

Non-Discriminatory Open Access Policy and Regulatory Framework for promoting Cross Border Electricity Trade in South Asia

Policy Brief

1. What is Non-Discriminatory Open Access (OA)?

Non-discriminatory OA in simple refers to the possibility of any entity, be it a buyer or seller of electricity, to connect to and make use of the transmission and/or distribution system on the payment of cost-reflective service charges. This is subject to system availability and network constraints, regardless of the ownership of power system.

In an OA condition, the transmission utility has to ensure that it provides the consumer/generators and market intermediaries access to the network and non-discriminatory treatment to all parties, even if one of the consumers has his own generation or consumer business.

2. Why Non-Discriminatory OA in transmission is Important for South Asian Countries (SACs)?

Non-Discriminatory Open Access (OA) in electricity transmission can help in the creation of free and fair South Asia Regional Electricity Market (SAREM) and for facilitating better integration of two or more power systems among South Asian Countries (SACs) considering the fact that power transmission is a natural monopoly.

It is practically infeasible for the electricity generator and consumer to have their own transmission and distribution lines. They have to rely on state's and center's own transmission and distribution network

for the same. In South Asia, there are three main segments in the power sector viz. generation, transmission, & distribution. Out of these three, only generation has large share of the private sector with limited private sector participation in Distribution. However, the transmission sector is widely operated by the central/state owned Government owned Power utility. Therefore, the public sector has a monopoly in transmission and distribution network and both generator and consumers have to rely on them for this particular operation. Currently except India, none of the other SACs have a properly developed regulatory and operational framework for Non-Discriminatory OA in transmission. With Cross Border Electricity Trade (CBET) is poised to increase manifold in SA in coming future and in the context of evolving SAREM, a comprehensive Non-discriminatory OA framework for CBET is becoming increasingly desirable as it will provide multiple options to sellers/buyers of SACs, leading to a more efficient regional power system operation, improved quality of power supply, and downward pressure on tariffs.

3. Current approach for Non-Discriminatory OA in SACs

Current approach among SA countries (except in India) is adhoc in nature which is evident from the fact that do not have any clear policy, regulatory and operational framework for Non-Discriminatory OA in electricity transmission both for domestic and as well Cross Border Power Trade. This adhoc approach creates uncertainty among the market players and

prevents from introducing competition in electricity markets, increasing their efficiency, and reducing sub-optimal utilization of the benefits of CBET and SAREM.

Current Scenario of Open access policy and Regulatory framework in SACs

Country	Transmission Unbundling	ISO	Independent Regulator	OA Policies	OA Regulations	Pricing framework	Operational Framework - CBET
Afghanistan	x	x	x	x	x	x	x
Bangladesh	●	x	✓	x	x	x	x
Bhutan	●	x	✓	x	x**	x	x
India	✓	x	✓	✓	✓	✓	✓
Maldives	x	x	✓	x	x	x	x
Nepal	x	x	●*	x	x	x	x
Pakistan	✓	x	✓	x	x	x	x
Sri Lanka	x	x	✓	x	x	x	x

*Nepal - The Electricity Regulatory Bill for setting up of an independent regulatory commission has been passed by the Parliament. As on end of November 2017, the Regulatory Commission has not been set-up.

**Bhutan – The Bhutan Power Corporation (BPC), which undertakes power transmission in Bhutan allows the cross border export projects owned by DGPC and DHPC to wheel their power through BPC’s grid by paying separate wheeling charges.

SARI/EI approach believes that, it will be beneficial to have well defined comprehensive Non-discriminatory OA policy and regulatory framework for CBET in SACs. To address the above, SARI/EI has conducted a study on the above subject and have recommended a regional but balanced Framework and a detailed set of Guidelines for Non-Discriminatory OA Regime in Transmission and Grant of OA to Initiate Power Trading and facilitate CBET in SACs.

4. Existing Policy, regulatory institutional landscape for Non-Discriminatory OA in transmission

After analyzing the existing legal, regulatory, operational and institutional frameworks needed for non-discriminatory open access in transmission in SACs, our analysis reveals that other than India, none of the other SACs have a properly developed regulatory and operational framework for non-discriminatory OA in transmission as provided in Table-1. The absence of such comprehensive regulatory and operational framework for Non-Discriminatory OA in electricity transmission among SACs (except India) is due to fact that, there is not much progress at the policy level, towards moving from singly byer model power system structure to a

competitive, multiple buyer and seller model power system structure. Due to the absence of Non-Discriminatory OA framework (except India), SACs are being deprived of the benefits of OA such as 1) Increase in reliability of power 2) providing alternate options for sourcing cheaper power more generation capacity, thus furthering power generation competition and 3) Building supply for bulk Consumers such as industries.

5. International Experience of in Open Access:

The experience of countries like Brazil, Turkey, and Peru shows that political commitment to liberalization, legislative provisions for third-party access, conducive market structure (ownership separation), independent system operation, economically efficient pricing, and well-organized transmission planning are all critical for successfully implementing open access. From a regional perspective wherein more than one power system gets integrated, open access allows maximum freedom for moving electricity across integrated markets. In some regional markets, notably in the European Union, cross-border transmission interconnections with the freedom of access have been a critical instrument of integration of the national electricity markets or market coupling.

6. Recommended Framework and Guidelines for Non-Discriminatory OA:

Based on the study of Non-Discriminatory OA Regime in India and in regional power pools, a model framework with four basic elements covering a) Legal & Regulations b) Market C) institutions and d) operational framework as depicted in figure-1 have been recommended to form the basis for deriving guidelines for Non-Discriminatory OA in SACs. Except India, it is recommended that South Asian Countries should develop policy framework relating to Non-discriminatory Open Access framework in transmission to encourage competition in the electricity sector. This will not only facilitate competition and free market but will also help to promote investment in the region. From the Point of Cross Border Electricity Trade, it therefore important.

Model Framework for Open Access Regime in South Asia

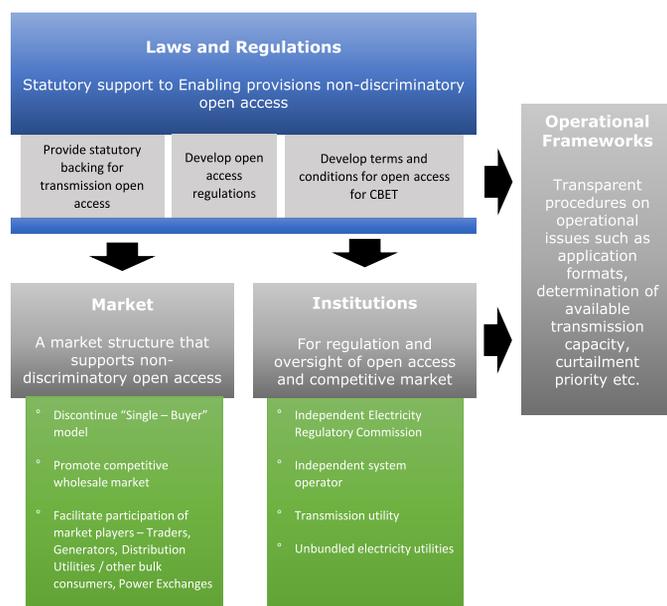
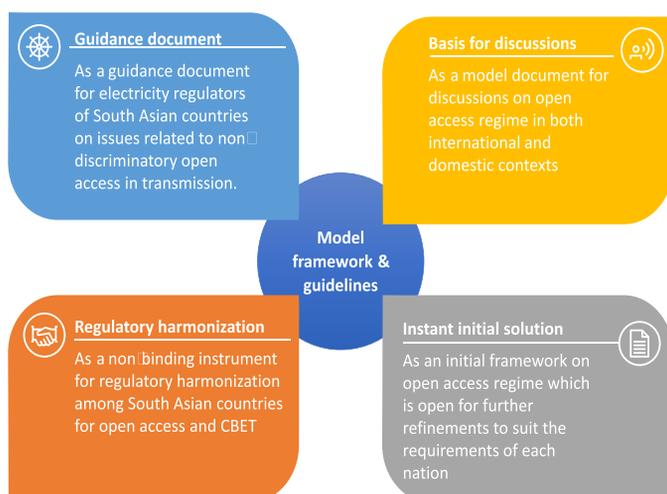


Figure 1 Model Framework for Open Access Regime in South Asia

The purpose of Framework and Guidelines for Open Access Regime is 1) Be a guidance document for regulators in the on issues related to the Open Access regime and 2) provide an initial framework on the open access regime, which is for further refinements to suit the requirements of each nation.

Purpose of model framework and guidelines



A) Laws and Regulations of SACs to have provision related OA:

A non-discriminatory OA regime requires corresponding legal and regulatory changes to be made (except India) in SACs so as to have OA regime in the legal statue. Legal support is also required mainly in terms of defining OA, and for the

Transmission utilities to provide transmission OA in order to avoid any ambiguities, the legal framework may also explicitly allow OA and wheeling for CBET transactions.

B) Market Players and Enabling Conditions

For OA to play a meaningful role, the power market should have transitioned from a 'single buyer' model (where only the monopoly utility is allowed to indulge in power purchase and retail supply) to a competitive wholesale market (where IPPs, traders, and so on, are allowed to indulge in wholesale power sales). In case any of the countries are reluctant to introduce competitive markets, they may allow the market players to obtain OA for the limited purpose of cross-border electricity trade. The introduction of competitive market players such as power traders and power exchanges is also expected to aid in the development of the non-discriminatory OA regime. Since such entities cannot effectively function without OA, they are expected to play a key role in pushing for implementation of transmission OA.

C) Institutions: The following institutions needs to be created/strengthen as applicable for to play a crucial role in OA 1) An independent regulatory commission: for regulation, monitoring, and dispute resolution for OA 2) an independent system operator, along with the transmission utility: to enable and provide Non-discriminatory OA to electricity networks, in co-ordination with each other and c) Unbundled electricity utilities: to avoid conflict of interest from affecting the utility's day-to-day performance on matters related to OA.

D) Operational Frameworks:

There is a need to have operational framework which refers to the development of detailed guidelines, application formats, standard templates, and procedural aspects related to OA. The procedural aspects may also deal with issues such as methodology for determination of available transmission capacity and priority of curtailment of various OA transactions. Once such a framework is put in place, it may be expected that the interaction between the basic elements of the framework will result in further development, evolution, and improvement of the OA regime. As Open Access is more of an evolutionary process rather than a

discrete event, the market can be expected to evolve further through the interaction between these four elements and the market players

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