

ANNEX 8

RECOMMENDATIONS FOR CALCULATION OF USAGE CHARGE OF INTERCONNECTED MINI-GRIDS

The Distribution Licensee and the Mini-Grid Developer or Operator are free to define any usage charge for distribution grids of the Licensee as they deem adequate. This document provides some guidance in finding an agreement which is fair and acceptable for both parties.

Interconnected Mini-Grids are meant to be installed where the Licensee cannot supply reliable electricity to customers for economic or technical reasons.

From a Licensee's perspective, often, the operation of some parts of the Distribution Licensee's network is unprofitable or has got a very low profitability to the Distribution Licensee under the given regulatory constraints. This is because some distribution network areas, particularly those located in sparsely populated rural remote areas, require high efforts related to collection of money from customers and reduction of non-technical losses. Good personal relationships with the community and each electricity customer may solve this problem. However, the cost for such an engagement outweighs the revenue collected from the same area.

In contrast to Distribution Licensees, Mini-Grid Operators supplying electricity to a smaller number of customers (due to the limitation in size of Mini-Grids) typically have got closer relationships with their customers and therefore have got the opportunity to run more community oriented customer management and demand development approaches than Distribution Licensees. This enables the Mini-Grid Operator to run the Mini-Grid profitably if the tariffs are high enough to cover its additional cost. This right for higher tariffs is provided in the Mini-Grid Regulation, 2016 under the condition that the community and the Commission approve the tariff requested by the Mini-Grid Operator.

For the Distribution Licensee, cooperation with an Interconnected Mini-Grid Operator provides the opportunity to fulfil its mandate and provide access to reliable electricity within its Licence area without suffering financial losses. The Interconnected Mini-Grid provides the opportunity for Distribution Licensees to bridge a certain duration of time until electricity from the main grid can be supplied to the area reliably. Within this period of time, the distribution network infrastructure is maintained by the Interconnected Mini-Grid Operator. Alternatively, it can be maintained by the Distribution Licensee while the costs for the maintenance of the distribution network infrastructure are covered by the usage charge to be paid by the Mini-Grid Operator. Ideally, the Distribution Licensee takes over electricity supply after the period handled by the Mini-Grid Operator has expired with the distribution network in a good technical condition and with customers who are used to pay for electricity.

From a Mini-Grid Operator's perspective, underserved areas already covered by distribution networks often enable Mini-Grid Operators to increase electricity sales faster than in areas

which are completely off-grid. Therefore, Interconnected Mini-Grids may become profitable more quickly than Isolated Mini-Grids. By having the opportunity to establish Interconnected Mini-Grids, the Interconnected Mini-Grid Operator may select areas with good demand potential and well organized communities.

From a community's perspective, unreliable electricity supply hinders economic uptake of an area and therefore is not acceptable to the community in the long run. In most cases, even a considerably higher electricity tariff combined with reliable electricity supply is better for the local economy than a low tariff with unreliable electricity. However, from a community's perspective, the usage charge for the distribution network to be paid by the Mini-Grid Operator to the Distribution Licensee shall be low enough to provide sufficient incentive to the Distribution Licensee to re-connect the Mini-Grid to the distribution network after the contract with the Mini-Grid Operator has expired.

Therefore, the usage charge for the distribution network shall cater for both, the reduction of financial losses on the Distribution Licensee's side on the one hand and the requirement for low

cost distribution grids in high electricity demand areas of Mini-Grid Operators on the other hand.

Accordingly, the basis for the calculation shall be the lost profit of the Distribution Licensee from electricity sales within the part of the distribution network hired out to the Mini-Grid Operator.

The usage charge shall be calculated based on the average profit generated by the Distribution Licensee within the last 12 months plus any operation and maintenance costs that are not transferred from the Distribution Licensee to the Mini-grid Operator. As mentioned before, in the Tripartite Agreement, the Distribution Licensee, the Mini-Grid Operator and the community are free to define any usage charge they can agree on considering or not considering the above mentioned clause. In case the Distribution Licensee's assets to be hired out to the Mini-Grid Operator are loss-making, the parties shall consider a hiring arrangement without any compensation at least for a certain period of time (e.g. 5 years).