

BRIEFING NOTE No. 159 (Part 4)

Navigating green economy and development objectives: The political economy of greening transport in East Africa

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Summary

African countries and economies find themselves at the centre of competing demands and narratives around the global green transition. The continent is rich in renewable energy sources and the minerals needed to power a global shift to clean energy while reducing, or avoiding greenhouse gas emissions is also seen by many as a risk to African economic development and akin to rich countries 'kicking away the ladder'.

This note is part of a series of four notes and a synthesis paper, which identify and discuss the dilemmas faced by African countries in achieving 'greener' economic development pathways. This note

discusses the political economy dynamics and complexity of green transition in practice, taking the case of road and rail transport in East Africa.

Accompanying notes look at ways to navigate the conflicting narratives on an African 'just (energy) transition' and the challenge of economic development; the increasingly complex effects of external climate regimes on African economies; and the opportunities and risks for African countries linked to the energy transition and green industrial development. The [synthesis paper](#) combines all four notes and identifies overarching recommendations and policy opportunities.

Introduction

African countries and economies find themselves at the centre of competing demands and narratives around the global green transition. The continent is rich in renewable energy sources and the minerals needed to power a global shift to clean energy, with several countries positioning themselves to take advantage of new opportunities and attract investment. At the same time, reducing, or avoiding greenhouse gas (GHG) emissions is also considered by many to be a risk for African economic development. As late industrialisers, African countries contribute less than 4% of global GHG emissions, and are now faced with increasing pressure to forgo a fossil fuel-driven industrialisation pathway. Some see this as rich countries 'kicking away the ladder' ([Walsh et al. 2021](#)) that they themselves used to develop, denying the continent a chance to leverage its own resources to catch up to the industrialised parts of the world.¹

This note – part of a series of four notes and a synthesis paper² – discusses the political economy dynamics and complexity of green transition in practice, taking the case of transport in Kenya, East Africa.

The accompanying notes look at:

1. the conflicting narratives on an African ‘just (energy) transition’, and the challenge of economic development in a carbon-constrained environment;
2. the increasingly complex effects of external climate regimes on African economies;
3. the opportunities and risks for African countries linked to the energy transition and green industrial development

The following emerge as key takeaways from the four notes:

1. Narratives and perceptions are important – framing the green transition as offering business opportunities is likely to get most traction both internationally and at the enterprise level.
2. Even if climate change mitigation and adaptation objectives can be read differently, market regulations cannot – exporters in numerous sectors will need to adapt their production techniques and traceability to maintain market access to the EU, and increasingly to other markets.
3. Governments and private sector actors investing in and adopting sustainable, low-carbon paths may take advantage of niche markets in line with EU regulations, and what will increasingly become global norms.

4. External finance is increasingly going 'green' – first movers stand to gain most, whether between countries or in terms of companies/firms/sectors within them.
5. Structural reasons and political economy dynamics will define which countries can be first or even second movers, requiring support for others, that is adapted to context.
6. Addressing these multi-level, complex challenges requires 'systems thinking' within and between countries to take account of the interconnections between different policy areas.
7. Applying political economy analysis to green transition processes will help systematise and bring out contextual knowledge to help:
 - Understand the varying interests, incentives and power relations that underpin the challenges and opportunities for green transition, whether in Europe or Africa;
 - Understand the scope for regional and national political alignment around 'green' objectives (even if implies new winners and losers);
 - Position economies vis-à-vis international regimes, helping firms and countries therefore decide on the balance between risky bets and long-term strategy
 - Find ways to better connect existing progressive policy space and private demand/business opportunities that support a green transition;
 - Inform a spatial approach by helping to unpack regional politics, interests and incentives around key sectors like agro-processing manufacturing, transport, and the wider industrialisation dynamics.

The remainder of this note provides a case study to illustrate the importance of understanding political economy dynamics between and within states to promote the green transition, zooming in on road and rail transport along the northern corridor in East Africa.

The political economy of greening transport: multimodal transport along the East African northern corridor

This section illustrates how political economy dynamics can accelerate or slow down the green transition process, taking the case of regional freight transport and that of the Kenyan Standard Gauge Railway (SGR) Railway in particular.

The SGR was not initially planned as a 'green project'. But with capacity to carry some 150 containers per trip by rail and six to eight trips per day, it could lower the number of trucks on the Northern Corridor road from Mombasa port to the Kenyan and regional hinterland by some 900 to 1200 per day, reducing both road congestion and greenhouse gas emissions ([Maombo 2022](#)). That aligns with policy ambitions in Kenya, the region and globally to reduce carbon emissions through 'green transport' and 'green corridors'. Kenya and Rwanda in particular have national-level climate targets, as part of their nationally determined contribution (NDC) that rely partly on a modal shift from roadways to railways for freight transportation (TMEA 2021). This has been translated into corridor-level ambitions through the Northern Corridor Authority Sustainable Freight Transport Strategy for 2030 ([NCTTCA 2017](#)).³

However, the challenges of promoting a modal shift of freight transport from road to rail illustrate the difficulties of 'green' policies – whether in trade and transport or in other sectors. Multiple actors, interests, incentives and power relations interact at different levels to shape current behaviours, where 'greening' ambitions may not be a priority.

Building on existing literature and interviews in Kenya, this section highlights how politics, interests and incentives – both between and within countries – affect the calculations of potential users, and thus need to be addressed in promoting the commercial viability of an ostensibly 'green' technology. At the same time, the note discusses how a modal shift from rail to road might succeed as part of a wider transport strategy, further underlining the need to work within existing short-term political timespans for long-term, strategic, systemwide thinking that takes account of Kenya and the wider region in order to promote cleaner transport in a context of rising trade and industrialisation.

A 'modal shift' from road to rail

Freight transport is a major contributor to greenhouse gas emissions and air pollution. Its effects are predicted to multiply in the coming decades as the volume of international and regional trade increases. UNECA ([2022b](#)) estimates that a fully implemented AfCFTA could increase intra-African trade volumes by 40% by 2045. With rising trade volumes, freight emissions in Africa alone are projected to increase by 700% by 2050 (NCTTCA 2017).

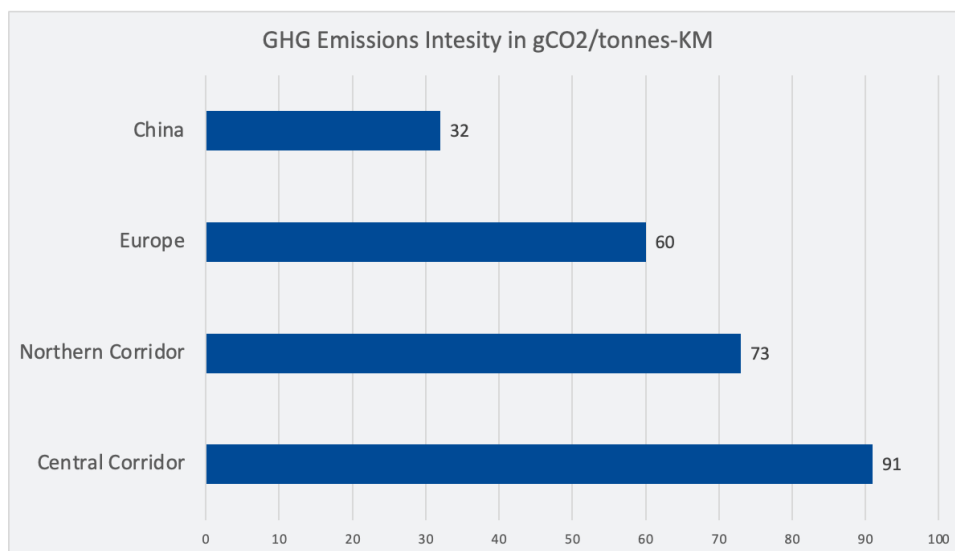
Kenya's AfCFTA Implementation Strategy acknowledges this, seeking to contribute to sustainable development "through mutually supportive trade and environment initiatives" ([UNECA 2022c](#)). In

theory, green freight transport can accompany rising trade while lowering costs and time, thus offering benefits for public health and climate change mitigation.

Transport times and costs on the Northern Corridor have improved over recent years (TMEA 2021), thus already helping to reduce carbon emissions. Though travel times increased somewhat with COVID-19-related barriers (See EASC), a 2021 TMEA study suggests that the GHG intensity of the Northern Corridor had declined by 3% compared to the 2018 baseline (TMEA 2021).

Emission intensities on the Northern (and Central) corridor nonetheless remain higher than in China and Europe, as illustrated in the Figure below. Estimates of GHG emissions on the Northern Corridor put these at 1.72 MMtCO₂e (million metric tons of carbon dioxide equivalent), above that of the Central Corridor that runs through Tanzania, estimated to be 1.24 MMtCO₂e ([NCTTCA 2021](#)).

Figure 5. Comparative GHG intensity across corridors in the world (gCO₂/tonnes-km)

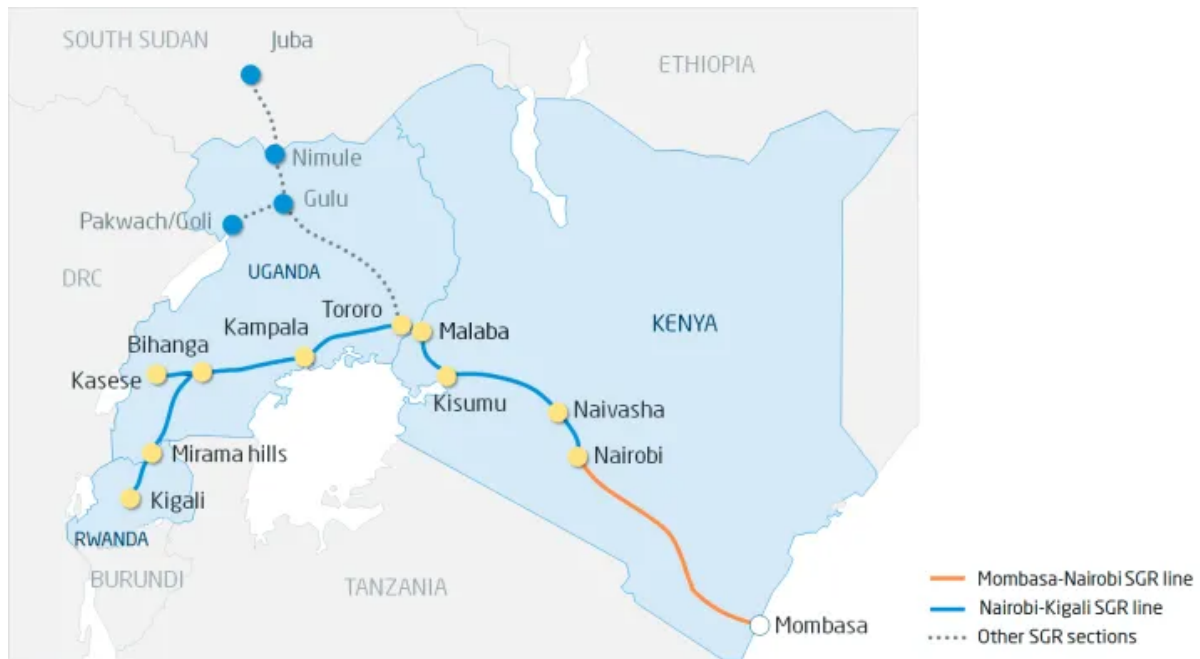


Source: Kaack et al. 2018, cited in [TMEA 2021](#)

As the NCTTCA Freight Strategy suggests, these emissions could be lowered through a combination of efforts that address: technological aspects, by upgrading fuels, vehicles and infrastructures; behavioural aspects, by optimising routes, consolidating loads and streamlining processes; as well as a modal shift from road to rail by “advocating for a shift of traffic to more sustainable freight transport systems and modes”. Thus, on paper, the SGR offers a means to address the forecasted rise in emissions.

The SGR is commonly cited as Kenya’s largest infrastructure project since independence in 1963, and the first modern standard gauge railway in East Africa. It was funded with China Exim Bank funding for almost 90% of the US \$3.8 billion contract project, and entered into operation on June 1, 2017 after construction began in December 2014 (McCartney 2022; Carrai 2021). The first phase of the SGR linked Mombasa with Nairobi. Phase 2 was intended to connect Nairobi to the Malaba border with Uganda (see figure 2 below) with subsequent connections to Rwanda.⁴ However, lack of finance to complete Phase 2 has meant upgrading the pre-existing Metre Gauge Railway (MGR) instead.

Figure 6: SGR Route planned and operational



Source: [ALG Newsletter 2017](#)

After its launch in 2017, in its first year, the SGR transported over 1.3 million travellers and 60,000 containers between Mombasa and Nairobi ([Carrai 2021](#)). It cut the journey time from Nairobi to Mombasa from 15 to 4.5 hours for passengers and to 8 hours for freight (ibid). The new Inland Container Depot (ICDs) at Naivasha represents an extension North of the SGR from Nairobi, with SGR freight services beginning in 2019 ([Kimanthi 2022](#)). From there, the refurbished MGR now continues to Malaba at the border with Uganda. Trials took place to transfer containers from the SGR to MGR in Naivasha in January 2022 ([Tanui 2022](#)).

Although that seems to represent a major step forward in encouraging a modal shift from road to rail and contributing to reducing carbon emissions, the SGR has yet to meaningfully play that role. Freight volumes have been lower than forecast, partly due to

shifting interests and incentives at the regional level, interacting also with domestic Kenyan politics. The plan to extend the SGR beyond Naivasha to the border with Uganda was dropped, while a presidential directive from 2018, put in place to guarantee that Nairobi-bound freight used the SGR, was reversed in response to domestic political manoeuvrings around the 2022 presidential elections.

The role of interests between states

A key challenge of realising a modal shift and reducing carbon emissions through the SGR is its overall commercial viability. While initial forecasts by the World Bank ([2013](#)) led them to recommend rehabilitating the existing Metre Gauge Railway (MGR) from Mombasa to Nairobi and beyond rather than an SGR, the loan from the China Exim Bank and a tripartite agreement to extend the SGR from Kenya to Uganda and Rwanda allowed its construction to begin – on the basis of a minimum freight guarantee by the Kenyan government ([Brautigam et al. 2022](#)). However, the ability to meet those freight commitments has been challenged by the interests of key players in Kenya and the wider region.

The Kenyan SGR project emerged from a 2009 memorandum of understanding to build a line from Mombasa to Kampala between the governments of Kenya and Uganda, enlarged to a tripartite treaty with Rwanda in 2013 ([Taylor 2020](#)). The agreement to launch the SGR coincided with the launch of the EAC Single Customs Territory (SCT) among Kenya, Uganda, and Rwanda thus providing a further commercial logic to the agreement (Lamarque and Nugent 2021)⁵, where the three countries were seen as a ‘coalition of the willing’ within the EAC group at this time ([Matheson 2016](#)), offering solid political underpinnings. The economic rationale stems from the

fact that approximately 30% of containers arriving in Mombasa port are destined for Uganda, Rwanda, South Sudan and the Democratic Republic of Congo (Lamarque 2019).⁶

But in a reflection of 'corridor competition', Rwanda withdrew from the Northern Corridor SGR venture in 2016 to focus on the Central Corridor through Tanzania, citing "cost concerns and the possibility of a more affordable line connecting the Rwandan capital Kigali to Dar es Salaam port via Isaka in Tanzania" (Lamarque 2021). This also came with a shift in regional relations after the election of President Magufuli in Tanzania, who immediately sought to reverse the criticism of his predecessor about deteriorating Rwanda-DRC relations ([Kibuuka 2021](#)). In addition, Rwanda-Uganda political relations led Rwanda to close its Gatuna border with Uganda from 2019 to 2022, a possibility given the desire to avoid over-reliance on any one transport corridor ([Reyntjens 2022](#)).

The Ugandan authorities stalled the construction of their SGR connection from Kampala to the Kenyan border amid parliamentary accusations that the US\$2.3 billion price tag had been inflated and that certain aspects of the project were unnecessary (Lamarque and Nugent 2021). By mid-2017, Uganda and Tanzania had signed a memorandum of understanding on joint ministerial cooperation and improvements of ports, inland waterways, and railway transport (*ibid*). Taylor (2020) also links this to the decision by Uganda to route its \$4 billion oil pipeline through Tanzania rather than Kenya as had been previously agreed. At the same time, time and costs to transport between Kampala and Dar es Salaam fell further in 2018 with the entry of a new cargo ship operating across Lake Victoria for the first time since 2005 (Lamarque and Nugent 2021). Together these

all add to the attractiveness of the Central Corridor through Tanzania and undermine the attractiveness of the Kenyan SGR.

Due to lack of funding to continue the SGR to Malaba, the Kenyan government instead rehabilitated the metre-gauge line from Naivasha to Malaba, with investments to ensure the smooth transfer from the SGR that were then trialled in early 2022 ([Otieno 2022](#)).

Nonetheless, these met controversy as transit goods were offloaded prior to crossing the border, allegedly in contravention of international rail transit conventions ([Esiara and Kitimo 2022](#)).

According to some, “until and unless the SGR connection to Uganda is accomplished, the only export commodities that may utilise the line from Nairobi to Mombasa are tea, coffee, hides and skins and animal and vegetable oils. None of these are high value” (Taylor 2020), even if volumes are not insignificant. By undermining the viability of rail as a freight transport option, these dynamics undermine the potential emissions prospects of a modal switch from road to rail.

Nonetheless, in 2019 Uganda announced that it would restore the old railway line linking Kampala to Malaba on the Kenyan border, rather than pursue the planned SGR (Taylor 2020). This aligns with the Kenyan government’s decision to upgrade rather than replace the metre-gauge line from Naivasha to Malaba, and its construction of the Inland Container Depot in Naivasha (Lamarque 2021). That will mean an MGR between Kampala and Naivasha, with goods transferred to and from the SGR at Naivasha. Burundi, Rwanda, DRC, Uganda and South Sudan have now all been given land at the Naivasha ICD to encourage their trade through the Northern corridor ([Andae 2022](#)). At the same time, reportedly good relations between Kenyan President Ruto and Ugandan President Museveni also provide

a strong basis for cooperation around the Northern Corridor and the SGR ([Kzibwe 2022](#)) suggesting that the SGR could yet play an important role in reducing freight-related GHG emissions.

Recently, Kenya and the Netherlands signed an agreement to create a 'cool logistics corridor' to export horticultural goods using the SGR for onward export to Europe ([Kimanthi 2022](#)). The Kenya Tea Development Agency (KTDA) is reportedly also transporting their produce via the SGR, along with other firms such as Delmonte who export avocados and pineapples. While driven by climate concerns, these initiatives may also serve as an example for others to follow, and at the same time point to the need to build demand for the SGR that puts it on a more financially sustainable path..

As it stands, demand for the SGR has reportedly been on the rise. Press reports cite a rise of cargo throughput from 34.1 million metric tonnes in 2020 to 34.5 million tonnes in 2021, amid an increase in container traffic, by 5.6%, from 1.359 million Twenty-foot Equivalent Units (TEUs) in 2020 to 1,435.3 thousand TEUs in 2021 ([Mwita 2022](#)). Reports from mid-2021 reflecting rising demand for freight on the SGR, led the Kenya Railways Corporation (KRC) to begin buying 500 new freight wagons ([Kimanthi 2022](#)). This came amidst a slight reduction in the volume of imports handled at the Port of Mombasa from 27.7 million metric tonnes to 27.3 million metric tonnes in 2021 but a rise in export volumes by 9.7% to 4.6 million metric tonnes ([Kimanthi 2022](#)).

Nonetheless, though regional politics may be realigning around the SGR, the bulk of freight is still carried by road. Estimates suggest that as of June 2022 the SGR was carrying 40% of containerised cargo and 10% of the conventional cargo ([Kimanthi 2022](#)). Further, as for

most African countries, the trade balance is heavily skewed towards imports. It is estimated that for every 7.8 tonnes of cargo transported inland from Mombasa on the SGR, only 1.01 tonnes is sent back to the port for export (Taylor 2020). Analysis of GHG intensities along the corridors in East Africa show that empty return trips contribute more GHG emissions than loaded return trips (NCTTCA 2021). In both the Northern and Central corridors, exports represent only 14% of the total trade with nearly 70% of trucks returning empty (ibid). This trade imbalance is a difficult structural factor to overcome in the name of reducing GHG emissions, at least in the short term.

Regional politics and corridor competition clearly play a role in shaping SGR uptake, but much also depends on structural factors such as trade flows and the ability of the SGR to compete with road transport, an issue that has been heavily influenced by Kenyan domestic politics.

The role of domestic politics and road competition

In February 2019, the Kenyan Government reported that the SGR costs twice as much as road to transport cargo (Taylor 2020). As such, at the end of May 2019, the Kenya National Bureau of Statistics reported that the SGR generated sales of \$57million in 2018, against the annual operating cost of \$120million (Taylor 2020). In March 2021 Kenyan Railways reduced SGR cargo tariffs by 15% to promote the use of the Naivasha ICD (NCTTCA 2021).

Beyond efforts to cut prices, the previous government also sought to fulfil its rail freight obligation, as laid out in its loan agreement, through a directive obliging inland-bound traffic to use the SGR. The Authorities published a government directive requiring all cargo

imported through the port be transported to Nairobi and the hinterland exclusively by the SGR in 2018.

Promotion of the Naivasha ICD led coastal actors to accuse the government of shifting the most lucrative elements of Mombasa port – the handling, clearance, and storage of goods – inland to the benefit of the Nairobi elites (Lamarque 2021). Mombasa has long been a stronghold of Raila Odinga’s National Super Alliance and as such, implies the development of the SGR and Naivasha IDC is a way of shifting control of revenues from the burgeoning warehouse sector in Mombasa to Nairobi (Lamarque 2019).⁷ Tellingly, news reports connect the SGR and Naivasha ICD to former President Kenyatta, even if formally this represented a strategy to connect Kenya to the wider region ([The East African 2022](#)).⁸ One of the first moves by President Ruto in September 2022 was to return all port operations transferred to Nairobi and Naivasha ICDs to back to Mombasa, reversing one of the most controversial policies of the Jubilee administration ([The East African 2022](#)).⁹ While the implications of this have yet to be fully seen, it highlights the importance of domestic and local politics in shaping issues of much wider impact.

New reports suggest that while the previous directive had led to rising SGR traffic, it also led to job losses in Mombasa. Its reversal risks undermining recent investments in Naivasha. Although the reversal pleases the Kenyan road transporters, it potentially undermines the SGR loan agreement with its guaranteed freight volume ([The East African 2022](#)). It can also be seen as a setback for the environmental objective of shifting freight from road to rail.

Supporters of the policy reversal point to the importance of shippers’ freedom to decide, and the role of competition – in this line of

thinking, the SGR should compete with road transport. Recent field interviews confirm that shipments to Nairobi remain more expensive by SGR than by road transport. Newspapers cite that until the recent reversal hauling goods to Nairobi by road was cheaper than using the SGR mainly because of the last mile factor ([Kisero 2022](#)). This is confirmed by field interviews, with two main culprits making up this factor: the processes at the Naivasha and (particularly at) the Nairobi ICD; and last mile delivery costs from these to shippers' final destinations. Both of these ultimately translate to higher last mile costs which according to interviews can amount to KSH 23,000, while from Mombasa to Nairobi can be some KSH 60,000. Critics suggest this is to do with 'transport cartels' seeking to undermine the viability of the SGR, while others point to congestion and times taken to exit the Nairobi ICD, for example. Those can mean taking some 7 or 8 hours for a 20km round trip (Interview). This also highlights how private operators' interests are more to do with efficiency gains rather than green (carbon emissions) aspects.

Beyond this, as Nugent and Lamarque (2021) point out, though railways are in principle more cost-efficient and environmentally friendly than roads, the fixed costs of establishing a railway are high, placing a visible burden of debt on government that users must pay. In contrast, the cost of repairing road damage by (overloaded) trucks is less directly borne by users, with "less visible" financial obligations (Lamarque and Nugent 2021). As they put it, powerful interests continue to insist on the primacy of trucking "which politicians ignore at their peril. As things stand, therefore, road continues to trump rail." (Lamarque and Nugent 2021).

The saving grace here may be that Ugandan shippers, for example, have found the SGR to Naivasha to be more efficient than road

transport, while rising fuel costs may also tip the balance in favour of rail transport given that some 60% of road transport costs are fuel (Interview).

Implications

Overall, for landlocked countries, reducing emissions through a modal shift to rail must take account of road competition with rail, and in the case of the Northern Corridor with competition with the Central Corridor through Tanzania. While corridor options are generally sought by landlocked countries, the nature of the goods traded and trade balance combine with interstate politics to shape the transport environment and undermine the potential of the SGR. The Kenya and Tanzania SGRs are therefore also part of a wider regional rail and road transport system, where competition will play a role.

The above discussion highlights the challenge of promoting the SGR, and underlines the need for a system-wide approach: SGRs should be thought of as a part of the transport system alongside other transport infrastructures, logistics infrastructures ICD, and other modes such as road, maritime and air transport. That also implies looking at connections between different modes through last mile connectivity at the local, national and regional levels. All of these elements partly determine the extent to which SGRs will be efficient from a cost/time and carbon perspectives, and thus competitive vis-a-vis road transport and gain traction vis-a-vis private operators, which are less concerned by emissions savings.

Such an approach is arguably underway, between bringing regional partners on board through engagement around the Naivasha ICD, and seeking to promote a combination of road and rail. Nonetheless,

the success of the SGR in a multimodal approach will hinge on addressing persistent bottlenecks along the transport chain. These were the focus of the Kenyan Logistics and Transport Network (KLTN) – which was working with a range of transport and logistics stakeholders to connect the revenue and ports authority tracking systems, for example, and to engage with the Nairobi ICD to improve efficiency – before the lead organisation, the Industry and Commerce Development Corporation was folded into a new body, the Kenya Development Corporation. Such initiatives will be important to resurrect to overcome any vested interests in an inefficient SGR and ICD system. Navigating these interests also means adopting a gradual and agile approach responding to short-term incentives, that can in turn alter longer-term incentives for a more ambitious system-wide approach.

More importantly, road and rail will both play a key role in regional trade and transport – implying that the modal shift to rail should be seen as one component of a green transport strategy. Indeed, unless the Kenyan SGR can be electrified – discussions were held in 2018 to electrify the SGR, which is currently diesel powered, those plans were later postponed “for 3 or 4 years” in 2020 due to the cost and fears about the reliability of electricity supply ([Mutambo 2020](#); [Genghis Capital 2018](#)) – one estimation exercise finds that the highest potential for emissions reductions over the long term lie in road transport due to improvements in fuel and truck technologies as well as expanding roads to reduce congestion ([Notter et al. 2018](#)).

Overall, greening trade and transport will require long-term system-wide thinking, within and between countries, where rising climate finance and the EU climate regime may alter incentives towards ‘green infrastructure projects’, and sectoral initiatives such

as last mile electrification, but where interests and incentives must also be worked through and around to ensure future impact.

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Endnotes

1. The original idea of ‘kicking away the ladder’ comes from Ha-Joon Chang’s discussion of how developed economies used trade protectionism to develop, before promoting trade liberalisation ([Chang 2003](#)).
2. This paper is based on a desk review carried out in the second half of 2022, as well as a series of interviews with Kenyan stakeholders and experts carried out in November 2022.
3. That sets the objective “to cut emissions of Particulate Matter (PM), black carbon emissions and Oxides of nitrogen (NOx) grams per ton-km by at least 10% and reduction of CO2 emission intensity grams per ton-km by 10% by 2021” (NCTTCA 2021).
4. Phase 2 was divided into three different sub-phases: Phase 2A: Nairobi to Naivasha; Phase 2B: Naivasha to Kisumu (which included the construction of a new port at Kisumu on Lake Victoria); and Phase 2C, from Kisumu to Malaba (Taylor 2020).
5. LaMarque – The Jealousy of Roads: Construction, Circulation, and Competition on East Africa’s Transport Corridors, 2021 (from Lamarque and Nugent 2021).

6. Lamarque Profitable inefficiency: The politics of port infrastructure in Mombasa, Kenya, 2019.

7. Lamarque, Profitable Inefficiency: The politics of port infrastructure in Mombasa, Kenya, 2019.

8. See also Africa Confidential 23 September 2022, Vol.63, No.19 (Africa Confidential 2022).

9. Reportedly, Odinga's defeat gave Ruto a much higher vote than expected in August, thus further underpinning this decision (Africa Confidential 2022).