enhancing digital literacy and skills through targeted education and training can help bridge the skill gap and foster a competent workforce. Providing robust data privacy and cybersecurity regulations can build trust and attract investments within the digital economy. By addressing these areas, Egypt can continue to propel its economy into the digital age and progress towards its sustainable development goals.

EGYPT: DIGITALIZATION CHALLENGES

Inadequate digital infrastructure presents significant barriers to private sector adoption of digital technologies in Egypt.[262] While digital infrastructure has seen recent improvements in some sectors like healthcare, significant gaps remain, particularly with broadband penetration in rural and low-income areas. Remote and underserved regions continue to face substantial disparities in infrastructure. As of 2022, fixed broadband subscriptions reached only 9.8 per 100 residents, underscoring the need for continued investment and development to support transformation.[263] This lack of reliable and affordable internet access, compounded with a lack of reliable power supply in certain areas, restricts many businesses from fully adopting and leveraging digital tools.

A shortage of skilled personnel and low digital literacy rates continues to impede digital transformation.[264] The successful digital transformation of Egypt is contingent on developing a skilled workforce capable of leveraging modern technologies. Currently, there is an insufficient pool of workers proficient in these skills, further coupled with a reported resistance to change among employees across the private sector. Low digital literacy rates continue to hinder the adoption of digital practices. Initiatives to provide digital tools to local schools and training for teachers demonstrate progress but still present challenges at scale.[265] Investing in comprehensive digital literacy and upskilling programmes and expanding educational initiatives like the Learning Passport are vital for building a digitally competent workforce.[266]

Cybersecurity threats and data privacy issues pose significant risks to digital transformation progress.[267] The growing threat of cyberattacks and data breaches, as noted by ransomware gang activity in the Middle East surging 77 percent year on year, coupled with a lack of awareness and trust in digital transactions among consumers and businesses, create a significant barrier to digital adoption.[268] This can discourage the use of digital tools across business operations and among would-be users, as more than 50 percent of cybercrimes are committed against MSMEs, which account for 97 percent of all enterprises active in Egypt.[269] Additionally, the absence of robust data privacy and protection regulations undermine consumer and business trust in digital services. This lack of trust, combined with cyberthreats, can discourage the adoption of digital technologies and impede the development of a thriving digital economy.

Complex regulations, bureaucratic procedures and a lack of clear guidelines create significant obstacles for digital businesses.[270] In Egypt, complex regulatory requirements pose challenges for digital businesses. Complex clearance requirements in customs delay the release of imported equipment which hampers businesses' ability to implement new products. Impediments like these slow innovation and growth of new technologies, creating an uncertain operating environment and delaying digital transformation.

High costs and financial constraints significantly hinder digital transformation efforts.[271] There are high initial investment costs required for new hardware, software and network infrastructure. Geopolitical impacts on supply chains have increased these costs due to limited availability of modern IT components. Inflation rates and devalued currency further increase the costs associated with digital transformations. Many Egyptian businesses, especially MSMEs, struggle to secure the necessary financing to invest in digital technologies and infrastructure, noted by 40 percent of small firms saying that access to finance was an obstacle to business activity. [272]This lack of access to capital can create a significant barrier to digital transformation, particularly for smaller firms.

EGYPT: DIGITALIZATION ENABLERS

EXPAND DIGITAL INFRASTRUCTURE NATIONWIDE

Provide a starting point. Building on the foundation of the eMisr National Broadband Plan launched in 2011, the Government could create a revised plan with clear targets and strategies for expanding internet access and improving reliability of digital services. The Government could also consider infrastructure planning that advances both the energy transition and digitalization in tandem, benefitting from the efficiencies that result from a single comprehensive infrastructure plan, especially in rural and remote communities. Expanding the foundation and solidifying a timeline for progress and accountability can establish a common vision for progress and build traction in the private sector for targeted development. Expanding programmes like the Hayah Karima initiative, which expanded broadband infrastructure to 72 villages, is a further step toward enhancing digital connectivity in underserved areas.[273]

Incentivize private sector investment. The Government could target rural and low-income areas with subsidies and tax breaks for infrastructure development projects and affordable internet packages. Focusing incentives on broadband penetration can help bring these regions reliable and affordable internet access. By reducing the upfront costs of digital infrastructure for these companies and building the customer base through supporting residents with affordable high-speed internet access, the Government could encourage continued expansion of digital infrastructure.[274]

STRENGTHEN DIGITAL SKILLS IN THE WORKFORCE

Implement comprehensive digital literacy programmes. The Government could launch public awareness campaigns to promote digital literacy among adults, emphasizing the importance of digital skills in today's job markets. It could update school curricula to include comprehensive ICT education for students across the country and continue to provide teachers with training and resources to support this change and effectively teach digital skills to solidify these programmes for years to come.[275] Additionally, developing community-based digital literacy programmes that offer certifications upon completion can provide recognized credentials to promote employable skills.

Support continuous professional development. In order to support digitalization, the private sector in Egypt needs a workforce with modern digital skills. The Government could introduce lifelong learning "passports" built around tax incentives for both workers and businesses that invest in digital skills training through accredited programmes. Doing so can incentivize both businesses and workers to invest in the skills needed in the rapidly evolving digital economy. Furthermore, it could encourage partnerships with educational institutions to develop tailored training programmes that meet specific economic needs, including sectors like clean energy and digital technology. Expanding access to online education to offer free or subsidized courses in specialized digital skills will make it easier for workers to upskill depending on workforce needs.

IMPROVE CYBERSECURITY AND DATA PRIVACY

Establish robust data privacy regulations. The Government could develop and enforce laws that set a clear framework for data handling, storage and sharing, as well as establish accountability controls for non-compliance to ensure businesses follow standards in place. It could establish responsibilities for overseeing data security within a relevant ministry or form a standalone agency to provide guidance, monitor compliance and respond to security concerns.[276] The responsible group could work closely with the private sector to ensure regulations are practical and effective.

EGYPT: DIGITALIZATION ENABLERS (CONT.)

Enhance public awareness of cybersecurity. The Government could consider implementing nationwide campaigns to educate businesses, particularly MSMEs, about cybersecurity best practices, Government regulations and programmes, as well as the importance of data protection by highlighting real-world examples and providing actionable advice. It could collaborate with educational institutions to offer training programmes and workshops to help individuals and businesses improve their understanding of cybersecurity threats and protective measures.

SIMPLIFY REGULATORY AND BUREAUCRATIC PROCESSES

Modernize regulatory requirements. The Government could update existing regulations to align with current digital needs, simplifying the process for businesses to adopt new technologies including a "single window" platform providing all relevant information about compliance and available public funding for data protection and cybersecurity.[277] This can help reduce the complexity of global companies operating within Egypt and for existing Egyptian businesses to comply with local regulations and reduce compliance burdens. The Government could also align regulations with economic diversification priorities and consider risk-based regulatory "fast lanes" for projects aligned with priority sectors, through expanding programmes like the National Structural Reform Programme.

Facilitate faster customs clearance. Implementing a streamlined, transparent system for customs clearance can reduce delays in importing digital equipment from abroad.[278] This can involve digitalizing the customs process and improving coordination between customs and other regulatory agencies to improve the clearance process and provide timely processing.

FACILITATE ACCESS TO FINANCING FOR DIGITAL TRANSFORMATION

Provide financial support and incentives. The Government could create low-interest loan and grant programmes to help businesses, especially MSMEs, invest in digital technologies.[279] These programmes can reduce the financial barriers to digital transformation. Additionally, tax credits for businesses that invest in digital innovation could encourage more companies to undertake these projects by sharing in the considerable upfront costs of digital transformations.

Encourage private sector investment. The Government could facilitate partnerships between the public and private sectors to co-invest in digital infrastructure projects.[280] This could leverage private sector expertise and resources while mitigating financial risk and volume of investment. The Government could establish dedicated funds to support these initiatives by pooling resources from both public and private sectors to provide comprehensive support to business. Likewise, the Government could partner with the private sector to approach financial institutions, pension funds, donors, multilateral development banks to present a well-documented investment case for digitalization that also incorporates the energy transition and decent work and social protection transition areas.

GREEN ECONOMIES: THE ENERGY TRANSITION

The Egyptian Government is actively pursuing a sustainable energy transition with a focus on increasing the share of renewable energy in the mix. With 100 percent electrification coverage throughout the country, the Government has set an ambitious target to source 40 percent of its electricity from renewable energy by 2035.[281] Historically, Egypt has heavily relied on fossil fuels, particularly natural gas, for both domestic consumption and export revenue. Recognizing the need to diversify its energy sources and reduce carbon emissions, Egypt has invested in large-scale solar projects like the Benban Solar Park, positioning itself as a leader in solar energy generation in Africa.[282] Additionally, the Government has promoted small-scale, decentralized photovoltaic systems through the 'Egypt-PV' project supported by the UNDP.[283]

However, the nation's energy transition is complex, as it seeks to balance its commitment to environmental sustainability with the economic realities of its reliance on fossil fuels. The country has experienced an acceleration in average temperature increases over the past two decades, leading to a significant rise in energy demand for cooling. Projections indicate that Egypt will endure higher levels of warming than the global average by 2100, which, coupled with urbanization and population growth, will result in a substantial increase in electricity demand.[284] To achieve a just transition, Egypt must navigate the challenges of ensuring affordable and reliable energy access for all residents while simultaneously investing in renewable energy infrastructure and supporting affected workers in transitioning to new sectors. This involves encouraging the private sector, public sector and residents alike to use renewable energy sources through targeted policies and cost reduction.

To address the pressing challenges of energy transition, the Egyptian Government is strategically realigning its policies to not only support the development of clean energy technologies but also to foster economic stability in the face of climate change. In this context, there are significant opportunities to raise public awareness, enhance skills in green technologies and reduce the dominance of the incumbent fossil fuels industry. Transitioning to clean fuels and ensuring equitable access to affordable clean energy will require substantial private sector investments. The public sector will play a pivotal role in accelerating the adoption of comprehensive energy transition policies that prioritize renewable energy development and climate resilience. By doing so, Egypt can secure a sustainable future, mitigate its carbon footprint and drive economic growth, positioning itself as a leader in the global fight against climate change.



EGYPT: THE ENERGY TRANSITION CHALLENGES

High costs of clean fuel technologies inhibit private sector investment. The International Finance Corporation estimates that USD 41 billion of climate smart investments are required for the energy sector in Egypt by 2030.[285] However, the high costs of advanced clean fuel technologies deter private sector investment, as they require substantial capital outlays and are less appealing than cheaper fossil fuels.[286] This burden is worsened by insufficient incentives, such as tax credits or clean tech funds.[287] Additionally, accessing global renewable energy funding is challenging due to unclear allocation and qualification criteria.[288]

Inadequate infrastructure limits clean fuel adoption and distribution. The World Bank estimated in 2018 that Egypt faced a USD 230 billion infrastructure investment gap through 2040.[289] While new projects, including 25 planned railway developments, have begun to address this, existing infrastructure remains insufficient to support clean fuel and renewable energy adoption, especially in transportation.[290] The lack of hydrogen refueling and electric vehicle charging stations hampers progress.[291] Significant investments are needed to upgrade infrastructure and support clean fuel distribution, creating logistical and financial challenges for the private sector.[292]

Economic instability deters investment in clean energy initiatives. Economic fluctuations and instability in Egypt present a considerable challenge to the private sector's investment in clean energy projects.[293] The high risk associated with investing in new and unproven clean fuel technologies without guaranteed returns makes it difficult for companies to commit significant resources, thereby slowing down the energy transition. As of 2024, the Egyptian economy is characterized by high inflation rates, which reached 33.8 percent in 2023, and ongoing foreign currency shortages.[294] These economic pressures have been exacerbated by external shocks, including the Russia-Ukraine war and regional conflicts, further complicating the investment landscape. The Egyptian pound's devaluation and rising interest rates have also contributed to an uncertain business environment, making it more challenging for companies to secure the necessary funding for clean energy projects.

There is a lack of skilled labour in the renewable energy and clean fuel sector. The green labour skills gap in Egypt is pronounced, with insufficient training programmes and educational curricula tailored to the needs of the renewable energy and clean fuels sectors.[295] This gap in the workforce not only affects the efficiency and effectiveness of clean fuel projects but also increases operational costs due to the need for training and capacity building. The World Bank estimates that achieving the country's targets for clean energy could deliver a positive benefit of 2 million new jobs by 2050, which is the equivalent of an average of 67,000 new job opportunities per year.[296] This indicates that significant upskilling will be required to realize the full potential of this transition. As the demand for green jobs grows, the mismatch between available skills and industry requirements becomes more evident, hindering the private sector's capacity to adopt and scale clean fuel technologies efficiently.

Competition from established fossil fuel companies slows the growth of the clean and renewable energy sector. The fossil fuel industry has an advantage over the clean fuels and renewables sector in Egypt, as it benefits from well-established supply chains, substantial Government subsidies and a robust market presence.[297] The country's energy mix is still heavily reliant on fossil fuels, with data indicating that the country relied on fossil fuels for 88 percent of its electricity in 2023.[298] Fossils fuels' entrenched position makes it challenging for clean fuels and renewable energy technologies to gain a foothold. Additionally, there is resistance to change from industries that are heavily invested in fossil fuels, which further impedes the private sector's transition to renewable energy and clean fuels as they face significant economic and operational barriers to shifting away from established practices.[299]

EGYPT: THE ENERGY TRANSITION ENABLERS

PROVIDE FINANCIAL INCENTIVES AND SUPPORT TO ENCOURAGE INVESTMENT IN CLEAN ENERGY

Boost tax incentives and subsidies. The Government of Egypt could provide tax exemptions and subsidies to companies investing in renewable energy and clean fuel technologies to reduce initial costs and enhance the financial viability of such projects.[300] Additionally, the Government could offer direct subsidies to cover a percentage of the costs associated with purchasing and installing clean energy technologies, such as solar panels, wind turbines and energy storage systems. These subsidies can be tiered based on the size and impact of the project to ensure broad participation across different sectors. The Government could phase out fossil fuel subsidies that make fossil fuels readily available at low prices, increasing their demand.[301] Egypt could further consider implementing an industrial price on carbon which, when designed with a progressive pricing "ratchet," effective carbon markets, carbon contracts for difference and proceeds earmarked for clean energy, clean technology and clean fuel projects, has proven effective in using market mechanisms to reduce emissions and finance the energy transition.

Expand low-interest and de-risked financing. The Government could expand low-interest financing by providing accessible loans and grants for clean energy projects to ease the financial burden of high upfront costs.[302] Collaborating with national banks, such as the National Bank of Egypt and Banque Misr, to offer low-interest loans tailored to various project scales and establishing a green grants programme for high-impact initiatives, could significantly support clean energy investments. Public-private partnerships could leverage funds, while a revolving loan fund and interest rate buy-down programmes creates sustainable and affordable financing options. Microfinancing for MSMEs and residential projects, alongside Government-backed guarantee schemes, could further reduce financial barriers. The Government could also provide facilitated financing options and Sharia-compliant[303] financing for electrical projects in remote communities, attracting investors seeking interest-free financing.[304] Additionally, the Government could leverage financial partnerships structured around "first loss" and "last out" mechanisms, enhanced by blended finance that combines public, private and philanthropic sources to optimize capital structures.

Pave the way with green Government procurement. The Government could use its own purchasing power to bolster the green energy sector by committing to procure sufficient renewable energy to meet its operational needs. By doing so, it could not only reduce its own carbon footprint but also create a stable market demand for renewable energy technologies. This commitment could incentivize private sector investment in renewable energy infrastructure and innovation as well as signal Government leadership in green energy practices.

BUILD ROBUST INFRASTRUCTURE FOR CLEAN ENERGY ADOPTION

Develop clean fuel networks. The Government could develop clean fuel networks by establishing comprehensive infrastructure for clean fuel distribution, including hydrogen refueling stations and electric vehicle (EV) charging points.[305] This could be achieved by prioritizing the construction of EV charging stations in urban centers like Cairo and Alexandria, integrating them into new and existing residential and commercial developments. Additionally, the Government could incentivize private sector investment in hydrogen production and refueling infrastructure, particularly in industrial zones and along major transportation corridors. It could do so through production tax credits or innovation challenges with awards based on achieving specific outcomes. Collaborating with international partners and leveraging technological expertise could accelerate the deployment of these networks, ensuring they are reliable and accessible.

EGYPT: THE ENERGY TRANSITION ENABLERS (CONT.)

Manage energy demand and modernize the grid. As climate change increases energy demand for cooling in Egypt, the Government could consider investing in energy efficiency standards for new buildings as well as retrofits for existing building stock. Mandating minimum performance standards for new builds and investing in retrofits through investment tax credits could significantly reduce the growing energy demand throughout Egypt. With electrification rates nearing 100 percent throughout Egypt, investments in modernizing the electricity grid could expedite integration of renewable energy sources, ensuring reliable and efficient energy distribution. For example, smart grid technologies would enable real-time monitoring, automated responses to supply and demand fluctuations, and improved energy management.[306] This upgrade would enhance the country's capability to integrate variable renewable energy inputs more efficiently, ensure more reliable electricity supply and optimize energy distribution.

DRIVE INNOVATION THROUGH RESEARCH AND DEVELOPMENT

Form and expand partnerships. The Government could promote public-private-academic partnerships to advance research and development in clean energy technologies, sharing financial and technological responsibilities. Additionally, the Government could create partnerships with specialized international companies to develop new renewable energy projects, using existing partnerships as a blueprint.[307] In doing so, the Government could consider local employment and technology transfer provisions in signed partnership agreements to support local market development and local worker participation in an emerging sector, both of which will be important to the country's energy transition.

Fund innovation initiatives. The Government could design R&D grants in renewable energy technologies, prioritizing projects that enhance energy efficiency and reduce costs.[308] By incentivizing innovation through financial support, the Government could stimulate private sector investment in sustainable energy projects, foster the development of locally tailored solutions and accelerate the transition towards a cleaner and more resilient energy sector. For example, a results-based innovation challenge could incentivize technological breakthroughs and scalable solutions that address local energy challenges effectively.

STREAMLINE REGULATIONS FOR CLEAN ENERGY PROJECTS

Simplify licensing processes. Making regulatory procedures easy to understand, accessible and tailored to risk may accelerate the implementation of clean energy projects.[309] The Government, for example, could consider an accessible "single window" platform for regulated parties, where they could easily gather all required information, submit online applications and apply for financial incentives through a user-friendly interface. Officials might also consider implementing risk-based process fast-tracking of regulatory approvals and licenses for energy projects, especially for those in remote areas.[310] By reducing the complexity of regulatory procedures, the Government could minimize the administrative barriers that often delay the deployment of renewable energy solutions.

Strengthen emission standards. Strengthen emission standards. The Government could consider updating emissions standards for fuels sold in Egypt to promote the adoption of clean fuel and renewable energy technologies.[311] By implementing more stringent regulations, the Government could incentivize businesses to invest in cleaner alternatives. Moreover, the Government could consider building emissions performance standards to support clean energy integration and revising transportation policies to favour clean fuels and bolster this initiative.[312]

EMPOWER AND EDUCATE FOR A SUSTAINABLE FUTURE

Launch public awareness campaigns. The Government could develop comprehensive awareness campaigns that not only educate the public and industry stakeholders but also publicize financial support for creating job opportunities and training in the clean energy sector.[313] By promoting the establishment of partnerships between the Government, private sector, and non-Governmental organizations, community-focused campaigns could support clean energy projects that focus on social empowerment and inclusivity. Additionally, these campaigns could drive inclusion through the promotion of women's and youth's participation in the clean energy sector, highlighting positive role models and companies achieving milestones in providing clean energy.[314]



LEAVE NO ONE BEHIND: DECENT WORK AND SOCIAL PROTECTION

The decent work and social protection landscape in Egypt is in a phase of active development, with the Government focusing on improving labour conditions and extending social safety nets. Key initiatives include the Takaful and Karama cash transfer and FORSA programmes, aimed at supporting the most vulnerable populations and transitioning residents to the formal economy to ensure better job security and benefits.[315] Additionally, initiatives like the National Employment Pact, the expansion of social insurance coverage and collaboration across Government and civil society have been pivotal in promoting formal employment and reducing the vulnerability of workers.[316] These advancements reflect the country's commitment to aligning its labour market policies with international standards and fostering inclusive economic growth.

Despite this progress, challenges such as high unemployment rates, particularly among youth (29.7 percent among those aged 20–24) and women (an estimated 17.9 percent in 2023), and significant gaps in social protection coverage persist.[317] The prevalence of informal employment remains a critical issue, with a substantial portion of the workforce lacking formal contracts, stable incomes and access to social security benefits.

While recent legislation, including the National Strategy for Empowerment of Egyptian Women 2030 and the institution of gender protections in financial services and investing, have improved gender equality in Egypt, disparities in the labour market persist.[318] They include low female labour force participation (16 percent), wage inequality and limited access to benefits for women.[319] Additionally, the mismatch between labour market demands and the skills possessed by job seekers poses a barrier to achieving productive employment for all, especially as Egypt digitalizes. Compounding this, recent economic instability in the country complicates efforts to attract the skilled labour necessary to develop nascent sectors like renewable energy. The transition towards a diversified and sustainable energy sector also presents social and economic challenges, particularly the potential displacement of workers in traditional energy industries.

Addressing these challenges will require comprehensive and inclusive policy reforms, stronger enforcement mechanisms and sustained investment in education, skills development and social protection systems.



EGYPT: DECENT WORK AND SOCIAL PROTECTION CHALLENGES

There is a gap between labour market demands and workforce skills. A challenge facing the private sector in Egypt is the mismatch between labour market demands and the skills possessed by job seekers. Despite efforts to improve educational quality and vocational training programmes, many workers lack the skills needed for productive employment in a competitive global economy. For example, low literacy rates and a shortage of skilled workers proficient in digital technologies pose a challenge to overcoming digital illiteracy, especially in underserved and rural communities[320]. Bridging this skills gap is essential for enhancing job quality, reducing unemployment and promoting inclusive economic growth.

The prevalence of an informal economy creates regulatory gaps. The prevalence of the informal economy, with an informal employment rate of 63 percent, poses a significant challenge to ensuring decent work and social protection.[321] Many workers in this sector lack formal contracts, stable income and access to social security benefits. Regulatory gaps and enforcement issues further complicate efforts to extend universal protections, leaving a large segment of the workforce vulnerable to exploitation and inadequate social safety nets.

There are gender disparities in employment and benefits. Recent policy has been put in place to provide substantial protections and level the playing field for women entering the Egyptian labour market, but barriers remain to ensuring equal access to decent work and social protection across genders. Women make an estimated 79 cents for every dollar earned by men, and persistent gender disparities in hiring practices and access to benefits hinder women's economic empowerment within the private sector.[322] As a consequence, women make up only about 18 percent of the total Egyptian labour force.[323] Women's participation in the labour market is low at approximately 16 percent and the women's unemployment rate is 10 percent higher than that of men and over 20 percent higher when genders are compared at the youth level.[324] Women often encounter discrimination in hiring practices, wage disparities and limited maternity benefits. Furthermore, women and girls spend a disproportionate amount of time on unpaid care and domestic work compared to men, affecting economic opportunities.[325]

There may be tradeoffs between economic diversification from fossil fuels and social equity. As Egypt seeks to diversify its energy sources and reduce its dependence on fossil fuels, a just transition will require that the social and economic impacts on communities reliant on traditional energy sectors are mitigated. Many workers in these sectors, such as those in the oil and gas industries, may face displacement or job insecurity without adequate support and retraining opportunities. Furthermore, the transition to renewable energy sources requires substantial investments in infrastructure and technology, which could strain public resources and exacerbate inequalities if not managed inclusively.

Inadequate digital infrastructure limits workforce participation. Inadequate digital infrastructure and broadband connectivity means that many workers in Egypt lack access to reliable power and internet services, which inhibits the current digital workforce and virtual training programmes.[326] This gap in digital connectivity is a barrier for those seeking to gain relevant skills and join the modern workforce, particularly in a world where digital literacy is becoming increasingly essential.

EGYPT: DECENT WORK AND SOCIAL PROTECTION ENABLERS

UPSKILL AND RESKILL TO BRIDGE THE SKILLS GAP

Invest in training programmes for a sustainable future. The Government could support specialized training programmes in green technologies and digital skills, ensuring that the workforce is prepared for the emerging job market needs. In partnership with community-based organizations, Government supported programmes could specifically target marginalized communities, women and youth with capacity building workshops and local training programmes, as well as provide them with networking platforms and mentorship programmes.[327] By enhancing the necessary skills and providing more job opportunities through a larger number of projects, Egypt could address workforce challenges and attract further investments.

CREATE A SUPPORTIVE WORK ENVIRONMENT FOR UNDERSERVED GROUPS

Enact legislation to incentivize hiring from targeted groups.[328] The Government could expand the existing Labour Law, which prohibits discrimination in employment based on gender, race, language, religion or beliefs, by mandating regular audits and enacting strict penalties for non-compliance. The Government could also introduce tax incentives for companies that actively hire and retain individuals from targeted groups.

Expand support and recognition programmes. The Government could create additional awards or certification programmes that recognize companies excelling in diversity and inclusion. It could also modify public procurement policies to favour companies with strong records of diversity and inclusion. Companies bidding for Government contracts could be required to demonstrate their commitment to hiring individuals from targeted groups and maintaining an inclusive workplace.

ADDRESS THE PREVALENCE OF THE INFORMAL ECONOMY

Institute formalization incentives. The Government could expand microfinance and support programmes for informal workers to encourage them to formalize their businesses. It could provide smooth and easy access to credit, business training and legal assistance.

Strengthen social protection systems. The Government could consider extending social security coverage to informal workers through flexible, contribution-based schemes. By implementing portable social security benefits that follow workers across different jobs and sectors, the Government could ensure that the large portion of workers who are informally employed have access to fundamental benefits. Combined with the expansion of formalization incentives, this mechanism could encourage the formalization of the economy while still ensuring that informal workers have access to social security nets.

REDUCE GENDER DISPARITIES IN ECONOMIC PARTICIPATION

Invest in education and training for women. The Government could increase investment in education and vocational training for women to enhance their skills and employability, particularly through promoting science, technology, engineering, arts and mathematics (STEAM) and digital literacy programmes.[329]

Provide access to microfinance for women. The Government could provide targeted microfinance services, including low-interest loans, credit facilities and financial literacy training specifically designed for women.[330] This could empower women to start and expand businesses, enhance their financial

EGYPT: DIGITALIZATION ENABLERS (CONT.)

independence and contribute more effectively to the economy. Integrating support services such as business development training, mentorship and networking opportunities has the potential to ensure that women not only have access to capital but also the skills and resources needed to succeed.

FORM PARTNERSHIPS FOR A JUST TRANSITION

Create work-integrated learning programmes. Create work-integrated learning programmes. The Government could develop cooperative education programmes with academic institutions where students could gain practical experience through internships and apprenticeships within renewable energy companies.[331] These partnerships could help ensure that graduates are job-ready and equipped to contribute to the renewable energy workforce post-graduation.

Promote stakeholder engagement and dialogue. Promote stakeholder engagement and dialogue. The Government could establish multi-stakeholder advisory councils that include representatives from all facets of society affected by the transition, including the private sector.[332] By implementing regular consultation sessions and feedback mechanisms with these stakeholder groups to review progress and identify challenges on sustainable development initiatives, the Government could foster a continuous dialogue that maintains transparency, builds trust and ensures a just transition.

EGYPT POLICY ENABLERS PRIORITIZATION MATRIX

Priority private sector challenges and corresponding policy enablers have been identified to accelerate SDG progress in Egypt now, in the mid-term, and in the long-term. The table below summarizes public policy enablers across these time frames for the SDG-aligned transitions studied in this report. These enablers align with the short and medium-term development priorities in Egypt of economic growth and diversification, increasing the share of renewable energy sources and improving the quality of education and vocational training to equip the workforce with necessary skills.[333]

Prioritized policies are directional and non-exhaustive. Actual implementation and timeline will depend on country context.

TOPIC	SHORT-TERM ENABLERS NOW – 2025	MED-TERM ENABLERS NEXT – 2030	LONG-TERM ENABLERS FUTURE – 2050
DIGITALIZATION	**PLANNING & PROGRAMMES:** Review and update the eMisr National Broadband Plan launched in 2011 with clear targets and strategies for expanding internet access and digital services	**REGULATORY COHERENCE:** Develop and enforce laws implementing a framework for data security and sharing, establish accountability controls, and simplify compliance through 'single window' online platforms	**FINANCE & DERISKING:** Collaborate with the private sector to create an infrastructure development and investment case that advances both digitalization and energy transition and facilitate public-private partnerships to co-invest in digital infrastructure
ENERGY TRANSITION	**SIGNALS:** Establish an infrastructure plan for clean fuel distribution, including EV charging and hydrogen fueling stations. Incentivize private investment through innovation challenges and tax credits	**FINANCE & DERISKING:** Commit to procuring sufficient renewable energy to meet operational needs incentivizing private sector investment and supporting demand	**FINANCE & DERISKING:** Implement industrial carbon pricing programme or cap-and-trade system focused on absolute emissions reduction; earmark proceeds for clean energy and decarbonization projects
DECENT WORK AND SOCIAL PROTECTION	**PLANNING & PROGRAMMES:** Invest in specialized training programmes in digital skills and green energy targeting marginalized communities through workshops, community programmes and mentorship opportunities	**REGULATORY COHERENCE:** Expand the current Labour Law to incentivize hiring from underserved groups. Mandate audit procedures and enact penalties for non-compliance. Introduce tax subsidies for companies that hire and retain individuals from targeted groups	**PLANNING & PROGRAMMES:** Expand financial support for informal workers to encourage entry into the formal economy. Provide access to assistance in financing, training, and legal. Extend social security coverage to informal workers through flexible contribution-based schemes

INDIA



OVERVIEW

Over the last decade, India has demonstrated impressive economic growth with an average annual GDP increase of more than 6 percent.[334] It is currently the ninth-fastest growing economy worldwide and is the fifth largest economy by GDP.[335] The private sector in India is vast and dynamic, with micro, small and medium enterprises (MSMEs) accounting for 40 percent of the nation's overall industrial production and 42 percent of all Indian exports.[336] While the economy was historically composed primarily of the agricultural industry, in recent years, the private sector in India has pivoted toward services and manufacturing with a strong focus on digital technology. On the global stage, India's business competitiveness has seen a positive trend, with the country scoring 62.9 on IMD's World Competitiveness Index in 2024. This score places India at 39th of the 67 countries analyzed, a jump of four spots from 2020, which reflects improvements in economic performance and policymaking.[337]

India has made impressive progress towards achieving the 2030 Agenda and continues to link its public policy, private sector innovation and economic development priorities to address legacy and emerging challenges. The country's most recent voluntary national review (VNR) showcases significant strides in lifting millions out of poverty, achieving universal rural sanitation and advancing health and education.[338] According to the country's United Nations Sustainable Development Cooperation Framework (UNSDCF) for 2023-2027, SDG priorities for the next few years include boosting economic growth by leveraging the country's endowments in demography and technology (SDGs 7–11), increasing climate resilience (SDGs 12–15), strengthening institutions (SDG 16) and forming robust partnerships for the SDGs (SDG 17).[339]

The digital economy in India is rapidly expanding, driven by a large user base and high growth rates, with significant advancements in digital public infrastructure, strong geographical convergence and a declining gender gap.[340] Digital India is a flagship programme of the Government of India that aims to transform India into a digitally empowered society and knowledge economy through three pillars: digital infrastructure as a utility for every citizen, governance and services on demand and the digital empowerment of citizens.[341] The programme aligns with the country's UNSDCF, which emphasizes the role of digitalization in promoting gender equality, youth empowerment and human rights.[342]

The country's proactive position in relation to global initiatives, such as clean energy, demonstrates its commitment to addressing climate change. Progress in clean energy deployment, financial enablement through the issuance of sovereign green bonds to accelerate infrastructure investment, and elimination of single-use plastics are excellent examples of progress to date. Electrification has rapidly increased, with the proportion of the population with access to electricity increasing from 60 percent in 2000 to almost 100 percent in 2021.[343]Furthermore, since 2010, renewable energy sources have increased to 42 percent of total energy capacity.[344]

At the same time, India is uniquely vulnerable to climate change and natural disasters, and environmental sustainability is emerging as the nation's next significant development challenge. Although its carbon emissions per capita remains low, it is still among the largest carbon emitters in the world due to the size of its population.[345] To reach targets of 50 percent decarbonized energy by 2030, energy independence by 2047 and net zero by 2070, the Government of India must enable significant investment in the energy space. To achieve these goals, an estimated investment of USD 160 billion to USD 200 billion per year will be required, representing approximately 5 percent of annual GDP.[346]

Poverty reduction has been a key component of Government policy, especially following the negative impacts of the COVID-19 pandemic. Despite an additional 23 million people driven into poverty by the pandemic, India has successfully lifted 133 million people out of poverty, 80 percent of which is driven by urbanization.[347] The proportion of workers and their families living on less than USD 1.90 per day reduced from 41 percent in 2000 to 6 percent in 2022.[348] Indian society shows positive signs of upward mobility, with about one third of citizens representing the middle class.[349] However, gender inequality remains a significant issue within the workforce, in part due to a wide

OVERVIEW (CONT.)

disparity in literacy rates between men and women. As of 2018, the nationwide literacy rate for women was 70.3 percent, more than 14 percent below that of men.[350] Social policies focused on providing support and education for women and children are helping to bridge this gap, with the female labour force participation rate increasing to about 33 percent as of 2023.[351]

As India strives to reach its 2030 targets, public policy will play a critical role in enabling the private sector to transform aspirations into actionable commitments. By establishing clear guidelines, incentives and support structures, the Government could create a fertile ground for the private sector to propel India toward a future of shared prosperity and environmental stewardship.

Note: Country Reports reflect the perspectives of business leaders interviewed and are not intended as a comprehensive review of public policy in any of the countries studied. Where inaccuracies exist or sentiments and solutions do not reflect the current state of public policy, the authors respectfully suggest that the lack of awareness among business leaders itself constitutes a challenge and propose – in those cases – that Government awareness and promotional campaigns be launched to align private sector perspectives with public sector action.

INDIA PRIORITY NEAR-TERM POLICY ENABLERS

The table below details immediate actions that the Government of India could take to address the challenges identified by business leaders during primary research. Additional medium and long-term policy enablers are presented at the end of the country report.

		TOP PRIVATE SECTOR CHALLENGE	NEAR-TERM PUBLIC POLICY ENABLER (NON-EXHAUSTIVE)	ANTICIPATED PRIVATE SECTOR RESPONSE
INDIA	DIGITALIZATION	Affordability limits digital connectivity in both urban and rural areas	Expand mobile connectivity initiatives with standards for a secondary mobile device market	Increased investment in digitalization and secondary mobility market
	ENERGY TRANSITION	Technological and infrastructure challenges limit EV adoption; supply chain and resource quality issues inhibit process and logistics optimization	Expand the FAME initiative, i.e. increase the budget to cover more vehicles, components and consumers and loosen open access restrictions for customers with smaller sanctioned loads	Increased investment in local manufacturing and workforce
	DECENT WORK AND SOCIAL PROTECTION	Limited workforce skilled in transition areas; informal employment; gender gap in employment	Develop integrated digital, energy and decent work transition plan through a multi-stakeholder process, with a focus on dependencies among transitions and under-represented workers, informal employment	Increased and targeted hiring of local workers and skills training

CONNECTED SOCIETIES: DIGITALIZATION

The Indian IT sector drives economic growth. In 2023, it accounted for 8 percent of India's GDP and significantly contributed to the service sector's 54.7 percent share of the national economy.[352] In the past five years, digitalization has also emerged as a transformational force, reshaping the socio-economic landscape, propelled by robust policy initiatives and technological innovation.

Digital public infrastructure in India has improved in recent years, largely due to the widespread adoption of the Jan Dhan-Aadhaar-Mobile (JAM) trinity, a system designed to provide every citizen with access to financial services by linking bank accounts (Jan Dhan), unique identification numbers (Aadhaar), and mobile phones. Its objective is to ensure direct delivery of Government benefits, reduce corruption, and increase financial inclusion. JAM has successfully brought millions into the formal banking system and reduced losses in subsidy transfers to intended recipients.

JAM, combined with public-private partnerships to expand digital infrastructure, the consolidation of online business presence and competitive pressure across providers continue to democratize digital access, increase transparency and accelerate service delivery outcomes. Yet, challenges remain. Rural residents, occupants of informal urban dwellings and other vulnerable groups have more limited connectivity rates and access to digital public services and healthcare.[353] Additionally, the systems supporting these efforts are not always interoperable. Their effectiveness is further hampered by an inability to accommodate data sharing across services and limited ability to accommodate regional languages and community needs. Additionally, a recent increase in cyberattacks poses significant security threats to sensitive information, a critical concern in rolling out digital public infrastructure across the country.

Beyond public payments and services, the Government of India's wider digital transformation flagship programme, Digital India (DI), aims to transform the nation into a digitally empowered society and knowledge economy. DI has expanded national connectivity, digital infrastructure, and digital literacy through initiatives, such as Free Mobile, aimed at enhancing connectivity and empowering underprivileged communities through digital tools, education and reduced barriers to business formation.[354]

Notwithstanding the impressive success of DI to date, gaps remain. Digital adoption in the private sector is uneven, exacerbated by limited access to credit for MSMEs[355]. While digitally enabled enterprises can quickly build on existing capabilities, smaller businesses and those starting their digital transformations face a significant disadvantage. Uneven digital adoption also has sectoral dimensions, with agriculture, healthcare and financial services lagging the ICT sector overall. With the size of its population and Government commitment to navigating critical transitions, India could further enable digitalization nationwide and partner with the private sector to do so.

INDIA: DIGITALIZATION CHALLENGES

The rapid innovation of technology is outpacing infrastructure development and policy evolution, perpetuating the digital divide.[356] While internet connectivity in India has grown, 76 percent of rural households still lack internet access, compared to 54 percent in urban areas.[357] This divide hinders educational opportunities, limits economic participation and restricts access to Government services. The digital divide also drives disparities in digital literacy across populations with and without access to the internet, which can hinder equal participation in the digital economy. Decreases in internet and data costs in the past have led to increases in participation in the digital economy. Significant digital gender gaps persist, and Indian women are still 40 percent less likely than men to access mobile internet.[358] This hampers their ability to fully utilize digital technologies for MSME operations and growth.

Disparities in the adoption of technology within the private sector restricts the ability for all businesses to leverage new technologies. While large enterprises often have the resources to adopt innovative technologies, many MSMEs struggle with limited capabilities, leading to an uneven playing field.[359] Only 27 percent of MSMEs in India have a digital presence, compared to 90 percent of large enterprises. This disparity hampers innovation, reduces competitiveness in the market and limits the economic growth of small businesses as a major portion of the private sector cannot participate in the digital economy.

The absence of centralized systems and interoperability restricts the effective implementation of programmes and services.[360] This fragmentation, caused by the existence of various e-governance programmes and vendors providing different services, leads to inefficiencies and difficulties in accessing programmes because disparate systems cannot easily communicate or share data. While Haqdarshak is an example of a functioning centralized database providing services and support for MSMEs across 11 languages, this type of system is not universally implemented across many of the country's impactful programmes. Lack of access to these services with localized language translations prevents use by citizens who would benefit from their support.

Increasing data security vulnerabilities, compounded by emerging geopolitical tensions, have led to a surge in cyberattacks.[361] Increasing data security vulnerabilities, compounded by emerging geopolitical tensions, have led to a surge in cyberattacks. As digital infrastructure in India has expanded, the number of cyber incidents reported has skyrocketed. This growing threat is further complicated by geopolitical issues, often resulting in attacks targeting essential services and exposing sensitive data. Additionally, lack of accountability on e-commerce and social media platforms undermines consumer trust and safety. It is necessary to hold platforms accountable for consumer complaints to reduce fraud and promote safer digital transactions.

INDIA: DIGITALIZATION ENABLERS

ACCELERATE THE DEVELOPMENT OF DIGITAL INFRASTRUCTURE AND CREATE INCLUSIVE POLICY FRAMEWORKS TO BRIDGE THE DIGITAL DIVIDE

Connect residents. India could improve the digital landscape by expanding digital infrastructure through a national innovation challenge for expanded connectivity, which could help bridge the growing digital divide in rural areas by focusing on affordability and last-mile connectivity, where required. This could involve inviting private sector proposals and awarding resources and offering public sector collaboration for the most viable projects. Likewise, connecting and providing digital tools to previously unconnected schools could help to improve overall digital literacy and diminish the digital divide.[362]

Increase digital uptake. India might also address low digital uptake rates among underserved communities through public education campaigns based on local NGO partnerships and community-based initiatives. In doing so, the Government might consider implementing promotional campaigns that are sensitive to societal gender norms and family-unit dynamics to increase digital adoption among women and girls, for example.[363]

Focus on affordability for all.[364] Uptake is also a function of affordability, and the Government of India might consider expanding its micro-finance and mobile connectivity initiatives, such as standards for a secondary mobile device market, as well as encouraging the involvement of private capital in digital initiatives for communities with limited connectivity. It could achieve the latter through subsidies, favourable tax treatment or insurance measures such as loan guarantees.

Encourage private sector infrastructure investment. To drive additional investment from the private sector in domestic and international financial markets, the Government could partner with the private sector to approach financial institutions, pension funds, donors and multilateral development banks to present a well-documented investment case for digitalization that also incorporates the energy transition and decent work and social protection transition areas.

ENHANCE THE FRAMEWORK FOR DATA COLLECTION AND SECURITY TO FURTHER CONSUMER PRIVACY PROTECTIONS

Legislate protections. The Government of India might consider requiring data to be organized into multiple security levels to minimize oversharing of data and enhance individual privacy. India could build on the Personal Data Protection Act to improve transparency in data processing by requiring that data collectors inform users, in plain language, how their data is being used and protected.[365] Data retention limits and reset provisions could also be considered.

Promote and update existing tools. Further, India could promote guidance and resources for businesses to enhance their digital maturity, including assessment tools, training programmes and access to tools and services.[366] To remain current, the Government could strengthen dialogue and collaboration between Government and industry stakeholders to monitor ongoing and emergent issues with a view to continually iterate digital policies and regulations in response to an evolving landscape.

INDIA: DIGITALIZATION ENABLERS (CONT.)

FOSTER TECHNOLOGY ADOPTION AMONG ALL SIZES OF BUSINESS AND REGIONAL LOCATION BY PROVIDING SUPPORT AND INCENTIVES FOR MSMES

Expand financial support for digital transformation. Enhancing tax incentives, grants and low-interest financing opportunities for digital transformation projects will allow smaller businesses to implement digital technologies. Consideration could be given to targeted incentives for traditionally marginalized communities including women and girls as well as rural and remote residents.

Expand the national innovation ecosystem. Strengthening regional and national innovation ecosystems through public-private partnerships to deliver digital training programmes, offer technical assistance and incubate innovations could help businesses successfully digitalize. Leveling the playing field among MSMEs and corporations, urban and rural businesses, and diverse business owners will allow all businesses to compete and drive innovation more effectively throughout all areas of India.[367]

CREATE A CENTRALIZED DIGITAL PLATFORM TO STREAMLINE REGULATORY COMPLIANCE AND REPORTING

Ease the burden of compliance. In the short-term, the Government of India could consider developing a unified digitalization compliance and support framework and "single window" platform as part of its digital public infrastructure initiative for companies looking to comply with regulation and find support for their digital transformation.[368] The framework could support multiple languages and regional needs as well as standards for data formats, categorization and data sharing protocols to enable seamless communication among various programmes. By improving the interoperability of Government programmes and providing a "single window" for all things related to digital transformation, the Government could provide a "one stop shop" that enhances accessibility and increases the probability that residents throughout the country benefit from Government action.

GREEN ECONOMIES: THE ENERGY TRANSITION

India has the lowest per capita emissions of any G20 country, at 1.9 metric tons per person (tCO_2) in 2022.[369] While this is an achievement, it is driven by the country's low per capita energy consumption, which was a third of the global average in 2021-22.[370] Despite low per capita emissions, India's large population means that it ranks as the world's third largest emitter behind the US and China.[371] As more of the economy electrifies and digitizes, and per capita energy consumption naturally rises, the Government of India will have to manage increased demand at the same time that it shifts to clean energy sources.

In India, the energy transition is gaining momentum with concerted efforts driven by policy initiatives and technological advancements. The Government's targets, outlined in the National Action Plan on Climate Change and signaled in its commitment to the Paris Agreement, have spurred significant investments in renewable energy infrastructure. In August 2022, the Government of India updated its nationally determined contribution (NDC) with renewed commitments to reduce emissions intensity by 45 percent from 2005 levels and to increase installed power capacity from non-fossil-fuel-based energy sources to 50 percent by 2030.[372] Extending their leadership on climate issues, the Government of India used its 2023 G20 presidency to champion a global shift towards low-carbon fuels and renewable energy sources.

Domestically, initiatives like the National Solar Mission and the Wind Energy Programme have established India as one of the world's largest renewable energy markets.[373] The energy transition in India is reducing the nation's carbon footprint and creating employment opportunities across the renewable energy value chain. From manufacturing solar panels and wind turbines to installation, maintenance and research and development, the renewable energy sector is generating decent work for workers throughout India. Additionally, the decentralized nature of renewable energy projects has empowered local communities, providing them with access to energy and fostering economic development at the grassroots level.[374] Like many global economies, India is also positioning itself to be a global leader in renewable batteries and green hydrogen. Low-carbon technologies such as these could open a domestic market worth up to USD 80 billion by 2030.[375]

However, the nation's journey towards a sustainable energy future is marked by significant challenges. To bridge the emissions gap, India must triple its solar and wind capacity, exceeding 500 GW in renewable power generation over the next decade.[376] Infrastructure limitations, such as an existing grid system designed for centralized fossil-fuel generation, require substantial upgrades to accommodate decentralized renewable sources. The current reliance on coal and natural gas for grid stability during peak demand times further complicates integration. Additionally, a sharp increase in commodity prices recently has made energy less affordable. In parallel, tight energy markets have increased energy security risks for India, the world's third largest energy importer.[377]

As India transitions to a green economy, it will be essential to ensure that the transition is just and preserves equitable access to energy for households, consumers, communities and businesses of all sizes. Access alone, however, is not sufficient to ensure a just transition. Workers at risk of displacement in the transition to renewable energy will require reskilling, and the economies of fossil-fuel-dependent communities and regions will need diversify.

These challenges underscore the urgency of a holistic approach to the energy transition in India, one that integrates public policy, financial enablement, technology and multisectoral cooperation. Overcoming the nation's dependency on fossil fuels is not just an economic necessity but a critical step in addressing the global climate crisis. This transition requires a coordinated effort across all levels of government, industry and society to ensure that the shift to renewable energy sources is both sustainable and just.

INDIA: THE ENERGY TRANSITION CHALLENGES

Infrastructure limitations hinder renewable energy integration. Current reliance on coal and natural gas for balancing the grid hampers renewable energy integration, as these fossil fuels provide necessary stability during peak demand times. A World Bank case study on transmitting renewable energy to the grid highlights the challenges of integrating numerous small plants into the existing transmission network.[378] Utilizing buildings and other demand-side resources for grid balancing necessitates substantial investments in new technologies and infrastructure, which many private sector entities are hesitant to undertake due to high upfront costs and uncertainty about returns.[379] Additionally, managing a grid with a high share of variable renewable energy sources introduces operational complexity and demands advanced forecasting and real-time management capabilities, which the private sector may lack. These challenges create a dependency on fossil fuels for grid stability, limiting the integration of renewable energy sources and slowing the energy transition.

Lack of R&D collaboration hinders innovation and adoption of alternative energy sources.[380] Despite the high global ranking of India in scientific production and the presence of numerous universities and startups, the country faces a paradoxical lag in university-industry research collaboration.[381] The country's investment in R&D as a percentage of GDP is relatively low at consistently below one percent of GDP, which is lower than its BRICS (Brazil, Russia, India, China and South Africa) counterparts.[382] The industry's reluctance to invest in long-term research and academia's focus on theoretical knowledge without practical application creates a chasm that prevents the effective translation of research into market-ready clean energy solutions. This disconnect stifles the development of innovative green technologies and slows the transition to alternative energy sources like green hydrogen and nuclear, which only account for 3 percent of the total energy mix.[383]

Financing barriers limit investment in energy efficiency initiatives. The financial ecosystem provides support for renewable energy projects but lacks adequate options for the energy efficiency initiatives that are crucial for reducing overall energy demand.[384] The Clean Energy Finance and Investment Roadmap of India highlights the need for accelerated development of energy efficiency measures in MSMEs, as the scale and scope of financing for energy efficiency measures do not match the level of investment in renewable energy projects.[385] Investments in energy-efficient technologies require significant capital, posing a barrier for MSMEs. Financial institutions often perceive these investments as high-risk, leading to higher interest rates and stringent lending conditions. This challenge restricts the ability of the private sector to invest in necessary technologies and infrastructure.

An inconsistent policy environment hinders the private sector's ability to execute long-term energy transition projects. The implementation of open access policies for renewable microgrids is crucial for the energy transition as it facilitates the integration and expansion of decentralized renewable energy sources. However, the implementation of such policies varies across states, with only a few, like Gujarat, facilitating them effectively.[386] Additionally, there is a need for stronger incentives to promote the use of clean fuels and technologies, but regulatory support is often fragmented and insufficient, with slow and long-term returns on investments.[387]

Technological and infrastructural development challenges slow electrification of vehicles. The technology for electric fleets is less affordable than those in some other BRICS nations, which limits their commercial viability and adoption, especially in regards to the electrification of two- and three-wheelers.[388] Adoption is further slowed by the lack of sufficient charging infrastructure and challenges in ensuring that the electricity used in existing charging infrastructure is sourced from renewables.[389] Additionally, uncertainty regarding when electric vehicle (EV) demand will impact electricity grids is a significant issue, as freight electrification could pose challenges for localized grid loading, potentially leading to high demand during peak times and affecting the affordability and reliability of electric fleets.[390] Without the necessary infrastructure and technology, the widespread adoption of EVs will be delayed and initial adoption requires significant investment, which the private sector is reluctant to make without clear returns.

Supply chain and resource quality issues inhibit process and logistics optimization. The use of low-grade coal and iron ore in India reduces industrial efficiency and increases the private sector's carbon footprint, making it challenging to meet sustainability targets.[391] Additionally, there exists insufficient production of scrap steel and hurdles in global procurement that further strain the steel industry's sustainability, increasing reliance on energy-intensive and carbon-heavy primary production processes.[392]





INDIA: THE ENERGY TRANSITION ENABLERS

MAKE RENEWABLE ENERGY ACCESSIBLE AND SCALABLE TO FACILITATE INTEGRATION

Chart an equitable path to renewable energy. On the road to net zero emissions, the Government of India could consider a consolidated strategy that encourages large-scale projects providing equitable access to renewable energy.[393] The strategy could include mandatory or voluntary carbon markets, emission targets for implicated industrial sectors and stringent extended producer responsibility (EPR) guidelines.[394] Likewise, providing technical assistance in terms of technical and economic feasibility assessments, streamlining regulatory approvals and reducing open access requirements could encourage electrification and energy efficiency among MSMEs.

Modernize the grid. The Government could modernize infrastructure, with an eye to future goals, particularly through decentralized energy solutions like renewable energy compatible microgrids, integrated forecasting and real-time management technologies. The Government could likewise focus on enhancing transmission infrastructure to support the distribution of renewable energy throughout India. Substantial investments in new technologies and infrastructure could be considered, supported by carbon pricing, tax treatment and public-private partnerships to share costs and mitigate risks. Should the Government consider financial partnerships, the Government could consider derisking measures such as "first loss" and "last out" provisions as well as carbon contracts for difference, which serve to lock in the assumptions upon which investment cases are built. The provision of state-level hybrid policies, linked to a larger SDG transition strategy, similar to the Government's "National Wind-Solar Hybrid Policy" could likewise promote large grid-connected wind-solar photovoltaic hybrid systems across India.

Streamline open access regulations. The country's established Green Open Access Rules provide a framework for accelerated development of renewable energy but could be streamlined to encourage further adoption. In particular, the Government could consolidate and provide long-term clarity on additional charges customers must pay for open access renewable energy, which would mitigate risk for both customers and renewable energy developers. Open access restrictions could also be loosened to allow customers with smaller sanctioned loads, such as MSMEs, to utilize open access, thereby expanding the market. Financial incentives in the form of tax rebates or exemption from open access charges could further drive adoption of renewables.

Strengthen financing for energy efficiency. The Government could consider managing energy demand throughout India by addressing energy efficiency among existing building stock, including personal homes, apartment complexes, commercial buildings and factories.

Set standards for new builds. As a first step the Government of India could consider energy efficiency standards for new builds, based on the various "classes" of buildings. Alongside efficiency standards, energy audits for industries could include the identification of electrification opportunities. Likewise, a promotion campaign and phased-in approach will ease compliance and permitting processes.

Finance retrofits of existing building stock. Pairing standards with targeted loans, grants and tax treatment for capital expenditure-driven building retrofits by homeowners, landlords, MSMEs and factory operators could drive efficiency throughout India. At the same time, expanding the grid and increasing the share of renewable sources will lead to increased demand. Similar incentives could be coupled with the promotion of operating expenditure-funded energy-saving measures with short-term payback periods, which could drive investment in energy-efficient technologies like real-time energy monitoring. Wherever possible, such programmes could be paired with promotional campaigns and accessibility measures to drive uptake among all socio-demographic and geographic groups.

BOOST ELECTRIC VEHICLE ADOPTION TO REDUCE EMISSIONS FROM TRANSPORTATION

Build on existing foundations. To boost EV adoption and advance electrification, the Government of India could consider strengthening existing policies like the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME) initiative and relax import duties on critical components that are not yet readily available in India.[395] The Government could then implement investment promotion policies to take advantage of the technology flows. The Government could also consider building on the FAME II by promoting its essential components and increasing the budget to cover more vehicles and consumers.[396] A particular focus could be placed on the transportation of goods throughout India.

Drive efficiency through production standards. Furthermore, employing effective demand management strategies and technologies could mitigate the uncertainty of EV impact on electricity grids. For example, the Government could require producers to optimize EV charging times, as they have better visibility and cycle planning capabilities.[397] Government initiatives could also focus on promoting local original equipment manufacturers (OEMs) to foster demand and market growth, ultimately increasing the supply of affordable EVs.[398]

ESTABLISH A CARBON MARKET AND EPR GUIDELINES TO CREATE REGULATORY CLARITY

Set a clear path of travel for everyone. The Government could engage organizations like industry associations, research institutions and financial institutions to design sector-specific pathways with concrete, time-bound targets as well as identified levers to achieve a whole-of-society decarbonization.[399]

Enhance accountability. The Government might also consider legislating its target and sector-specific pathways while establishing a timeline for annual data-driven public reports on national progress. In support of this, the Government might also review and strengthen corporate reporting standards for an annual emissions inventory while minimizing regulatory compliance requirements. Additionally, the Government could consider EPR — which mandates that producers of certain goods attend to the end-of-life of their products — for cars, oils and batteries, which can foster a circular economy in support of the energy transition.[400] Introducing a national scrap acquisition policy could help companies deal with end-of-life goods and increase the availability of scrap materials for other sectors of the economy.

Incentivize accountability. Establishing a domestic carbon market based on industrial carbon pricing, with an annual pricing ratchet, has been proven to incentivize reporting as well as the development of low-carbon alternatives. Outcomes from carbon pricing are enhanced when carbon pricing proceeds are earmarked for decarbonization projects and industry is assured of future prices through carbon contracts for difference. Sector-specific annual carbon emission targets for regulated parties and providing targeted tax treatment for promising technologies, such as carbon capture and storage, or offering performance-based tax treatments could further drive this transition.[401]

FORM ROBUST PARTNERSHIPS TO ACCELERATE R&D EFFORTS

Further foster the national innovation ecosystem. Enhanced R&D collaboration with corporations and academic institutions could drive access to new energy transition technologies. Building on existing policies for innovation, the Government of India could consider increasing investment in research to develop robust educational infrastructure beyond the Indian Institutes of Technology (IITs) to enhance private sector access to advanced technology and relevant talent for the energy transition.[402] Further, the Government

INDIA: THE ENERGY TRANSITION ENABLERS (CONT.)

could establish a public-private policy platform to foster collaboration between business and government to implement policies efficiently, with a particular focus on capital efficiency.

Support investment in clean fuels. Establishing a dedicated biogas department within a central ministry could unify the Government's biogas development strategy and funding approach. Similarly, ensuring guaranteed offtake of biogas by natural gas-using industries and introducing take-or-pay arrangements for compressed biogas plants could provide security for biogas developers and investors. A similar approach could be taken to drive green hydrogen development, with Hydrogen Purchase Obligations and levies on grey hydrogen driving demand for green hydrogen. The Government could also standardize green hydrogen in line with global standards to enhance its acceptance in export markets, and support investment in pipeline infrastructure to reduce green hydrogen transportation costs.



LEAVE NO ONE BEHIND: DECENT WORK AND SOCIAL PROTECTION

The decent work and social protection landscape in India is underpinned by ongoing efforts to enhance job quality and extend social safety nets across a diverse and rapidly changing economy, taking into consideration disparities in how quickly various sectors have recovered from the pandemic. Government initiatives, such as the Pradhan Mantri Shram Yogi Maandhan pension scheme and the Mahatma Gandhi National Rural Employment Guarantee Act, aim to provide financial security and employment opportunities, reflecting the country's commitment to fostering inclusive economic growth and social welfare.[403] The rise of the digital economy has created new employment opportunities while also necessitating updated labour regulations to ensure living wages and job security in the 'gig' and platform sectors.

Concurrently, the country's push towards renewable energy, demonstrated by large-scale solar and wind projects, includes efforts to retrain workers from traditional energy sectors and provide social protections to support a just transition, aiming to balance economic growth with social equity and environmental sustainability.

While the country has made strides in improving labour conditions and expanding social security schemes, challenges remain, particularly in the aftermath of the COVID-19 pandemic, which intensified the struggle against endemic poverty among poor, marginalized and disadvantaged groups.[404] The informal employment rate is significant, with 89 percent of the population employed under informal arrangements.[405] Additionally, the challenge of child labour is multifaceted and is often exacerbated by systemic issues like poverty, lack of education and insufficient enforcement of labour laws.[406]

Despite efforts to reduce poverty, 22 percent of the population still lives below the national poverty line.[407] The digital divide is perpetuated by low wages, and while the labour market is characterized by rising wages in some sectors, persistent inequalities and low pay remain pervasive issues, particularly for the unskilled workforce. Government efforts to replace minimum wages with living wages by 2025 aim to address these challenges, but the implementation across states with varying costs of living and the potential strain on MSMEs highlight the complexity of this endeavor.[408]

The workforce of India requires rapid skill development to meet the demands of a green transition; however, disparities in skill levels between rural and urban populations and the lack of vocational training tailored to rural contexts hinder workforce transition. The 'gig' economy's rapid growth, estimated to reach 23.5 million by 2030, is outpacing the formalization of workers' rights, leading to potential exploitation and instability.[409] Compounding these issues is the underrepresentation of women in the formal labour market, with only 33 percent participation, as compared to 77 percent for males, and with only 16 percent holding managerial positions in 2022.[410]

The complex and multiple challenges related to decent work and social protection require robust policy interventions to strengthen social protection mechanisms and promote decent work across all sectors in India. The Government could focus on advancing inclusive economic growth, employment and the formalization of the informal sector, as well as extending social protection to all workers, including those in informal and gig economies. There is an opportunity to enhance workforce upskilling efforts by aligning training programmes with the demands of emerging sectors like green technologies. These policy approaches can strengthen social safety nets and contribute to building a more resilient and inclusive economy in India.



INDIA: DECENT WORK AND SOCIAL PROTECTION CHALLENGES

There is a lack of adequate upskilling to meet the demands of a green transition. To adequately meet the demands of a green transition, the workforce requires a 25 percent continuous annual growth rate in skill development.[411] The ILO forecasts that the shift to a green economy in India could add 3 million jobs in the renewables sector alone by 2030.[412] This rapid pace poses logistical and resource challenges, potentially leading to skill gaps that hinder the adoption of sustainable practices and technologies. Consequently, this affects the nation's productivity and competitiveness in the global market across green industries.

There are notable disparities in skill levels between rural and urban populations. The private sector in India faces significant challenges in effectively transitioning and upskilling the rural workforce, crucial for inclusive economic growth and sustainable development. There is a notable disparity in skill levels between rural and urban populations, exacerbated by limited vocational training opportunities tailored to rural contexts.[413] Rural areas require concentrated efforts for skilling, focusing on workforce transition rather than just re-skilling. Additionally, inter-state migrant workers in rural areas often face meager wages and inadequate social protection.[414] Economic activities in rural India often rely on traditional sectors, necessitating targeted interventions to facilitate workforce transition towards modern industries and technologies.

Women are underrepresented in the labour market. As of 2023, the labour force participation rate among females is 33 percent, compared to 77 percent for males.[415][416] In 2022, only 16 percent of women held managerial positions.[417] However, achieving gender balance in the workforce presents a significant challenge due to entrenched societal norms and systemic barriers. Despite progress in education and professional opportunities, women still face substantial obstacles, including limited access to career advancement, wage disparities and a disproportionate share of unpaid domestic responsibilities.

There is a gap in the formalization of the rights of gig workers. Addressing the emergence of gig workers and defining regulatory frameworks that balance employer and employee interests has become increasingly pressing.[418] In India, the gig economy is rapidly growing, with an estimated 7.7 million people currently employed as gig workers, a number expected to nearly triple to 23.5 million by 2030.[419] Failure to establish clear regulations can lead to exploitation and legal uncertainties, undermining efforts to ensure fair working conditions and adequate social protections for this growing workforce segment. This lack of regulation also affects workforce stability and productivity.

High informal employment rates undermine social protection efforts. Approximately 82 percent of the workforce is engaged in the informal employment sector, with nearly 90 percent being informally employed.[420] This vast informal workforce often experiences low productivity and income disparities, which not only perpetuates poverty but also undermines efforts to improve labour standards and protections. The nature of these jobs makes it difficult for workers to access credit, limiting their purchasing power, further inhibiting the growth of MSMEs and stifling innovation.

Lack of detailed workforce data hinders workforce planning efforts. A significant challenge in workforce planning is the lack of detailed geographical data on workforce dynamics, making it difficult to align the supply of skilled workers with regional or sector-specific demand. Many fundamental labour market indicators, such as terms of employment, working conditions and skill demand, are rarely documented, resulting in a lack of comprehensive data for effective workforce planning.[421] Additionally, gender and geography-wise, workforce participation rates are inconsistently measured, contributing to skewed data profiles that affect policy decisions.[422] Without this detailed information, businesses struggle to plan and allocate resources effectively, leading to potential mismatches in skilled worker distribution and limiting the effectiveness of tailored social protection measures.

INDIA: DECENT WORK AND SOCIAL PROTECTION ENABLERS

SUPPORT WORKFORCE RESKILLING AND UPSKILLING FOR A JUST TRANSITION

Support workers and entrepreneurs where they live. Building on the significant success reorienting the Indian economy toward manufacturing and digital technologies, the Government could consider focusing on support for both urban and rural communities with future-ready, community-based training programmes and an accreditation programme to ensure new skills are recognized in the labour market. Additionally, the Government might support aspiring entrepreneurs with financial programmes for MSMEs (including micro-finance and targeted tax treatment) while simultaneously promoting corporate social responsibility funds for training and reskilling, with a focus on inclusivity and accessibility for historically marginalized populations.[423]

Support displaced workers. For workers in industries adversely affected by the energy and digitalization transitions, the Government could consider engaging state administrations to negotiate extended retraining benefits through regional employment benefit programmes. Reskilling and upskilling measures will help to ensure that employment benefits are accessible to the greatest number of workers possible.[424]

Support an evolving transition to an SDG-aligned economy. Finally, it will be important to update the skilling curriculum regularly to meet evolving transition demands. Updated curricula could be industry-ready and transition strategies could be sector-specific based on priority.

BOLSTER DATA AVAILABILITY TO ENABLE WORKFORCE PLANNING

Centralize and share labour market information. Building on the foundation established by the eShram initiative, which aims to create a comprehensive National Database of Unorganized Workers, the Government could further develop an accessible platform to capture detailed geographic-bound demographic and employment data.[425] This platform could encompass sub-populations of workers, including gender, language, ethnic group and other statistically significant measures. By leveraging the eShram database, this initiative could enable better workforce policy planning and enhance business decision-making by forecasting the supply and demand for particular skills across geographic units.[426]

REDEFINE ACCESS TO INFRASTRUCTURE TO CAPTURE ACCURATE DATA PROFILES

Modernize standards for data collection. The Government could consider refining definitions of access to electricity and other essential resources to gather data that is inclusive, clear and reflective of on-the-ground conditions.[427] Inclusive definitions make it easier to identify areas and populations that lack adequate access, enabling targeted interventions and resource allocation to bridge these gaps more effectively.

STRENGTHEN REGULATORY FRAMEWORKS FOR GIG WORKERS

Level the playing field for workers in emerging economic sectors. The Government of India could consider establishing clear regulations for workers in its growing gig economy, balancing employer and employee interests to ensure fair working conditions and adequate social protections. Defining the employer and employee relationship, organizing, representation and collective bargaining rights as well as work ethics, confidentiality clauses and intellectual property rights could provide certainty to all parties involved, support workers and make involvement in the gig economy more attractive.

INDIA: DECENT WORK AND SOCIAL PROTECTION ENABLERS (CONT.)

Give everyone a voice. New regulations could be designed through a consultative process with sub-national governments, gig workers and employers so as to protect both parties' economic and social interests. This process could also consider access to essential benefits like paid leave, maternity benefits and unemployment insurance while balancing corporate and state responsibilities for worker provisions.[428]

PROMOTE FINANCIAL INCLUSION FOR EVERYONE[429]

Build the foundations to support banking for everyone. Building on the significant progress made towards financial inclusion through the India Stack and Aadhaar initiatives, the Indian Government could further expand digital infrastructure for banking services to help increase equitable access to financial services for all citizens. This could involve expanding the network of banking institutions and accelerating mobile banking and digital payments through the use of public lands for new bank branches and tax treatment and financial literacy programme, potentially delivered through community organizations or dedicated financial education officials, to educate residents about the benefits of formal banking. This could enhance economic resilience, reduce poverty and unlock significant market potential for private sector players.

INDIA POLICY ENABLERS PRIORITIZATION MATRIX[430]

Priority private sector challenges and corresponding policy enablers have been identified to accelerate SDG progress in India now, in the mid-term, and in the long-term. The table below summarizes public policy enablers across these time frames for the SDG-aligned transitions studied in this report. These enablers align with the short and medium-term development priorities in India of developing sustainable urban infrastructure, improving energy efficiency and reducing consumption and enhancing digital governance.[431]

Prioritized policies are directional and non-exhaustive. Actual implementation and timeline will depend on country context.

TOPIC	SHORT-TERM ENABLERS NOW – 2025	MED-TERM ENABLERS NEXT – 2030	LONG-TERM ENABLERS FUTURE – 2050
DIGITALIZATION	**REGULATORY COHERENCE:** Build on the Personal Data Protection Act to improve transparency in data processing and implement data retention limits and reset provisions	**FINANCE & DERISKING:** Enhance tax incentives, grants and low-interest financing opportunities for digital transformation projects, especially targeted toward MSMEs	**PLANNING & PROGRAMMES:** Expand digital infrastructure through a national innovation challenge for last-mile connectivity
ENERGY TRANSITION	**REGULATORY COHERENCE:** Strengthen the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME) initiative (e.g., increase the budget to cover more vehicles and consumers) and loosen open access restrictions for customers with smaller sanctioned loads	**SIGNALS:** Increase investment in research for energy transition technologies to develop robust educational infrastructure beyond the Indian Institutes of Technology (IITs)	**FINANCE & DERISKING:** Boost demand by strengthening alignment of Government procurement policies with energy transition goals (and potentially digitalization and decent work goals); develop sustainable investment taxonomy and adapt ISSB standards
DECENT WORK AND SOCIAL PROTECTION	**PLANNING & PROGRAMMES:** Redefine definitions of access to electricity and other essential resources to gather data that is inclusive and representative	**PLANNING & PROGRAMMES:** Expand the network of banking institutions and accelerate mobile banking and digital payments through the use of public lands for new bank branches	**PLANNING & PROGRAMMES:** Skill and reskill in manufacturing and digital technologies using community-based training programmes



SOUTH AFRICA

OVERVIEW

The South African economy is diverse. Key sectors include mining, transport, energy, manufacturing, tourism and agriculture.[432] It is also showing signs of resilience, with recent improvements in the availability of power and increased investment in renewable energy despite fluctuations in GDP growth and lingering economic challenges following the COVID-19 pandemic. GDP growth slowed to 0.6 percent in 2023, from 1.9 percent in 2022, due to persistent freight, logistical, governance and energy supply constraints; high interest rates; and rising fuel and food prices.[433] Moreover, in the 2024 edition of IMD's World Competitiveness index, South Africa scored 46.3, placing it 60th of the 67 countries analyzed and indicating that there is room to improve the country's business operating environment.[434] However, the World Bank projects a gradual economic recovery, with GDP growth expected to average 1.5 percent from 2024 to 2026 as power supply constraints ease.[435]

South Africa has made notable strides toward achieving the SDGs, particularly in areas like poverty reduction and access to education.[436] The United Nations Sustainable Development Cooperation Framework (UNSDCF) for 2020-2025 highlights key priorities such as addressing inequality, improving healthcare and promoting sustainable economic growth.[437] Despite challenges like high unemployment and economic disparities, the country is committed to integrating the SDGs into national policies and fostering multi-stakeholder collaboration to ensure inclusive progress.

The country's efforts to improve access to digital tools and services have been met with considerable success. Public and private investments have delivered near universal access to 3G and 4G/LTE mobile coverage, at 99.9 percent and 97.7 percent of the population respectively, while an estimated 72 percent of the population was actively using the internet in 2021, up from 34 percent a decade earlier.[438] Challenges related to the high cost of data and digital literacy remain, particularly as the country seeks to address its digital skills gap and high rate of youth unemployment.[439] Leveraging established mobile networks, public and private sector collaboration in South Africa has the potential to deliver digital tools, services and knowledge across the population and, in the process, support sustainable lives and livelihoods.

The country is making significant progress in its energy transition, with policies like the Just Energy Transition Investment Plan (JET IP), the Renewable Energy Independent Power Producer Procurement Programme and the recent 2024 Climate Change Bill driving progress. The JET IP, launched at COP27, outlines a USD 98 billion investment plan over five years to support decarbonization and sustainable development.[440] Despite these efforts, challenges remain, including the country's heavy reliance on coal, which still accounts for about 70 percent of electricity generation.[441] Load shedding continues to pose significant challenges, disrupting daily life and economic activities across the country.[442] However, the Government's commitment to net-zero emissions by 2050 and the increasing focus on renewable energy sources like solar and wind are promising steps forward.

Over the past few decades, South Africa has made significant progress in reducing poverty levels, with the proportion of workers living on less than USD 1.90 per person per day falling from 17 percent in 2000 to 7 percent in 2022.[443] However, the country's slow economic recovery from the impact of the COVID-19 pandemic brought unemployment to record levels of around 8 million in Q1 2024, which amounts to approximately one third of the country's working-age population.[444]

To improve employment conditions and reduce poverty, the Government has implemented the National Minimum Wage Act and the Expanded Public Works Programme, which provides poverty and income relief through temporary work opportunities and skills development for the unemployed.[445] Likewise, to address the country's high youth unemployment rate, at 45.5 percent in Q1 2024, the Government is accelerating or scaling programmes like the Presidential Youth Employment Initiative (PYEI), which has engaged 1.6 million young people with educational and work opportunities since its initial launch in 2020.[446]

To continue its trajectory of sustainable growth, it will be crucial for South Africa to embrace a digital, green and just transition. The country's 2024 private sector voluntary national review (VNR), conducted by the UN Global Compact's South Africa Local Network, reveals eagerness across the private sector to contribute to

OVERVIEW (CONT.)

sustainable development. The SDGs prioritized by the private sector in the report align with the key transitions discussed in this report, including decent work and economic growth (SDG 8), climate action (SDG 13), industry, innovation and infrastructure (SDG 9) and partnership for the goals (SDG 17). Private sector willingness to act indicates that the country is well positioned to accelerate these transitions.[447] Collaborative action across the public and private sectors can ensure South Africa moves forward in unison to address these challenges and towards the dynamic, resilient economy envisioned by the Sustainable Development Goals.

Note: Country Reports reflect the perspectives of business leaders interviewed and are not intended as a comprehensive review of public policy in any of the countries studied. Where inaccuracies exist or sentiments and solutions do not reflect the current state of public policy, the authors respectfully suggest that the lack of awareness among business leaders itself constitutes a challenge and propose – in those cases – that Government awareness and promotional campaigns be launched to align private sector perspectives with public sector action.

SOUTH AFRICA PRIORITY NEAR-TERM POLICY ENABLERS

The table below details immediate actions that the Government of South Africa could take to address the challenges identified by business leaders during primary research. Additional medium and long-term policy enablers are presented at the end of the country report.

		TOP PRIVATE SECTOR CHALLENGE	NEAR-TERM PUBLIC POLICY ENABLER (NON-EXHAUSTIVE)	ANTICIPATED PRIVATE SECTOR RESPONSE
SOUTH AFRICA	DIGITALIZATION	Rapid technological change is leaving some businesses behind; state of-the-art technology is not penetrating	Create a forum for the private sector, especially MSMEs, to share best practices around data privacy and cybersecurity and update policies to address cutting edge technology	Increased investment in security and privacy; increased demand
	ENERGY TRANSITION	Load shedding threatens equipment, is a drag on productivity and limits overall investment across sectors	Finalize negotiations with Eskom and donors on JET-IP to accelerate transition to expanded and reliable energy production	Increased investment in renewable energy, equipment and expanded operations
	DECENT WORK AND SOCIAL PROTECTION	Limited workforce skilled in transition areas; gender gap in employment	Introduce targeted vocational training within the National Development Plan 2030 to address skill training for transition needs	Increased and targeted hiring of local workers and skills training

CONNECTED SOCIETIES: DIGITALIZATION

In South Africa, the state of digitalization is complex, characterized by promising advancements and persistent challenges. The country has made notable strides in expanding internet access, particularly through mobile connectivity, and has seen a rise in e-commerce and digital financial services. Government initiatives like the South Africa Connect broadband project aim to further bridge the digital divide and have led to a reduction in the number of households without internet access, from 64.8 percent in 2011 to 21.1 percent in 2022.[448] Likewise, 3G and 4G/LTE network coverage is nearly universal, indicating the potential for widespread access to digital tools and services among residents.[449] Indeed, South Africans have been noted as among the most active internet users in the world, with an average of 9.5 online hours per day in 2022.[450]

Public-private partnerships have also been leveraged to establish programmes like the Youth Employment Service (YES) and the PYEI, which, through upskilling, aim to provide youth entrepreneurship and job opportunities. Additionally, telecommunications companies are developing products and services to enable access among demographics where smartphone penetration is still low. These include affordable smart feature phones and applications that reduce the cost of messaging and data on basic phones. Notwithstanding these efforts, data prices remain relatively high throughout the country.[451]

The private sector often struggles to implement complex digital transformation projects due to limited access to required knowledge and cost-effective tools. Moreover, as more South African companies digitalize and seek to collect and leverage data, concerns regarding cybersecurity and data privacy have risen. A dearth of digital skills in the workforce and unreliable electricity hamper the ability of businesses to address these challenges and constitute additional barriers to private sector innovation.

These challenges indicate a need for public sector coordination and support in advancing digital initiatives. By sharing best practices and success stories across private sector approaches to cybersecurity, digital transformation and energy consumption, the public sector could enable businesses to leverage collective knowledge instead of facing digitalization challenges alone. Likewise, the digital skills gap experienced by the private sector serves as a significant opportunity for South Africa to strategically upskill and provide high value jobs to unemployed residents, particularly its youth. With private sector support and coordinated policy development, South Africa can enact the changes necessary to build a resilient and inclusive economy.

SOUTH AFRICA: DIGITALIZATION CHALLENGES

Unreliable electricity supply hampers private sector adoption of digital tools. In 2022 and early 2023, the duration and coverage of load shedding across South Africa increased significantly, with the country at times facing durations of four to six hours per day.[452] Consequently, the private sector ranked energy management and cost efficiency the second biggest risk to the SDGs in the 2024 Private Sector VNR.[453] Unreliable electricity disrupts day-to-day business operations, increases operating costs and limits the private sector's ability to adopt digital tools.[454]

High cost of ICT hardware and software constrains private sector access to technology. South Africa has a significant trade deficit in ICT products and relies on imported products for much of its essential ICT equipment, radio, television and communication equipment, and office and computing machinery.[455] As a consequence, global supply chain delays, inflation and the depreciating rand combine to increase the difficulty and expense of procuring the technologies essential to a successful digital transformation.[456] Rising costs reduce the competitiveness of South African companies while slowing adoption of digital tools and progress towards a more digitally inclusive society.[457] Cost effects particularly hinder adoption of new technologies among small and medium enterprises.

Cybersecurity and data protection concerns are limiting the private sector's ability to leverage and safeguard large data sets. South Africa has one of the highest rates of cybercrime in the world, meaning that as industries across the country undergo digital transformations, businesses are exposed to significant cyber risk.[458] Moreover, innovative approaches to data protection, such as blockchain and quantum security, have yet to be fully addressed in policies, regulations and clear ICT standards.[459] As a result, companies are inhibited in their ability digitalize and are finding it increasingly difficult to both leverage and protect large data sets.

Rapid technological innovation is leaving some businesses behind. Businesses are struggling to complete the complex internal implementation and change management projects necessary to adopt new technologies.[460] Roughly half of South African companies were actively piloting AI projects in 2022, with new cloud-based and AI technologies offering significant advantages but requiring specific technical knowledge to implement and run.[461] This presents significant change management challenges to companies operating deeply entrenched legacy systems. Advisory services and resources to support complex implementation projects are limited and expensive, and there is a lack of digital skill in the workforce to meet private sector demand for technical knowledge.[462]

A digital skills gap among the workforce hinders private sector adoption of digital tools. Recent ICT skills surveys have revealed that South Africa is experiencing a shortfall of approximately 77,000 high-value digital positions and outsources a significant number of technology-related roles to workers abroad, despite high levels of domestic unemployment.[463] Lack of talent with skills in emergent technologies increases operating costs and hinders the ability of businesses to deploy new tools and benefit from innovation.[464] A reliance on outsourcing technical skills further deprives the South African workforce of on-the-job digital skill development and experience, exacerbating the ongoing skill shortage.

SOUTH AFRICA: DIGITALIZATION ENABLERS

UPDATE AND BROADCAST BEST PRACTICES

Share cybersecurity best practices. Building on the foundation laid by the National Cybersecurity Policy Framework of 2015 and the supporting National Cybersecurity Implementation plan, the Government could consider creating a forum to share actionable best practices for companies to mitigate cyber risks.[465] With human error a major factor in 95 percent of cybersecurity breaches, an accompanying education campaign to broadcast knowledge of these best practices among businesses could help ease the risks associated with digital transformation.[466] Consideration could be given, in particular, to MSMEs, in the form of revenue-tested financial incentives for the adoption of cybersecurity solutions.

Update and refine data protection guidelines. The Government could regularly update regulatory guidelines on privacy and data protection to account for the introduction of new technologies, such as those using AI and automation. This would allow the private sector to leverage those technologies in safe and effective ways.[467] Consideration could be given to awareness and skills campaigns related to the most up-to-date regulatory requirements, especially targeted toward MSMEs.

CREATE AN ENVIRONMENT THAT FOSTERS INNOVATION

Support cross-business and cross-sector collaboration. The Government could establish innovation hubs and networks across industries for businesses to share best practices and lessons learned from digital transformation programmes. Similarly, these hubs could serve as platforms for access to and training in digital project management and collaboration tools, allowing the private sector to share knowledge and ease the logistical burden of digitalization.[468]

PROVIDE ACCESS TO AFFORDABLE TECHNOLOGY SOLUTIONS

Offer financial incentives for innovation and technical training. Building on existing R&D incentives, the Government could create specific grants or tax incentives for digital transformation projects undertaken by businesses to ease access to expensive ICT equipment and knowledge. Similar incentives could also be leveraged to encourage investment in employee training and development of the in-demand digital skills necessary to implement digital transformation projects.[469]

Build local supply chain and production capacity. The Government could leverage public procurement and public-private partnerships to support local ICT equipment production and recycling, fostering local industry growth. Likewise, providing financial support and incentives for companies to implement digital supply chain platforms could allow businesses to better cope with global disruptions.[470]

COORDINATE ACTION TO ADDRESS LOAD SHEDDING

Share best practices and success stories. The Government could surface best practices from companies that have successfully addressed load shedding pressures on operations. Likewise, sharing best practices on energy efficient use of digital technologies and implementation guidelines for cost-effective alternate energy solutions could enable businesses to find reliable access to energy and collectively decrease stress on the energy grid.[471]

SOUTH AFRICA: DIGITALIZATION ENABLERS (CONT.)

ENSURE THAT EDUCATIONAL CURRICULUM KEEPS PACE WITH TECHNOLOGICAL INNOVATION

Foster private sector-academic collaboration. By fostering partnerships across public sector, academia and the private sector, similar to the existing Youth Employment Service (YES) and Presidential Youth Employment Intervention (PYEI) initiatives, the Government could channel private sector resources to educating the country's youth while ensuring that skill development is in line with the demands of the labour market.[472]



GREEN ECONOMIES: THE ENERGY TRANSITION

South Africa faces a unique set of challenges and opportunities in its energy transition. As a country heavily reliant on coal for power generation, it must navigate a complex path towards decarbonization while ensuring energy security and affordability for its citizens. The Integrated Resource Plan and forthcoming South Africa Renewable Energy Masterplan (SAREM) outline the country's long-term energy strategy, aiming to increase the share of renewable energy sources like wind and solar power in the electricity mix from 11 percent in 2019 to 41 percent by 2030.

Moreover, statutory bodies such as the Presidential Climate Commission (PCC), established in 2020, have played critical roles in outlining policy for a just transition.[473] In 2024, the PCC helped to shepherd the landmark Climate Change Bill into law, which lays the foundation for the country to meet emissions targets set under the Paris Agreement by mandating climate change adaptation strategies from municipal governments and setting emissions caps for certain industries.[474] The Government has also launched the JET-IP, which seeks to mobilize funding and support for a fair and inclusive transition away from coal. Through the JET-IP, South Africa has mobilized USD 8.5 billion in financial commitments from international partners that will be leveraged through grants and concessional financing to catalyze further investment in the country's energy transition.[475]

Historically, the South African energy sector has been dominated by state-owned utility Eskom, which operates aging coal-fired power plants. However, the Government is actively encouraging private sector investment in renewable energy projects through programmes like the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP). The REIPPPP and a 25 percent tax rebate for rooftop solar investments by individuals have contributed to a 350 percent increase in installed renewable energy capacity during the year from mid-2022 to mid-2023 to a total of 4.4 GW.[476]

Despite these efforts, challenges such as the financial sustainability of Eskom, grid constraints and the need to reskill and redeploy workers from the coal sector pose significant hurdles. The predominance of coal in the South African energy mix, and its continued indispensability for segments of the economy focused on industrial production, complicate just energy transition initiatives.[477] Moreover, international carbon border adjustments (CBAs) and emissions reporting requirements may prove difficult for South African businesses, particularly given the country's reliance on coal for energy generation. While load shedding is driving the private sector towards alternative sources of energy, gaps in technical knowledge and resources make renewable energy projects costly and complex.

The country's energy transition is deeply intertwined with its socio-economic development goals, making it a crucial element in the country's broader strategy for sustainable growth. A just transition necessitates not only a shift towards cleaner energy sources but also creating new jobs in the green economy, ensuring that workers transitioning away from coal-related industries are supported. This transition is not merely about reducing carbon emissions but also about building a resilient economy that can thrive in a low-carbon future. To achieve this, collaboration between government, industry, labor unions and civil society is essential.

In the 2024 Private Sector VNR, businesses in South Africa highlighted climate action (SDG 13) as their second-highest priority and identified affordable and clean energy (SDG 7) as a key opportunity, reflecting a strong commitment to the energy transition. This eagerness to act in service of the energy transition indicates that South Africa is well-positioned to navigate a just energy transition.[478] However, this leadership will require a comprehensive and inclusive approach that addresses both the environmental and social dimensions of this complex challenge. By aligning its energy policies with climate goals and socio-economic development, South Africa can contribute significantly to global climate action while ensuring that the benefits of the transition are equitably shared across society.

SOUTH AFRICA: THE ENERGY TRANSITION CHALLENGES

Heavy reliance on coal complicates just transition initiatives. Coal accounts for around 70 percent of installed power generation capacity in South Africa and only 7.3 percent of power generation is derived from renewables.[479] Along with energy production, the coal industry contributes a significant amount of economic activity to South Africa. Coal mining alone accounted for almost 100,000 jobs in 2021.[480] The predominance of coal will make it difficult for South African exporters to navigate forthcoming international carbon tariffs and can be a deterrent for investors looking for green opportunities. Moreover, the economic significance of the coal industry adds significant social complexity to any transition away from coal as an energy source, as job creation in less carbon-intensive energy production may not align with areas where coal-related jobs are lost, raising the risk of workforce dislocation.[481]

Meeting sustainability reporting and compliance requirements is challenging. Many companies are not aware of or are worried about paying new domestic tax penalties for high carbon energy consumption, set to be introduced at the start of 2025.[482] Likewise, South African companies face difficulty meeting both domestic and international sustainability reporting requirements, and are fearful of the consequences of potential carbon tariffs like the EU's Carbon Border Adjustment Mechanism (CBAM).[483] Reporting challenges threaten to leave behind small and medium businesses unable to afford compliance, and international carbon penalties could threaten the competitiveness of South African goods abroad due to the country's reliance on coal for energy production, potentially exposing more than 50 percent of the country's export value to penalties.[484] Moreover, inconsistent reporting and the risk of "greenwashing" in business practices threatens to harm consumer trust in some South African companies.[485]

Load shedding can damage electrical equipment and lead to higher electricity usage. Businesses may experience damage to equipment and infrastructure due to load shedding, which results in high costs to replace damaged equipment. Likewise, restarting operating processes can lead to higher electricity consumption, inducing additional strain on the grid and raising energy costs for businesses.[486] While this has motivated some companies to invest in renewables as an alternate source of power, the high cost of renewable energy equipment drives other businesses to invest in high carbon diesel generators and some small and medium-sized companies to simply endure the negative impacts of load shedding.[487]

The cost and complexity of renewable solutions hinders their adoption. While the cost of renewable energy production through sources like solar photovoltaics and wind have decreased significantly in recent years in South Africa, coal remains a cheaper option.[488] The initial cost and complexity of implementing renewable energy solutions likewise pose substantial challenges to businesses interested in leveraging renewables as alternative sources of energy.[489] These short-term hurdles hinder the adoption of renewables among the private sector, even as load shedding drives businesses to search for independent alternatives to the national electricity grid.[490]

Limited access to green technology and skills slows the implementation of renewable projects. A gap in specialized knowledge of green technologies poses a challenge to businesses looking to implement renewable energy solutions, as they must develop expertise internally or source it externally.[491] Limited local opportunities for training in the technical skills necessary for renewable energy project implementation may sometimes require companies to send employees abroad for experience and upskilling.[492] The sourcing and development of green technology know-how is costly and time consuming for businesses, particularly MSMEs, and can be a barrier to the implementation of renewable energy projects.[493]

SOUTH AFRICA: THE ENERGY TRANSITION ENABLERS

SUPPORT BUSINESS COMPLIANCE WITH SUSTAINABILITY REPORTING

Leverage digital platforms to streamline reporting requirements. Building on the work done by the South African Companies and Intellectual Property Commission to lay out standardized ESG reporting guidelines, the Government could develop and deploy automated and digital platforms to streamline private sector compliance with ESG reporting. This would make it easier for businesses, especially smaller companies, to demonstrate sustainability attainment with fewer resources.[494]

Provide training and educational materials to accelerate compliance. The Government could develop and broadcast free educational materials providing clear guidance on sustainability compliance, standards and regulations, both domestically and in key international markets. Likewise, promoting awareness of environmental risks that businesses may face, the benefits of addressing carbon emissions by adapting clean energy solutions and best practices for carbon footprint reduction could enable the private sector to target efforts to contribute to the energy transition.[495]

MODERNIZE THE ENERGY GRID WITH RENEWABLE TECHNOLOGY

Remove barriers for businesses pursuing renewable energy projects. Building on the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) and the forthcoming South Africa Renewable Energy Masterplan (SAREM), the Government could leverage efforts by the private sector to find alternative sources of energy to advance the energy transition by further removing barriers to renewable energy adoption. This could include adopting smart grid technologies and expanding the country's transmission network, which will enable more efficient integration of renewables to the national grid and optimize energy distribution. Likewise, sharing best practices and success stories detailing the successful integration of renewables as a power supply across the private sector could provide guidance for further adoption.

Leverage government infrastructure to support expansion of the renewable energy market. With the Integrated Renewable Energy and Resource Efficiency Programme (iREREP), South Africa has laid a foundation for renewable energy market expansion through Government procurement. The Government could further leverage its infrastructure by expanding the existing Eskom Land Leasing Programme to other Government departments to facilitate IPPs' access to transmission infrastructure. Likewise, the Government could rent public building rooftop space to small scale embedded generation developers at below-market rates to incentivize market expansion.

LEAVE NO ONE BEHIND: DECENT WORK AND SOCIAL PROTECTION

South Africa has made strides in building a foundation for decent work and social protection. Multiple initiatives, including the National Youth Development Agency and the Expanded Public Works Programme, provide skill development for young people and relief for the unemployed, address challenges in workforce accessibility, and provide job training and placement opportunities.[496] Additionally, the implementation of new labour laws has been instrumental in building a framework for fair treatment in the workforce.[497] These advancements reflect a positive trajectory towards enhancing labour conditions and social protections in the country, but opportunities for progress remain.

High unemployment rates, particularly among youth and marginalized communities, remain a pressing concern, with the national average unemployment rate at 32.9 percent and a 45.5 percent unemployment rate for those aged 15–34 in the first quarter of 2024.[498] Additionally, a significant portion of the workforce is employed in the informal economy, lacking regulatory protections and in many cases living below the poverty line. As of 2023, the proportion of the population living below USD 3.65 per day stands at 34.4 percent, illustrating the widespread economic hardship faced by many South African residents.[499] Income inequality further perpetuates the skills gap and digital divide. With inconsistent public services and fragmented social security systems, access to socio-economic mobility is limited. Addressing these issues is crucial to building an equitable labour market.

Furthermore, in the 2024 Private Sector VNR, South African companies cited security and safety for staff and customers as the top risk to attaining the SDGs. Employee health and wellbeing and occupational health and safety at work are two key challenges contributing to this risk. Solving these challenges will be necessary to ensure access to decent, safe work for all South African residents.[500]

There is considerable opportunity for South Africa to enhance existing efforts as it navigates the energy transition and a shift to a digital economy. By building productive partnerships with the private sector, expanding social initiatives and advocacy and implementing additional labour protection policies, the public sector can create a sustainable and equitable environment for all workers.[501]



SOUTH AFRICA: DECENT WORK AND SOCIAL PROTECTION CHALLENGES

Education and training systems for the workforce are not evolving quickly enough to keep pace with rapid innovation and changing demands. Despite high levels of unemployment, employers struggle to find workers with technical skills, particularly in digital technology and software development. Employment stability is decreasing with significant impacts resulting from increased automation and digitalization. A lack of resources to provide training and education for workers is resulting in a skill mismatch between workforce and industry needs, especially within the ICT sector. Those affected by the digital divide fall further behind, exacerbating social inequalities and highlighting a need for investment in human capital and regulatory frameworks.[502]

Health and safety standards are sometimes overlooked due to economic pressures that prioritize profits over worker well-being. Lack of adequate health and safety measures undermines trust within the workforce, leading to instability within some businesses and reducing overall economic productivity. With several major industries involving high-risk activities, including manufacturing and mining, efforts to improve occupational health and safety standards are necessary. Security and safety in the workplace received the highest total risk score in South Africa's 2024 Private Sector VNR, remaining the top concern for companies across the country.[503] With financial challenges driven by high interest rates and inflation, some companies are failing to prioritize improving these standards leading to a vicious cycle for both employers and workers.

Despite policy changes aimed at gender equality and empowerment, progress has been inconsistent in practice. Women continue to face barriers to workplace advancement, especially wage disparities and limited access to a variety of industries. While women's representation in management has increased to 29 percent as of 2023, the private sector continues to grapple with a pay gap between male and female employees.[504] The lack of real progress furthers gender-based discrimination and undermines the proven economic value that inclusion can bring to company performance. Without implementation support for policy initiatives, many businesses fail to actively promote gender equality, which may lead to frustration among employees who do not see change.

Lower income communities do not have access to consistently reliable and safe transportation. Workers in areas without reliable transportation face significant challenges in commuting to jobs, directly reducing productivity and earning potential.[505] This is especially prevalent in rural areas but remains a problem in urbanized regions as well. Companies have reported that workers are struggling with steep transport price increases and unreliable transport solutions. These barriers limit access to better job opportunities, reinforcing cycles of economic stagnation. Additionally, this can impact access to resources like education and healthcare, furthering social disparity in many cases.

Job stability in underserved communities is hindered by lack of corporate trust, skill mismatch and exclusion from the digital economy. Many businesses, especially those in vulnerable regions, do not have strong community engagement programmes. Implementation of automation combined with skill mismatches in the workforce are resulting in high worker turnover and low productivity.[506] Available jobs may not have qualified local applicants and the digital divide can further isolate these communities from the broader economy. These factors combined hinder economic growth and reduce overall productivity within underserved communities.

SOUTH AFRICA: DECENT WORK AND SOCIAL PROTECTION ENABLERS

MODERNIZE EDUCATION AND TRAINING SYSTEMS

Invest in vocational training. By ensuring that training curricula are relevant, the Government could create a more adaptable workforce ready to meet the demands of a modern economy. The Government could also create targeted vocational training programmes while ensuring cadenced review and revision of national educational priorities to upskill future workers. Likewise, the Government could focus on enhancing the initiatives introduced in the National Development Plan 2030 around improving skill training and industry support.[507]

Facilitate public-private partnerships. The Government could foster partnerships with industry leaders to create and fund workforce training programmes tailored to meet current market demands, particularly in ICT technology and renewable energy production. These partnerships could help design curricula that address skill mismatches and prepare workers for emerging roles and industries. Targeting these programmes toward reskilling the workforce and providing job training for the unemployed can reduce the skill mismatch among the workforce in industries such as ICT.[508]

ADVANCE WORKERS' RIGHTS AND SAFETY STANDARDS

Streamline labour laws and resources to ensure compliance. Simplified labour regulations could reduce the administrative burden on the private sector, allowing them to focus on improving worker safety and productivity. The Occupational Health and Safety Act (OHSA) provides guidance across the private sector, but the Government could refine existing regulations with additional focus on high-risk industries like mining and manufacturing to address unique issues these industries face. Reforming regulations could increase compliance, encouraging more businesses to adhere to policies. Regular consultations between the public sector and both employers and employees could help create balanced regulations that meet the needs of all parties.[509]

Provide incentives for safety improvements. The Government could implement financial support for companies that focus investment on improving workplace safety standards. Encouraging the adoption of international best practices and safety certifications could also help to build a culture of safety across the private sector.[510] In conjunction with improved safety standards, the Government could compile and offer access to safety training resources for high-risk sectors of the economy.[511]

PROMOTE GENDER EQUALITY AND EMPOWERMENT IN THE WORKFORCE

Provide support for gender equality advocacy groups. Robust legislation in combination with advocacy groups could amplify efforts to address gender disparities, ensuring long-term change. The Government could enable these groups through financial support and awareness to help educate the workforce and address many of the prevalent challenges including pay inequity, discrimination and lack of protection in the workplace.[512]

Address wage disparities in the workplace. The Government could build on measures like the Employment Equity Act to target reduction of the gender pay gap and require mandatory reporting on wage disparities, with penalties for non-compliance. Promoting initiatives that support career advancement for women, including leadership training programmes, could also help to address wage disparities.[513]

SOUTH AFRICA: DECENT WORK AND SOCIAL PROTECTION ENABLERS (CONT.)

DEVELOP RELIABLE TRANSPORTATION SOLUTIONS

Invest in expansion of public transport. The Government could provide funding for the development and maintenance of reliable public transit systems, especially in rural and underserved communities. This could be done by providing subsidies for public transport to make it more affordable for low-income workers and creating policies emphasizing transportation safety while holding local police accountable for implementing these policies.[514]

Build partnerships for community transport. The Government could encourage public-private partnerships to develop community-based transport solutions such as shared ride services or employer-sponsored shuttles. These partnerships could ensure workers have consistent and affordable access to their workplaces and foster economic engagement within local communities.[515]

DRIVE INITIATIVES TO BUILD CORPORATE TRUST IN LOCAL COMMUNITIES

Support local employment initiatives. The Government could champion and support existing initiatives like the Community Work Programme (CWP) to promote community engagement programmes that focus on local employment and skill development. The Government could also encourage companies to invest in local talent through community-based training programmes and career-orientated advocacy groups that promote job continuity and economic participation.[516]

Open clear lines of communication between public and private sector. Reinforcing avenues of discussion between the public and private sector allows businesses to make better informed decisions, foster better relationships with local communities and build a more stable economic environment. Creating platforms for regular dialogue between Government and business for improved strategic planning can build trust between businesses and the workforce community.[517]

SOUTH AFRICA POLICY ENABLERS PRIORITIZATION MATRIX[518]

Priority private sector challenges and corresponding policy enablers have been identified to accelerate SDG progress in South Africa now, in the mid-term, and in the long-term. The table below summarizes public policy enablers across these time frames for the SDG-aligned transitions studied in this report. These enablers align with the short and medium-term development priorities in South Africa of social protection and inclusion, environmental sustainability and digital transformation.[519]

Prioritized policies are directional and non-exhaustive. Actual implementation and timeline will depend on country context.

TOPIC	SHORT-TERM ENABLERS NOW – 2025	MED-TERM ENABLERS NEXT – 2030	LONG-TERM ENABLERS FUTURE – 2050
DIGITALIZATION	**PLANNING & PROGRAMMES:** Create a forum for the private sector, especially MSMEs, to share best practices around key challenges including data privacy and cybersecurity	**REGULATORY COHERENCE:** Regularly refine regulatory guidelines on data protection and privacy to account for technological innovation and provide financial incentives for MSMEs to adopt new regulations	**FINANCE & DERISKING:** Leverage public procurement capabilities to support ICT equipment production. Provide financial support and incentives for companies to implement digital supply chain platforms
ENERGY TRANSITION	**PLANNING & PROGRAMMES:** Develop digital platforms to streamline private sector compliance with ESG reporting building on work done by CIPC. Accelerate compliance through free educational materials and sustainability standards	**FINANCE & DERISKING:** Target grants and subsidies towards private sector implementation of renewable energy projects. Broaden tax incentives for rooftop solar initiatives to include PV-connected batteries and mini-grids	**PLANNING & PROGRAMMES:** Establish public-private partnerships to promote open innovation platforms and knowledge sharing on deployment of clean energy technologies and renewable energy projects
DECENT WORK AND SOCIAL PROTECTION	**PLANNING & PROGRAMMES:** Build out targeted vocational training within the National Development Plan 2030 to address skill training for transition needs	**REGULATORY COHERENCE:** Simplify labor regulations, refine safety standards for high-risk industries and implement financial support for companies enhancing workplace safety standards	**FINANCE & DERISKING:** Provide funding for development of reliable public transit systems, targeting underserved communities. Implement safety policies and create a secure transit environment for workers

CONCLUSION



CONCLUSION



Neither the public sector nor the private sector can meet the SDGs by 2030 alone. To do so will require close collaboration and clear communication as they work towards a unified vision.

This report presents the voice of the private sector on the role of public policy in accelerating business action on the Sustainable Development Goals (SDG). That voice is clear. While the five countries studied here represent disparate geographies and different stages of development, and despite a complex and uncertain macro-environmental business context, business leaders share a common commitment to the global vision embodied in the Global Goals. In service of a more resilient and inclusive economy, business leaders are eager to contribute to the three SDG-aligned transitions analyzed here: digitalization, energy transition and decent work and social protection to usher in a digital, green and just future.

They cannot do so alone. Complex market dynamics, competing priorities and global dysfunction threaten to stymie the private sector's intention to leverage its significant capacity for sustainable action. The public sector is an essential partner in enabling private sector action aligned with the future envisioned.

While the challenges at hand are significant, if businesses and governments align and partner to confront them, tremendous progress can be made towards the vision embodied by the SDGs. From confronting public health crises to rapidly expanding access to basic utilities, history is filled with examples of business and Government joining together at the right time to deliver on a common cause. The private and public sector have found a common cause in the SDGs.

The policy mechanisms detailed here and elsewhere in this report are not exhaustive. Rather, they are the considerations that arose in discussion with business leaders in the five countries of focus. The discussions, challenges and the enablers described in this report also suggest areas for additional study. For example, as touched upon by business leaders in Angola (regional languages), Brazil (lack of global biofuel standards), Egypt (customs barriers), India (import and trade regulations) and South Africa (Carbon Border Adjustments), the transnational and regional barriers — linguistic, technical, infrastructure, trade, policy and otherwise — that limit the scale and speed of SDG progress are worthy of further study. Additionally, the number of countries and transitions studied here did not allow for a deeper dive into specific affected sectors; however, further primary research through discussion with business leaders and additional analysis would undoubtedly uncover specific sectoral insights critical to successfully navigating each transition.

As well as a record of the private sector's voice on three critical SDG-aligned transitions, this document provides a framework that can serve as a starting point for conversation between policymakers and business leaders in the development of SDG-aligned public policy. To advance this agenda, it will be essential to initiate these conversations. This report can be used in several ways by leaders in government, the private sector and multilateral bodies like the UN.

Policymakers globally can use this report as additional input for policy development and to validate gestating policies designed to advance the three transitions of focus. It also serves as evidence of business leaders' knowledge of existing policies and sectoral developments, identifying potential areas for additional promotional or awareness campaigns. Policymakers can also leverage the findings of this report to begin conversations with business leaders and bring the voice of the private sector, particularly MSMEs, into the policymaking process. As policies are developed and implemented, it will be important for policymakers to keep channels of communication open and remain amenable to private sector feedback. Consideration could be given to deepening the conversations that informed this report by bringing together business leaders from specific sectors linked to the three transitions studied to address the needs of each industry across affected sectors. The United Nations Global Compact stands ready to support such conversations by convening sector leaders through its Country Networks.

Business leaders can seek out and promote opportunities for the private sector, MSMEs in particular, to participate in the development of SDG-aligned policy. In conversations with the public sector, this report can be used to validate challenges to private sector action on the SDGs and to advocate for specific policies that would address those challenges.

Multilateral networks can share the key messages of this report among policymakers and business leaders to foster dialogue grounded in a shared set of goals and contextual understanding of the challenges at hand. In initiating these discussions, it will be essential for multilateral stakeholders to provide a forum for conversation where it does not exist, and to ensure conversations are open and representative.

Neither the public sector nor the private sector can meet the SDGs by 2030 alone. To do so will require close collaboration and clear communication as they work towards a unified vision.

Only together can businesses, governments, workers and residents collectively realize the Sustainable Development Goals vision of a prosperous, resilient and inclusive future.

APPENDIX

GLOSSARY (ACRONYMS)

- **AI:** Artificial intelligence
- **BRICS:** Brazil, Russia, India, China and South Africa
- **CBAM:** Carbon border adjustment mechanism
- **CCA:** Common Country Analysis
- **CCfD:** Carbon contract for difference
- **CWP:** Community Work Programme (S. Africa)
- **DAoL:** Digital Accelerator of Latvia
- **DI**: Digital India
- **DPDPA:** Data Protection and Digital Privacy Act (India)
- **DPI:** Digital public infrastructure
- **ENDE:** Empresa Nacional de Distribuição de Electricidade (Angola)
- **EPR:** Extended producer responsibility
- **EU:** European Union
- **EU ETS:** European Union Emissions Trading System
- **EV:** Electric vehicles
- **FAME:** Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (India)
- **FDI:** Foreign direct investment
- **GDP:** Gross domestic product
- **GHG:** Greenhouse gas
- **HLEG:** High-Level Expert Group on Net Zero Commitments of Non-State Entities
- **ICT:** Information and Communication Technology
- **ID4D:** Identification for Development (World Bank)
- **IEA:** International Energy Agency
- **IITs**: Indian Institutes of Technology
- **ILO:** International Labour Organization
- **INACOM**: National Regulatory Institute for Communications (Angola)
- **IPP:** Independent Power Producer
- **iREREP:** Integrated Renewable Energy and Resource Efficiency Programme (S. Africa)
- **ITU:** International Telecommunication Union
- **IoT:** Internet of Things
- **IRENA:** International Renewable Energy Agency
- **JAM:** Jan Dhan-Aadhaar-Mobile (India)
- **JETP:** Just Energy Transition Partnership (S. Africa)
- **JET-IP:** Just Energy Transition Investment Plan (S. Africa)
- **LDCs:** Least Developed Countries
- **LVC:** Land value capture
- **MPPN:** Multidimensional Poverty Peer Network
- **MSMEs:** Micro, Small and Medium Enterprises
- **NDCs:** Nationally Determined Contributions
- **nEHS:** National Emissions Trading System (Germany)
- **NEP:** Nigeria Electrification Project
- **NGO:** Non-governmental organization
- **NWFE:** The Nexus of Water, Food and Energy programme (Egypt)
- **OECD:** Organization for Economic Cooperation and Development
- **OHSA:** Occupational Health and Safety Act (S. Africa)
- **PCC:** Presidential Climate Commission (S. Africa)
- **PPP:** Public-private partnerships
- **PROINFA:** Programa de Incentivo às Fontes Alternativas de Energia Elétrica (Brazil)
- **PYEI:** The Presidential Youth Employment Intervention (S. Africa)
- **R&D:** Research and development
- **REIF:** Renewable Energy Innovation Fund (Uruguay)
- **REIPPPP:** Renewable Energy Independent Power Producer Procurement Programme
- **SAREM:** South Africa Renewable Energy Masterplan
- **SBCE:** Greenhouse Gas Emissions Trading System (Brazil)
- **SDGs:** Sustainable Development Goals
- **SEDESOL:** Secretaria de Desarrollo Social (Mexico)
- **SEZ:** Special Economic Zone
- **SME:** Small and midsize enterprise
- **STEAM:** Science, Technology, Engineering, the Arts and Mathematics
- **UN:** United Nations
- **UNCT:** United Nations Country Teams
- **UNCTAD:** United Nations Trade and Development
- **UNDP:** United Nations Development Programme
- **UNEP:** United Nations Environmental Programme
- **UNFCCC:** United Nations Framework Convention on Climate Change
- **UNSDCF:** United Nations Sustainable Development Cooperation Framework
- **USD:** United States Dollar
- **USITA:** International Trade Administration (USA)
- **VNR:** Voluntary National Review
- **WEF:** World Economic Forum
- **YES:** Youth Employment Service (S. Africa)

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ABOUT THIS STUDY

This report, developed by the UN Global Compact, explores the potential of policy enablers to accelerate business action in three key transition areas: digitalization, energy transition and decent work and social protection; across five selected countries: Angola, Brazil, Egypt, India and South Africa. These countries were selected to provide representation across varying levels of private sector engagement, stage of development, demographic representation and overall United Nations presence. Supported by primary and secondary sources, a detailed understanding of each country's progress in the three transition areas and an analysis of the challenges faced outlines a prioritized recommendation framework for the public policy enablers needed to overcome these obstacles. This report aims to provide a platform for the private sector to voice their perspective on policy needs for sustainable development and offers actionable insights for policymakers to drive toward a digital, green and equitable future.

RESEARCH METHODOLOGY

The report is based on primary and secondary research, along with an examination of case studies selected to provide concrete examples of how policy mechanisms have enabled private sector action with SDGs around the world. Due to country-specific contexts, the approach to gathering primary insight varied across the countries studied in this report. In Angola, India and Brazil, primary research was conducted through direct engagement with private and public sector stakeholders in roundtable discussions, designed to benefit from firsthand insights. In Egypt, primary insight was gathered through targeted surveys and one-on-one interviews with stakeholders from the country's private and public sectors. In South Africa, the development of this report coincided with the country's 2024 Private Sector Voluntary National Review (VNR). This VNR is informed by numerous roundtable discussions with the country's business leaders which provide insights related to the three transitions. Secondary research was conducted by leveraging reports and analyses from sources across the UN network, international organizations, think tanks and other trusted references. This study was conducted from April 2024 to 16 September 2024 and insights generated reflect the current state of that time period.

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THE TEN PRINCIPLES OF THE UNITED NATIONS GLOBAL COMPACT

HUMAN RIGHTS

1 Businesses should support and respect the protection of internationally proclaimed human rights; and

2 make sure that they are not complicit in human rights abuses.

LABOUR

3 Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;

4 the elimination of all forms of forced and compulsory labour;

5 the effective abolition of child labour; and

6 the elimination of discrimination in respect of employment and occupation.

ENVIRONMENT

7 Businesses should support a precautionary approach to environmental challenges;

8 undertake initiatives to promote greater environmental responsibility; and

9 encourage the development and diffusion of environmentally friendly technologies.

ANTI-CORRUPTION

10 Businesses should work against corruption in all its forms, including extortion and bribery.

The Ten Principles of the United Nations Global Compact are derived from: the Universal Declaration of Human Rights, the International Labour Organization's Declaration on Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development, and the United Nations Convention Against Corruption.

ABOUT THE UNITED NATIONS GLOBAL COMPACT

As a special initiative of the United Nations Secretary-General, the UN Global Compact is a call to companies worldwide to align their operations and strategies with Ten Principles in the areas of human rights, labour, environment and anti-corruption. Our ambition is to accelerate and scale the global collective impact of business by upholding the Ten Principles and delivering the Sustainable Development Goals through accountable companies and ecosystems that enable change. With more than 20,000 participating companies, 5 Regional Hubs, 62 Global Compact Country Networks covering 77 countries and 14 Country Managers establishing Networks in 20 other countries, the UN Global Compact is the world's largest corporate sustainability initiative — one Global Compact uniting business for a better world.

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