**Supplementary Material 1. Near-term developments underpinning scenarios**

|  | **Business as Usual** | **Green Transition** | **Moderate Change** |
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| **Finance** | No review of electricity tariffs (known as the Multi-Year Tariff Order (MYTO))  | Review of electricity tariff towards a fully cost-reflective model and unlocking consumer’s willingness to pay | Delayed and partial tariff review (tariffs remain non-cost-reflective) |
| Slowdown of investment in the off-grid sector, especially from the private sector | Significant rise in investment in the off-grid sector by public and private, domestic and international investors  | Slight increase in investment in the off-grid sector, which however fails to meet the market demand.  |
| Lack of investment in the on-grid sector, especially on infrastructure and metering | Significant inflow of sector across the value chain of the on-grid sector, esp. in transmission and distribution, including metering | Limited flow of investment into the on-grid sector |
| Poor market liquidity prevails across the value chain of the on-grid sector  | Liquidity issues in the sector are resolved primarily through private sector investment, with support from development partners  | Liquidity issues in the on-grid sector are addressed but not fully resolved |
| Distribution companies (DisCos) remain on the brink of bankruptcy but are not forced to restructure by the regulator | Restructuring and possible re-capitalization of distribution companies that are currently not creditworthy | Franchising addresses some of the commercial problems of the distribution companies, but no structural reform takes place |
| Absence of sovereign guarantees for new on-grid generation projects | Presence of sovereign guarantees for new on-grid generation projects | Presence of sovereign guarantees for a select number of new on-grid generation projects |
| Barriers to unlocking mobile money for the off-grid renewable sector still exist | Mobile money has been unlocked and boosts rural market access for the off-grid renewable sector  | Mobile money is not fully unlocked but other alternative payment services or platforms exist |
| Business models for the off-grid sector still struggle to adapt to market realities. Forex constraints limit access to international finance | Green finance modalities exist and reach a scale where investment by foreign and local investors in the off-grid sector meets demand  | Business models for the off-grid renewable sector are adapted to fit local needs, but limited development of local technologies and markets |
| Limited consumer finance for the off-grid renewable market | Consumer finance for the off-grid renewable sector, especially for MSMEs and rural market, is unlocked and meets demand | Consumer finance for the off-grid renewable market exists, but does not meet demand |
| **Policy** | Lack of additional supporting policies, regulatory framework and frameworks for the off-grid sector | Additional supporting policies an enhanced regulatory framework and enforcement tackle off-grid sector challenges, esp. quality standards, incentives incl. import duty exemptions. | Additional policies that tackle off-grid sector challenges are introduced but there is lack of enforcement. Poor implementation of quality standards for off-grid solutions, especially Tier 2 products. |
| Challenges with implementing the 2017 Mini-Grid Regulation as the mini-grid industry matures. Increased taxation on renewable energy components and systems | More favourable import tariffs for renewable technology components, with the Mini-Grid regulation successfully implemented and continually improved upon based on market realities | Some challenges in implementing the 2017 Mini-Grid Regulation remain, esp. related to developer / Distribution Company relationship and asset compensation |
| No implementation of the 2018 Meter Asset Provider Regulation, and absence of regulation to end estimated billing | Strong implementation of the 2018 Meter Asset Provider Regulation and an end to estimated billing | Slow implementation of the 2018 Meter Asset Provider Regulation and poor policy addressing estimated billing  |
| No improvement in gas regulatory framework and gas pricing methodology | Improved gas regulatory framework and gas pricing methodology | Slow improvement in gas regulatory framework and gas pricing methodology |
| Non-enforcement of DisCo performance and efficiency target  | Full enforcement of DisCo performance and efficiency target | Status quo in DisCo performance targets and efficiency |

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| --- | --- | --- | --- |
| **Enabling environment** | Currency devaluation | Inflation slows, access to and cost of foreign capital improves  | Rising inflation and forex risks constrain access to capital |
| Poor security of gas supply infrastructure and power assets. Lack of effective governance and enforcement in the gas sector | Resolution of gas supply bottlenecks (pricing, remittances, infrastructure). Strong and effective gas sector governance | Pricing improves but does not meet market needs. Security and sector governance still remain an issue |
| Poor data collection, particularly on electricity consumption, demand and consumer data | Improved data collection especially in mapping current and projected demand, and increased consumer profiling | Slow progress in data collection especially on electricity demand |
| Contractual conflicts around original acquisition agreements between government and power sector investors remain unresolved | Resolution of contractual issues in the sector, finalization of new industry agreements (GSAs and PPAs), and sanctity of contracts | Some contractual issues are resolved but lack of trust still exists among investors |
| Lack of coordination among the many stakeholders (DisCos, GenCos, grid management, bulk electricity trader, regulator, gas suppliers and others) across the on-grid sector value chain | Improved coordination across on-grid sector value chain. Systems and processes are put in place for integrated planning | Marginal improvement in coordination across the on-grid sector value chain |
| Poor collaboration between on-grid and off-grid sectors, esp. mini-grid developers and DisCos | Strong collaboration between on-grid and off-grid sectors, esp. mini-grid developers and DisCos | Improved collaboration between on-grid and off-grid sectors, esp. mini-grid developers and DisCos |
| Poor coordination between federal and state governments in electrification planning | Strong coordination between federal and state governments in electrification planning | Moderate synergy between federal and state governments in electrification planning |
| Lack of key expertise and capacity in government MDAs in the power sector to address sector challenges | Investment in human capacity development in both on and off-grid sectors | Moderate improvement in human capital development for on and off-grid sectors.  |