

Challenges of Present Scenario of Electricity Services

RECON to organize an online dialogue

Date: Saturday August 07, 2021

Time: 3:00 PM to 4:00 PM NST

Speakers: Former Minister Er. Ganesh Shah, ERC Member Dr. Ram Prasad Dhital, Managing Director of NEA Mr. Hitendra Dev Shakya, Prof. Dr. Govind Nepal, Dr. Kamal Rajal, RECON Chairperson Mr. Guna Raj Dhakal and others

Facilitation by: Sr. RE Expert Mr. Vishwa Bhushan Amatya

Link for Zoom platform:

Potential Participants: AEPC officials, Consumer Associations, FNCCI, CNI, FNCSI, Chamber of Commerce, IPPAN, Bankers Association, GIZ, NREP, DFID, USAID, TU, KU, RECON, Media (newspapers, online, TV channels)

Background note :

In the modern world electricity is one commodity without which human society cannot exist as every action of modern human being is linked to the electricity. Moreover, global statements time and again indicate that there are still 1 billion people do not have access to electricity.

There are two distinct source of energy green electricity that are environment friendly derived from hydropower and renewable sources and brown electricity derived from use of fossil-fuel like coal and petroleum products. Naturally the former one is preferable. Hydropower, Solar PV farming, Solar Roof-top, Wind-power, Geothermal technologies are considered renewable energy.

Hydropower in Nepal is the mainstream source of electricity that utilizes hundreds of rivers and rivulets in Nepal. 55 years ago Dr. Hari Man Shrestha first estimated Nepal has potential to generate 83,000 megawatts of electricity from the rivers of Nepal of which 43,000 megawatts is believed to be economically exploitable. These estimates have been revised upward substantially by various scholar later.

Although Nepal started construction of hydropower 110 years ago along with its neighbouring countries, to-day Nepal's achievement is something that we cannot be proud of whereas other countries have achieved many folds more. Today Nepal has mere 1500 MW of installed capacity majority of which is ROR type with dependable capacity during dry season standing at less than half of installed capacity. This has made Nepal dependent on import of electricity to meet its demand almost throughout the year. The share of electricity generation by IPP stands at more than half. Electricity generation by Solar PV technology connected to the national grid is miniscule although it has contributed substantially in providing electric light in rural areas in the off-grid locations complementing to electricity by microhydro.

The Government statistics boasts that 93% of households have access to electricity. The usual undiscussed part of this statistics is that more than 15% of this access is through microhydro and solar home systems which caters for only lighting and small appliances like mobile charging only. Even most of the rural grid connections cannot meet demand if people want to power appliances like Induction cooktops as they were designed for lighting and some small loads. If statistics of

electricity access are presented as per SDG/SE4all Tier framework, there will be more clarity in nature of electricity access.

The majority of electricity distribution system is managed by NEA across the country catering to about 3.5 million households. Add half a million households catered by Community Rural Electrification Entities (CREEs) under the umbrella of National Association of Community Electricity Users-Nepal (NACEUN), the total grid connected household would stand at about 3.9 million households (NEA, 2020). CREEs purchase bulk quantity of electricity from NEA and sale to its members. Development of transmission and distribution system is shared by the government and community at the ratio of 90 per cent and 10 per cent respectively. CREE model seems to be more effective in terms of reduction in losses (theft) and facilities to people, however, financial sustainability is challenge for these CREEs.

With rapid increase in installed capacity in the recent years, the Government fears that if electricity use intensity is not increased (in industry, electrical mobility and e-cooking) challenge to consume the generated will be severe as export of electricity at an attractive price is still not secured. Nonetheless, it is advisable that government priority should be towards consuming electricity in the country in industries and other economic activities that will contribute substantially more to the national economy and create employment opportunities within the country which cannot be materialised if we focus on exporting raw electricity.

Although, allowing 10 or 20 units of free electricity is politically attractive, its long term sustainability is questionable hence should be looked upon as short term measure with long term focus creating economic opportunity to use electricity in agriculture, service sector and industries which will enable people to pay for electricity. Promoting dependency on government giveaway electricity or any other commodities will only promote poverty in long run.

Electric mobility is picking up gradually in mass-transit system and personal vehicles, government needs to invest more in charging infrastructure and incentivise investment in e-mobility to provide relief to country's economy by cutting fossil-fuel import bill. The policy volatility, seen recently in e-mobility, has proved that it is detrimental to the slowly picking growth in e-mobility. There was almost zero imports of e-vehicles last year.

Use of electricity in cooking will reduce LPG imports which stood at about 40 billion NPR last year and increasing at about 8% annually. Transmission and distribution infrastructure currently can cater only about 10% of consumer to use electric cooking. Hence, along with e-cooking friendly tariff investment in transmission distribution will be critical in this regard. Let us recall that 65% of NEA consumers have 5 ampere capacity system. That means that a huge portion will not be able to use electricity for cooking. Moreover, the consumers need uninterrupted supply of quality electricity for them to be confident of electric cooking.

In addition, repair and maintenance of the modern electric cooking devices needs to be ensured by making after sales service mandatory to importers of the appliances. Training to technicians in rural areas to repair cooking appliance like induction cooktop will also create nominal employment opportunity is another hassle that consumers avoid to face.

Recently, NEA has been continuously targeted by media that its technical and financial losses are growing. People have rights to know if truth and also explanation of the same. If it is true, was it due to mismanagement or has technical reasons. Plan to remedy these should made publically known to boost dwindling confidence in NEA management.

Time has now come for local governments (metropolitan cities, sub-metropolitan cities municipalities, municipalities and rural municipalities) to consider and analyse feasibility for them to take-over the local distribution. This is an attractive proposition for NEA too, since it will allow NEA to focus on Generation and Transmission other macro level issues including import/export. Likewise, the local authorities will have to take responsibility of all energy management for industrial, institutional and residential requirements including local generation at smaller scale using Solar PV, Solar PV Roof-top Net Metering and other technologies in public private partnership model as well.

Similarly, this would be a great achievement if the Governments, private sector and professionals work together or independently to find out formula to bring the cost of generation of electricity so as consumers not only residential, but also institutional, industries and transport sector will find it much convenient to work with. This will help improvement in public health, employment generation, reduce use of fossil fuels, support to reduce climate change effects and achieve the targets set by SDG, SEforAll, Clean Cook Solutions, Energy Whitepaper, 15th 5 Year Plan and political commitments.

Renewable Energy Confederation of Nepal (RECON) considers that electricity to be accessible, available and affordable to all which bring fruits to public sector such as NEA, private professionals including entrepreneurs or business communities, and users including industrial, institutional and residential is very much important. As such, is planning a planning a webinar where stakeholders will exchange views on policy, programmes and implementation methodology and practices on electricity planning, generation, distribution and ultimately contribute to economic growth of the country.