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**Presentation of reports by the secretariat: (a) Developments
in sustainable energy and infrastructure in Africa in the
post-coronavirus-disease era**

Sustainable energy and infrastructure development in Africa in the era of the coronavirus disease

I. Introduction

1. The Private Sector Development and Finance Division of the Economic Commission for Africa (ECA) leads the Commission's work on energy, infrastructure and services. Through this work, the Commission seeks to enhance the capacity of member States to formulate and implement policies and programmes aimed at increasing private sector investment in energy, infrastructure and services, leading to improved infrastructure provision, job creation and economic growth. The Division views African energy and infrastructure challenges through a lens of finance, public-private partnerships, and programme and project development. Regulatory reforms to attract private sector investment in the energy and infrastructure sectors are at the core of its function.

2. The present document presents the interventions of ECA in the sustainable energy and infrastructure development of Africa in 2020 and 2021, a period that coincides with the coronavirus disease (COVID-19) pandemic. The overarching perspective of the document is on inclusive and resilient energy, infrastructure and attendant services as critical factors in building forward better African economies in the COVID-19 era.

3. The COVID-19 pandemic has exposed and exacerbated African vulnerability to economic, social and environmental shocks and hindered the continent's development pursuits. It may compromise the African Continental Free Trade Area (AfCFTA), operationalised in 2021, and other regional and continental development initiatives. Sustainable recovery from the pandemic is a crucial objective of African countries. However, building forward better towards a resilient and green Africa – to achieve the 2030 Agenda for Sustainable Development and Agenda 2063: The Africa We Want of the African Union – requires, among other things, sustainable energy and infrastructure, which includes both hard and soft components of transport, information and communications technology, and water resources. Investment in energy, and other physical infrastructure and services, is crucial for achieving the Sustainable Development Goals in Africa. Infrastructure financing and delivery remain a colossal challenge on the continent, underscoring the need for urgent action at the national,

* E/ECA/CPRTIIT/2/1.



subregional and regional levels, particularly in the context of the Programme for Infrastructure Development in Africa.

4. The overall objective of the present document is to present recent interventions by ECA in sustainable energy and infrastructure developments in Africa. Emerging Issues in the energy and infrastructure sectors are also discussed, and specific areas in which ECA intervention could benefit member States are identified.

5. The remainder of the document is structured as follows. Chapter II focuses on the work of ECA on energy, while chapter III deals with the Commission's interventions in transport infrastructure and services. The importance of public-private partnerships in infrastructure development, and the intervention of ECA in that regard, are discussed in chapter IV. Chapter V contains the conclusion, recommendations and potential issues for discussion.

II. Energy infrastructure and services

6. The COVID-19 pandemic is a challenge because it has reversed gains, such as improved electricity access through infrastructure investment, that has been achieved in some African countries. As Governments mainly drive the electricity sector on the continent, planned investments, particularly in 2020, were shelved, as Governments focused on saving lives rather than on infrastructure construction and refurbishments. Furthermore, various lockdown measures resulted in disruptions of the energy supply chain, slowing economic activities. The pandemic came when African countries were already facing severe challenges towards achieving universal access to electricity. Data show that at least 25 African countries have electricity access rates of less than 40 per cent. Therefore, financing energy infrastructure will be a significant challenge as, even more than previously, diversification of financing sources is needed. Together with its partners, ECA is currently implementing several initiatives to support energy infrastructure development in the post-pandemic era, as discussed below.

A. Tracking the progress of African countries in achieving Sustainable Development Goal 7

7. Despite the rising policy consciousness and actions to exploit renewables to address the vast energy deficits, several African countries will not meet some or all of the targets of Sustainable Development Goal 7 ("Ensure access to affordable, reliable, sustainable and modern energy for all"). Most African countries will not have universal access to electricity in Africa by 2030. The emergence of the COVID-19 pandemic hamstringing many governments' efforts towards increasing energy services. Also, the pandemic has shown the importance of universal access to modern energy services in mitigating future pandemics, particularly in the health and sanitation sectors. Governments and other sectors need to take quick and decisive actions to address current challenges for the energy sector to play a much-needed role in the continent's economic development.

8. With the African Union Commission, other African institutions and international development partners, ECA conducts annual tracking of progress in attaining Goal 7 targets in African countries. The 2021 progress tracking report proposes priority actions that African Governments should undertake to achieve these targets. These include accelerating reforms related to energy policies, regulatory frameworks and investment plans, ensuring stepped-up financing to close the continent's chronic

energy access deficit, and building a more resilient energy mix and systems that can withstand exogenous shocks, such as those created by the COVID-19 pandemic.¹

B. Regulatory review of the electricity sector for private sector investments

9. Among the key challenges to meeting the Goal 7 targets in Africa is the degree of conduciveness of the regulatory environment to enable the participation of the private sector in energy investments. The 2021 tracking progress report identified electricity market regulation as a barrier to fast-tracking investment in the sector. In 2020, global energy investments reached \$1.9 trillion. Emerging and developing countries attracted a fifth of this investment, and African countries just a fraction of this small share.² Policy and regulatory environment differences were identified in the report as the leading predictors of investment destination and the degree of private sector participation. During the 2021 high-level political forum on sustainable development, these challenges were recognised, and five thematic reports were developed to fast-track progress towards achieving Goal 7. The theme report on finance and investment recommended that regulatory environments' openness, attractiveness, and readiness for crowding in private sector investment be addressed.³ Therefore, Member States must address their electricity market regulatory challenges to fast-track investment and private sector participation beyond generation to transmission, distribution, and off-grid investments.

10. In this regard, ECA has initiated an electricity market governance workstream under its Goal 7 finance initiative. First, a regulatory review methodology suitable for evaluating the openness, attractiveness, and readiness of electricity markets for private sector investment was developed to understand the regulatory challenges better. This approach was finalised with the participation of national, regional and continental energy institutions and in partnership with other institutions. Second, the developed rigorous methodology was applied in 17 member States, with the full engagement of national institutions and experts, resulting in national electricity market regulatory assessments. This offers a basis for engaging with member States in addressing identified regulatory challenges related to the private sector. Third, to enhance the regulatory capacity of member States, software to assist in the regulatory review of the openness, attractiveness and readiness of national electricity market regulation is under development and is expected to be finalised in December 2021. Fourth, recognising that regulatory challenges are broadly experienced in all subregions of the continent, a continental guiding framework on addressing regulation and private sector participation is underway in partnership with the African Union Commission. Through these initiatives, robust support to member States on regulatory improvements and reform is being pursued.

C. Investing in regional power through African power pools

11. While there has been considerable focus on developing country-level electricity systems and regulatory and policy frameworks, the same has not happened at the regional level. Regional collaboration, project financing, harmonisation of technical and regulatory systems, and uniform regional policy for power pools are still challenging issues. The African regional economic communities, through regional power pools, are trying to improve regional projects and power trade to: (a) reduce operating expenses and capital expenditures through improved coordination among

¹ The full report "Policy briefs in support of the High-level Political Forum 2020: Accelerating SDG7 achievement in the time of COVID-19" is available at <https://sustainabledevelopment.un.org/content/documents/26235UNFINALFINAL.pdf>.

² The full report can be accessed at: www.iea.org/reports/world-energy-investment-2021.

³ The full report can be accessed at: www.un.org/sites/un2.un.org/files/2021-twg_5-062421.pdf.

utilities; (b) optimise generation resources; (c) enhance the security of supply through transmission expansion, and (d) increase power exchanges between countries and development of competitive electricity markets. With regional power pools, regional generation resources can be leveraged to mitigate supply-demand gaps due to seasonal variations and unequal distribution of natural resources.

12. ECA and the African Export-Import Bank jointly implement a project recognising the dynamic nexus between regional power trading, energy development and sustainable project financing in the African energy sector. The project acknowledges the central role of power pooling in mobilising finance for energy development, particularly as interconnection is perceived as the most cost-effective option for equitable access to power at the regional level. The project aims to increase electricity access on the continent by strengthening regional electricity supply (electricity interconnections) and markets. This objective will be achieved by strengthening the role of regional power pools to fulfil their investment mandate, particularly in energy transmission infrastructure, aligning regional electricity trading with AfCFTA to increase energy markets, and crowding in private investment and participation in the hitherto public sector-funded electricity transmission infrastructure.

III. Transport infrastructure and services

13. Despite the challenges and disruptions brought to bear by the COVID-19 pandemic, ECA continues to implement programmes to strengthen the business environment for private sector participation and investment in transport and energy infrastructure. The pandemic has demonstrated the centrality of infrastructure development in post-COVID-19 recovery plans for Africa. This necessitates a rethinking of planning and delivery of infrastructure assets, with a particular emphasis on diversification in finance, as most countries' finance priorities have been diverted to welfare and health. Sound policies, rules, regulations and laws are critical to the continent's sustainable transport infrastructure and services development, particularly in the post-COVID-19 era.

A. Implications of the African Continental Free Trade Area for the demand of transport infrastructure and services

14. AfCFTA seeks to increase intra-African trade by eliminating import duties and double this trade if non-tariff barriers are reduced. However, inadequate transport infrastructure and services could hamper the full realisation of the benefits of AfCFTA. The urgent need to improve transport connectivity in AfCFTA within Africa has created new research opportunities. In this context, ECA undertook a comprehensive study that explored the effects of AfCFTA on trade flows in Africa and provided insights into how member States could reap the full benefits of the agreement that established the African Continental Free Trade Area through integrated planning of trade and transport. The study provides forecasts of the demand for different modes of transport due to AfCFTA. It estimates infrastructure investment requirements for different modes of transport and the impact of improvements in transport infrastructure and services on the volume of intra-African trade. It also provides forecasts of the demand for equipment for different modes of transport – road (trucks), railway (rolling stock), air (aircraft) and maritime (ships) – as a result of AfCFTA.

15. Overall, the study showed that the introduction of AfCFTA would lead to a general increase in intra-African freight demand of around 28 per cent compared with a scenario without the presence of AfCFTA.

B. The digitalisation of transport infrastructure as a post-pandemic response

16. As part of its effort to promote seamless cross-border transport in Africa, particularly in the context of AfCFTA, ECA undertook a study to identify the bottlenecks to the digitalisation of the logistics sector in Ethiopia. This gap assessment improved understanding of the barriers to digitalisation in the country and highlighted ongoing efforts to transform its logistics industry, with particular attention to practices that could be upscaled in the industry. The main output of the study is a report with a detailed action plan to digitalise the logistics sector of Ethiopia. The plan contains actions to address the following hurdles:

- (a) Fragmented efforts by different stakeholders in the logistics industry to digitalise, leading to multiple platforms that are not interoperable;
- (b) Lack of skilled human capital;
- (c) Absence of a legal framework for digitalising the logistics sector;
- (d) Inefficient use of data analytics to generate business intelligence.

17. The gap assessment report recommends creating a national logistics hub to serve as a high-level platform for logistics actors in Ethiopia. Such a platform, which could be replicated in other African countries, would optimise the benefits of digitalisation to the movement of goods within countries and across borders to enhance international trade.

C. Railway connectivity in Africa

18. Railways constitute an integral part of the development plan of Africa. This is underscored by the inclusion of the African continental high-speed rail project as a priority project of Agenda 2063. Railways will also be critical in realising the full benefits of AfCFTA, another flagship project of Agenda 2063, in particular in moving large quantities of goods across long distances in a cost-effective and environmentally friendly manner. Africa needs more investment in railways when Governments are very short of funds. Therefore, it appears logical for Governments to provide rail operators with the tools to acquire locomotives and wagons and finance them cost-effectively.

19. The COVID-19 crisis has demonstrated the importance of effective supply chain management to international trade. Governments need to seize the opportunity provided by COVID-19 recovery efforts to create the enabling conditions for expanding the rail sector. Rail-based transportation networks not only protect the environment but also spur development. In this context, ECA advocates for African countries to ratify the Luxembourg Rail Protocol, contributing to a much larger and more dynamic rail sector on the continent. The impact of the Protocol could be particularly significant in countries and regions on the continent that are currently underserved by rail transport. By supporting a modal shift from high-carbon, greenhouse gas-emitting forms of transport (such as cars, trucks and aircraft) to railways, the Luxembourg Rail Protocol will achieve all the interlinked Sustainable Development Goals.

D. Smart and seamless connectivity of transport and trade along African corridors

20. Intelligent and seamless trade and transport require capabilities at three levels:

(a) An innovative collection of trade and transport information across the entire trade value chain, including infrastructure management, cargo processing and transportation;

(b) Innovative processing of this information to convert it into trade and transport intelligence, based on an in-depth understanding of cause-effect relationships, as applicable to law enforcement and economic activities;

(c) Smart decision support at operational, tactical and strategic levels ensures that human operators from the public and private sectors work in a coordinated fashion to achieve regional economic goals.

21. In collaboration with other United Nations regional commissions and through the framework of a United Nations Development Account project, ECA contributes to the development of seamless cross-border transport and trade in Africa in the COVID-19 era. The project focuses on digitalising significant transport corridors on the continent, particularly the Trans-African Highway network. In the short term, measures will be proposed to curb the spread of COVID-19, notably by reducing to the absolute minimum physical contact between human operators in trade and transport value chains. Furthermore, procedures that currently lead to long queues and waiting times at border posts and ports will be automated. The project's long-term goals include more effective coordination between trading partners, increased asset utilisation levels, improved management and protection of infrastructure, and reduced turnaround and waiting times of vehicles, leading to higher levels of service delivery. Achieving these results will make Africa a more attractive investment location and trading partner, thus contributing to the continent's future prosperity.

E. Improving road safety in Africa

22. ECA played an active role in promoting road safety in Africa in 2020 and will continue to do so in 2021. It jointly undertook a Road Safety Performance Review in Ethiopia with the Special Envoy of the Secretary-General for Road Safety, collaborating with the Ministry of Transport of Ethiopia. The report of the review was launched in 2021. The Government of Ethiopia is already implementing several recommendations from the performance review. For instance, the process of acceding to United Nations road safety conventions and ratifying the African Road Safety Charter has been initiated; a strategy for enhanced financing of road safety is being developed; and the framework for a national road safety commission, which is envisaged to be operational in 2021, has been developed. In addition, Ethiopia has introduced changes in the taxation of imported vehicles. In this regard, newer vehicles that meet the required United Nations safety standards fall in lower tax brackets than older ones that do not meet these standards. The Federal Transport Authority has also initiated the installation of speed limiters in heavy and public transport vehicles.

23. The Ministry of Transport of Ethiopia also reviews existing road safety-related laws and regulations, updated in 2021. Road safety training and educational programmes have also commenced in the country and are expected to enhance the technical skills of relevant stakeholders. Road safety sensitisation programmes are conducted regularly at the national level, and mass media is used for awareness campaigns. ECA and the secretariat of the Special Envoy for Road Safety undertook a similar review in Zimbabwe.

24. Funding is a significant challenge in road safety management in Africa. In this regard, ECA mobilised funding from the United Nations Road Safety Fund for projects in Uganda and the United Republic of Tanzania. The United Republic of Tanzania project, entitled the "Ten Step Plan for Safer Road Infrastructure", is being implemented with the International Road Federation and other partners. The project in Uganda, for its part, is being implemented by the country's Ministry of Works and Transport to strengthen road safety management in Uganda through the use of reliable

crash data and enhanced capacity in research, monitoring and evaluation of interventions. In addition, ECA and the Economic Commission for Europe have secured funding from the United Nations Road Safety Fund to implement a project in Rwanda, collaborating with the country's Ministry of Infrastructure and other partners. The project's objective is to save lives and prevent disability by developing local capacity to manufacture, test and certify the quality of helmets for powered two-wheeled vehicles. In addition, ECA is a member of the steering group for a project on safer and cleaner used vehicles in Africa, led by the United Nations Environment Programme, also funded by the United Nations Road Safety Fund.

25. At the global level, Governments worldwide proclaimed, through General Assembly resolution 74/299, the period 2021–2030 as the Second Decade of Action for Road Safety, with the explicit target of reducing road traffic deaths and injuries by at least 50 per cent during that period. ECA, other United Nations regional commissions and agencies, and the World Health Organization were part of the task force that developed a global plan of action for the decade. The plan describes the actions needed to achieve that target. At the continental level, ECA worked closely with the African Union Commission to articulate the African road safety action plan for 2021–2030. The two organisations jointly convened a continental meeting in May 2021 that provided a platform to align the African plan with the global plan mentioned above and validate the African plan. The meeting, organised in the framework of the 2021 United Nations Global Road Safety Week, also served as a platform to review the African Road Safety Observatory and explore its contribution to implementing the Second Decade of Action for Road Safety.

F. Implementing the Single African Air Transport Market

26. In 2020, ECA, in collaboration with the African Union Commission and the African Civil Aviation Commission, developed a checklist of key performance indicators to measure the compliance of African member States and eligible African airlines with the provisions of the Yamoussoukro Decision on the liberalisation of air transport markets in Africa, and its institutional and regulatory instruments (Yamoussoukro Decision regulations). ECA undertook this work as the secretary of the Monitoring Body of the Yamoussoukro Decision. In 2021, the key performance indicators were configured into a dashboard, collaborating with the African Union Commission, the African Civil Aviation Commission, the Executing Agency of the Yamoussoukro Decision and the Single African Air Transport Market. A dashboard is a valuable tool in tracking the performance of States that have signed the solemn commitment to the Single African Air Transport Market. To that end, ECA has initiated a project to use the key performance indicators and dashboard to assess the performance of selected countries in implementing the Yamoussoukro Decision to assist them in closing existing gaps.

27. Inadequate financing for the operation and expansion of African airlines is one of the challenges that could compromise the realisation of the full benefits of the Yamoussoukro Decision. The COVID-19 pandemic has exacerbated the financial woes of airlines on the continent. In this context, ECA and the African Airlines Association undertook a study on the impact of the pandemic on African airlines. The study provides insights into the financial requirements of the airlines to survive and recover from the liquidity crisis induced by the pandemic, potential sources of relief and measures to keep them afloat. It urges stakeholders in the industry, notably intergovernmental and air transport organisations, to advocate direct government support for airlines and create a platform to coordinate their efforts towards the industry's survival by linking airlines and financial institutions and facilitating access to available funds. The study also highlights the need for stakeholders to step up efforts to create business opportunities for the airlines. ECA facilitated engagements between African airlines and development finance institutions following the study, notably the African Export-Import Bank and the African Finance Corporation.

28. Another significant contribution of ECA to air transport in Africa was its role as a member of a high-level task force on post-COVID-19 recovery strategies for the African civil aviation industry, jointly created by the African Union Commission and the African Civil Aviation Commission, in response to the devastating impact of the pandemic on the industry. The other members of the task force included the African Union Commission, the African Civil Aviation Commission, the International Civil Aviation Organization, the African Airlines Association, the International Air Transport Association, Airports Council International, the Civil Air Navigation Services Organisation, regional economic communities, and the Africa Centres for Disease Control and Prevention. The task force was mandated to ensure that stakeholders avoided duplication of efforts and that post-COVID-19 restart and recovery strategies, and all associated action plans, were harmonised to the extent possible. It developed a comprehensive post-COVID-19 recovery strategy that protects the interests of various stakeholders and promotes the sustainable development of air transport in Africa.

IV. Cross-cutting infrastructure interventions

A. Developing the second priority action plan of the Programme for Infrastructure Development in Africa and its partnership strategy

29. ECA was the secretariat of the task force that led the selection of projects for the second priority action plan of the Programme for Infrastructure Development in Africa. The African Development Bank chaired the task force, and other members included African regional economic communities. In February 2021, the Assembly of Heads of State and Government of the African Union adopted 69 projects, with an estimated implementation cost of \$160.8 billion, for the action plan. It also adopted the partnership strategy of the Programme for Infrastructure Development in Africa, prepared by ECA. The strategy is articulated in a document entitled “A common African position for mainstreaming [the Programme for Infrastructure Development in Africa] in strategic infrastructure partnerships”. The programme’s partnership strategy, financing strategy (prepared by the African Development Bank), and implementation strategy (prepared by the African Union Development Agency) are integral parts of the action plan.

30. The partnership strategy is focused on partnerships with non-African countries and organisations to implement continental and regional projects and national projects with impacts that span across borders. Emphasis is placed on partnerships between African countries and their development partners in the framework of continental initiatives such as Agenda 2063, the Programme for Infrastructure Development in Africa, and the African Union’s multilateral partnerships. The primary objective is to leverage these partnerships to fast-track Africa’s Programme for Infrastructure Development projects. Therefore, African countries and organisations would position the programme as the centrepiece of their strategy for regional infrastructure partnerships. It should be a building block for the implementation of these partnerships.

31. As shown in the table, sustainability principles were explicitly incorporated in the criteria for selecting projects of the second priority action plan of the Programme for Infrastructure Development in Africa. In essence, the different dimensions of sustainability – economic, social and environmental – were taken on board in selecting the projects.

Grouping of selection criteria and weighting for the second priority action plan of the Programme for Infrastructure Development in Africa

Category	Criteria	Weight (percentage)
Regional integration	Regional project	Pass/fail
	Explicit agreement from concerned countries	Pass/fail
Inclusiveness and sustainability	Gender sensitivity	10
	Rural connectivity	5
	Climate friendliness	10
Economic and financial impact	Corridor planning	15
	Job creation	10
	Economic impact	25
	Financial attractiveness for private sector investment	20
	Smart/innovative technologies	5

Source: African Union Commission, second priority action plan of the Programme for Infrastructure Development in Africa.

B. Financing infrastructure projects through public-private partnerships in the post-pandemic era

32. Infrastructure development is an essential component of strategies to build forward better in response to the devastating economic and social impacts of COVID-19. It can stimulate economies by creating jobs and investing in sustainable infrastructure projects, such as green energy projects. Most countries have identified public-private partnerships as suitable avenues for financing economic development, mainly with infrastructure development. However, public institutions are still the primary instruments for inclusive economic development and structural transformation in many African countries.

33. ECA is currently implementing a project whose objective is to increase infrastructure projects financed through public-private partnership arrangements. Applying the “people-first public-private partnerships” principles, the project is focused on improving people’s livelihoods by identifying public-private partnerships that directly provide local and sustainable jobs; give access to basic needs, such as water, energy, transport and education; and promote gender equality. The project has two expected outcomes: enhanced capacity of policymakers in selected countries to formulate public-private partnership frameworks in line with public-private partnership laws following international best practices; and effective public-private partnership units in all the target countries with the ability to select inclusive public-private partnerships and empower local populations, in particular addressing youth employment and gender equality.

V. Conclusion

34. In 2020 and 2021, ECA supported member States in tracking the achievement of Sustainable Development Goal 7 targets, assessing their regulatory environment in the electricity sector, improving road safety, tracking implementation of the Single African Air Transport Market, developing strategies for the recovery of the aviation

sector from the COVID-19 pandemic and providing frameworks for digitalising the logistics industry. ECA also undertook research to identify ongoing measures and develop systems that support seamless cross-border transport on the continent; provide insights into the implications of AfCFTA for the demand for transport infrastructure and services, and advocate for the ratification of the Luxembourg Rail Protocol by the Member States.

35. From now on, ECA will continue its research on the role of power pooling in energy development, digitalisation of the transport sector, including cross-border transport, and public-private partnerships in infrastructure development in support of industrialisation. It will also continue to provide advisory services and technical support to member States in road safety, reforms in the regulatory environment in the energy sector, tracking Sustainable Development Goal 7, and implementation of the Programme for Infrastructure Development in Africa. ECA will also step up its work on the nexus between land policy and investment in infrastructure development.

36. Particular attention will be given to the role of infrastructure in African economic development in the COVID-19 era. In that regard, ECA will seek answers to the following questions:

(a) How can African countries harness strategic infrastructure partnerships to implement regional infrastructure projects?

(b) To what extent can public-private partnerships be used to implement infrastructure projects in Africa, particularly regional projects, notably the Programme for Infrastructure Development in Africa?

(c) How can member States build forward better infrastructure in the post-COVID-19 era? In this regard, how can impact and sustainable investment, including green funds, be harnessed to implement infrastructure projects on the continent, including regional projects?

(d) How will member States finance the critical infrastructure – roads, railways, seaports and airports – required to accommodate the anticipated increase in intra-African trade due to AfCFTA? What role will the private sector play in that regard?

(e) How will African countries finance the equipment – trucks, rail wagons, aircraft and ships – required to transport the anticipated increased volume of goods due to AfCFTA?

(f) How will national energy and infrastructure regulation affect the pace of private sector investment participation, and what regulatory reforms would speed up private investment?