Source: The Rising Nepal/The Kathmandu Post/My Republica; 30 July 2018

# Energy Minister urges Israel to consider investment in energy sector

Israeli Ambassador to Nepal Benny Omer paid a courtesy call on Minister for Energy, Water Resources and Irrigation Barshaman Pun on Monday. During the meeting held at office of Minister Pun's office, they discussed the issues relating to mutual cooperation between Nepal and Israel among others, according to Minister Pun's Secretariat.

Minister Pun, stating that a new era of stability had dawned in the country following the promulgation of a new constitution, urged the Israeli Ambassador Omer to help enable an environment conducive for the Israeli investors to invest in Nepal's energy sector.

The Minister said, "There's demand of 10,000 Mega Watt of electricity for Nepal in 10 years. We have a favorable investment climate in Nepal for the investors in energy sector. Thus, I urge the Israeli investors to consider investment in this sector." Citing the long diplomatic ties shared between Nepal and Israel, Pun expressed his confidence that the bilateral relation between these two countries would be further strengthened.

He said that the government was eager to further bolster the cooperation between Nepal and Israel in the sectors like agriculture and technology.

Israeli envoy Omer shared Israeli government's willingness to augment cooperation between the two countries in the areas of energy and irrigation. Omer shared that Israel was looking for stakeholder for investing in energy sector and reaffirmed his cooperation to the government towards this end.

He said, "The private sector in Israel is willing to invest in Nepal's energy sector and we are looking for stakeholders for the same." RSS

Source: The Kathmandu Post; 31 July 2018

# Nepal-B'desh to sign energy cooperation pact

The agreement with Bangladesh will pave the way to export surplus electricity that Nepal is expected to produce within a few years

After signing an energy cooperation agreement with China last month, the Ministry of Energy, Water Resources and Irrigation is preparing to conclude a similar pact with Bangladesh.

Bangladeshi State Minister of Power Nasrul Hamid is scheduled to make a three-day visit to Nepal starting August 9 to sign the deal.

Highly placed ministry sources said a memorandum of understanding would be signed to form a high-level mechanism to oversee electricity trade between the two countries and facilitate Bangladeshi investment in hydropower projects in Nepal.

"It has been some time since a high-level discussion was held between the two countries regarding energy trade and investment," said the source. "If the joint mechanism is formed, it will be a wonderful platform to turn the discussion into reality." According to the ministry source, both countries have agreed to establish secretary and joint secretary-level mechanisms like the ones Nepal has formed with India.

The agreement with Bangladesh will pave the way to export surplus electricity that Nepal is expected to produce within a few years. Bangladesh has repeatedly shown interest in importing power from Nepal via India, and has raised the issue at the meetings of the sub-regional BBIN (Bhutan, Bangladesh, India and Nepal) Initiative which was signed by the four countries to facilitate regional trade and business.

Bangladesh has signed a memorandum of understanding with India's NTPC Vidyut Vyapar Nigam (NVVN) to import electricity generated by the Upper Karnali Hydropower Project being developed in Nepal by India. As per the understanding, it will import 300-500 MW of energy from the project being executed by an Indian developer.

Apart from signing the memorandum of understanding, the two parties will explore ways to encourage Bangladeshi investments in several hydropower projects in Nepal during the minister's visit to Nepal. Bangladesh has also shown interest in making investments in hydropower projects in Nepal.

Bangladesh first expressed interest in putting money in hydropower during the ninth South Asia Economic Summit it hosted in Dhaka last October. The then commerce minister Romi Gauchan Thakali and his Bangladeshi counterpart Tofail Ahmed signed an agreement on the sidelines of the event to build two hydroelectric plants capable of generating over 1,600 MW of electricity in Nepal.

The proposed projects are the 1,110 MW Sunkoshi II and 536 MW Sunkoshi III on the Sunkoshi River in central Nepal. Both countries have agreed to develop the projects under the BBIN Initiative. As per the agreement, the energy produced by the Sunkoshi projects will be evacuated to Bangladesh via India through the BBIN economic corridor. However, no headway was made on this front.

Source: The Kathmandu Post; 2 Aug 2018

# Hydro project starts issuing shares to locals

**Upper Tamakoshi Hydropower project**

*RAJENDRA MANANDHAR*

Energy Minister Barsha Man Pun officially distributed the initial public offerings of Upper Tamakoshi Hydropower Limited to the local people from Dolakha district, on Wednesday. The project is allotting 10 percent of its primary shares to the local people affected by the project's construction. The hydropower company is issuing 10,590,000 unit shares for the locals of Dolakha district. This will last till August 30. The company has also targeted to issue 15,885,000 unit shares (15 percent of the total capital) to the general public.

Out of the issuance to the local people, the company will collect Rs1.05 billion. Similarly, the company will be collecting Rs1.58 billion when it opens its IPO to the general public.

As per the provision, an individual from the project construction area can apply for 30 units and a maximum of 300 units. ICRA Nepal has assigned Grade 4 rating to the Upper Tamakoshi IPO.

Speaking at a programme, Minister Pun said the government through allotting the shares to local people has targeted to involve key stakeholders in the development projects. According to him, the government is seeking to involve general people to generate investment of Rs6 billion to construct additional 3,000 MW hydropower projects.

As per the government record, there are a total of 5.6 million households in the country. Pun said the government has targeted to make all of these households invested in hydropower projects. "Through ensuring a dividend, we have targeted to generate investment of Rs10,000 per person in the hydropower sector," Pun said.

The government statistics shows that a total of 281,000 people are residing in Dolakha district. Upper Tamakoshi has provisioned centres in both Dolakha and Kathmandu districts to collect IPO applications from local residents.

Nepal Electricity Authority (NEA) has the largest stake in the hydropower company at 41 percent. Nepal Telecom holds 6 percent shares while Rastriya Beema Sansthan and Citizen Investment Trust holds 2 percent shares each. Similarly, 24 percent of the stakes has been allocated for the workers of Employees Provident Fund and NEA, among others.

Source: The Kathmandu Post; 3 Aug 2018

# Upper Tamakoshi likely to come online next year

*BIBEK SUBEDI*

More than 95 percent of the construction work on the Upper Tamakoshi Hydropower Project is complete, but it may take another year for the plant to come online as hydro-mechanical works have been delayed, project officials said. The major reason behind the hold-up in the hydro-mechanical works is the inability and unwillingness of the Indian contractor to execute the task which falls under the second package of the project. The 456 MW Upper Tamakoshi project located in Dolakha district in eastern Nepal is owned by the Nepal Electricity Authority (NEA).

At least one of the six turbines of the plant should be churning out power by December 2018 as per the revised deadline set by the government while the entire project should come online by April 2019. But officials working on the project say it will not happen. Texmaco Limited, the Indian company hired to implement the hydro-mechanical works, is yet to start fitting the penstock pipe in the tunnel which is the major component of its task, a project official told the Post. The penstock pipes deliver water from the tunnel into the turbines in the powerhouse to rotate them to generate electricity.

The contractor needs to fit the 495-metre penstock pipe in the tunnel to channel water to six turbines located in the underground powerhouse, but it is yet to start work. "It seems the Indian contractor is not willing to work as it has not started that component of the job despite our repeated instructions," said the project official.

Apart from project officials, the NEA management too has been putting pressure on the Indian company to speed up construction. Likewise, Prime Minister KP Sharma Oli had directed project officials to meet the completion deadline of the hydropower plant during his visit to the site in Dolakha in April.

Stating that his administration had adopted a policy to avoid delays, Oli underscored the need to take the project ahead without delaying it for one single day. He even warned that immediate action would be taken against those responsible for causing delays in the construction of the project. But that didn't not bring any change in the pace of work of the Indian contractor.

The dillydallying by the Indian contractor has affected the work schedule of other contractors too. For example, the civil contractor needs to fix the penstock pipe in position by pouring concrete after the hydro-mechanical contractor installs it.

Work began on the Upper Tamakoshi project before the 2015 earthquakes, and 79 percent of the civil works had been completed before the disaster struck. The quake and subsequent Indian trade blockade held up tunnel construction works. The national pride project was originally scheduled to be completed in mid-July 2016, but it was delayed due to various technical and social issues. It faced cost overruns due to the delays.

According to NEA sources, the total cost of the project is likely to exceed Rs50 billion, significantly higher than the initial estimate of Rs35.3 billion. Nevertheless, the project is considered to be a role model project which is being developed with domestic resources and a high level of participation by project-affected locals and the general public.

Source: Nepali Times; 3 Aug 2018

# Nepal turns to solar and batteries to meet peak demand

**As prices fall, it is now feasible to store solar electricity to cover the country's energy shortfall**

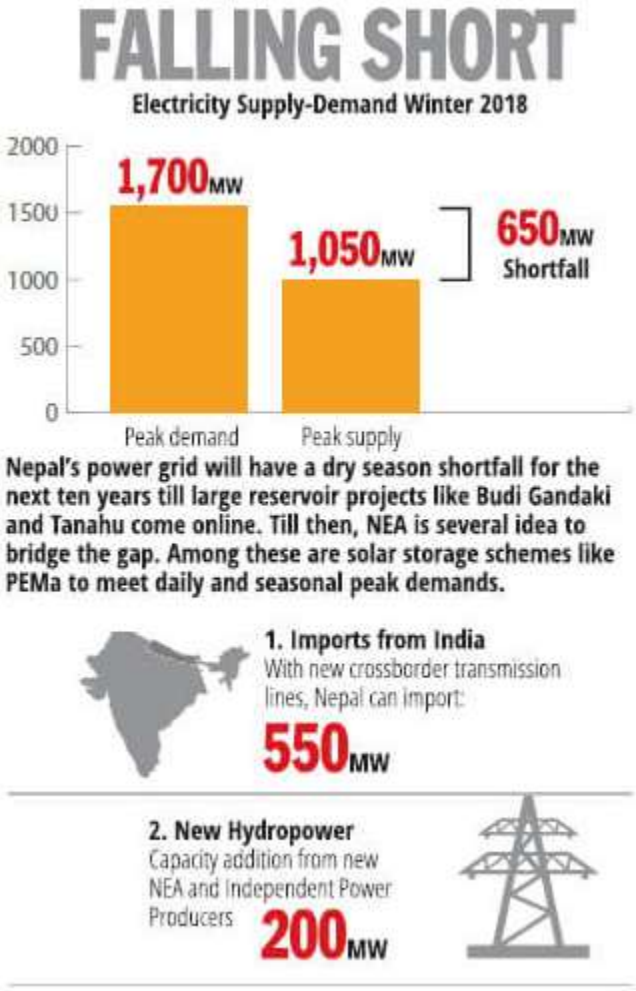
*Kunda Dixit*

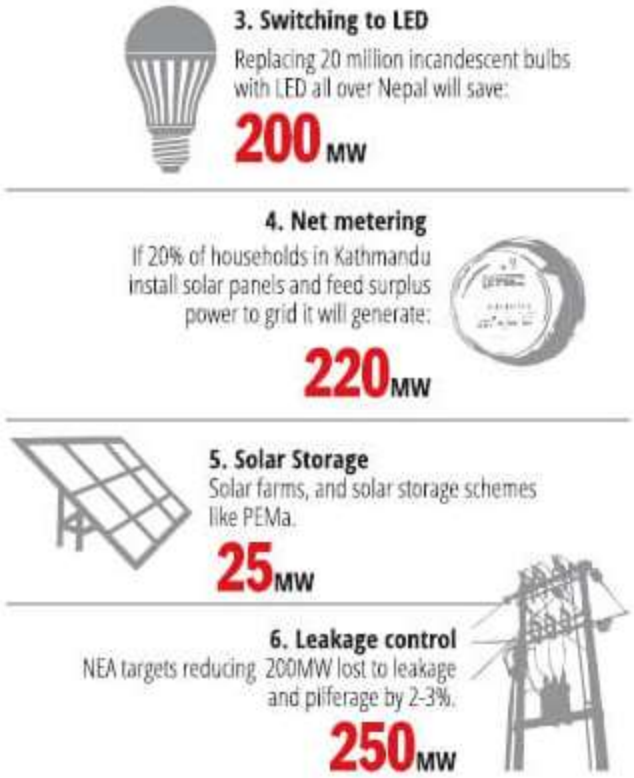
Nepal's planners have always faced an uphill task in ensuring energy self-sufficiency. The main issues in the past have been politics, the absence of a strategic vision, and policies that forced the country to suffer chronic power cuts. But the country has a new beginning with a new government that has promised political stability and economic prosperity.

The other challenge is an engineering one. Nepal may have one of the highest per capita hydropower potential, but most of the total 1044MW capacity today comes from run-of-river plants which depend on the water flow to turn turbines, and not from reservoirs that can store monsoon water for the dry season.

This means the country suffers from shortfalls in production during winter when peak demand is highest. There are also the daily peaks in the mornings and evenings that need to be covered by Nepal's only storage dam, the 92MW Kulekhani cascade. Currently, Nepal meets nearly all its peak demand by importing coal-fired electricity from India.

Peak load demand is traditionally met with electricity from hydropower reservoirs or power plants burning fossil fuels. But as countries try to meet carbon emission targets, there is pressure to adopt solar and other renewable energy sources to meet demand.






This is precisely what the Dolma Himalayan Climate Fund (DHCF) is trying to do with its proposal to generate 150MW of solar power and store 20MW of it in battery systems to meet Nepal's seasonal and daily peaks.

Called Peak Energy Management (PEMa) System, the first phase of the project got approval from the Investment Board Nepal (IBN) last week to 'time-shift' daytime solar generated power to help meet evening peak demand, and also store surplus hydroelectricity generated during the night to partially meet the morning peak demand.

Such generation and storage of solar power would have been prohibitively expensive till even two years ago. But the cost of storing energy in batteries dropped to less than $200/kWh from $1,200/kWh ten years ago. The price of photovoltaic cells have similarly plummeted to only $60/MWh compared to $400/MWh in 2008.

The other advantage is that a project of this scale can be up and running within two years compared to the decade that it will take for Nepal's next big reservoir projects like Budi Gandaki and Tanahu. Solar is also much more ecologically benign. There is also a neat fit: Nepal's peak demand is in winter when solar generation is highest because of cloudless skies.

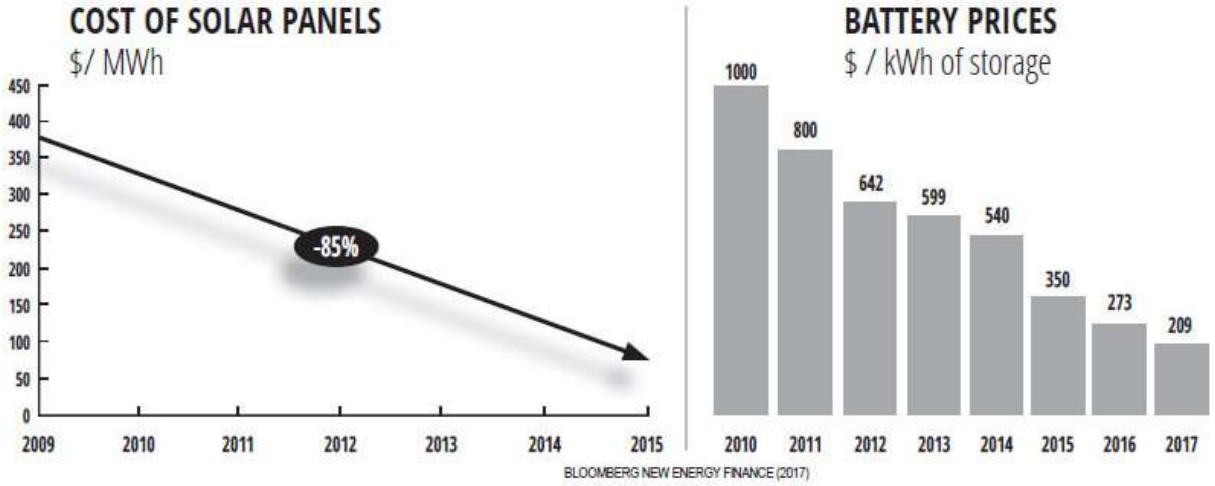
"We are not trying to replace hydro with solar, we just want a flexible and reliable system to meet peak demand by complementing hydropower," explains Mike Winkel, Director of the Dolma Himalayan Climate Fund, an offshoot of the Dolma Impact Fund, the first international private equity fund for Nepal which has investments in the hydropower, technology, agriculture and health sectors.

The Dolma Group was set up by Tim Gocher, a finance executive and professor specialising in energy. (Read interview, below and watch Nepali Times Studio on our YouTube Channel.)

"The project is not going to replace hydro by any means, but solar does give Nepal another energy option which should directly offset some of the imports from India," Gocher told Nepali Times.

The PEMa serves the same purpose as a storage dam to cover peak winter demand, but unlike reservoirs it can be completed in two years, and can be quickly upscaled to 850MW in the second phase. This

makes business sense because Nepal's electricity demand is expected to grow at 7% per year, while peak deficit will continue for another ten years until the big dams come online.
"It will buy Nepal time with short-term supply of power to meet peak time deficits," says Sandip Shah, Managing Director of DHCF, an energy specialist who was formerly with the Norwegian SN Power.




"My entire career has been with hydropower, and I have always grappled with making Nepal self-reliant in meeting daily and seasonal peak power deficits. With prices of solar and battery coming down, the technology is finally there to make Nepal energy independent," explains Shah.
When it comes into operation, possibly by 2020, PEMa will be one of the first utility scale battery operated grid power plants in the region, and it will immediately reduce Nepal's power import bill as well as carbon footprint which has doubled due to the current import of coal-fired energy from India.
At the Investment Board Nepal, CEO Maha Prasad Adhikari is also excited about the venture. "This is an innovative way to improve Nepal's energy mix, and can support our peak-time and dry season demand within a short timeframe."
The Dolma Impact Fund will also be building on its investments in Nepal's hydropower, that include the 28.1MW Lower Likhu project in Okhaldhunga and the 6.4MW Suri Khola Project in Dolakha into which the Fund has injected $4.5 million and may invest more in hydropower or other solar projects.
Winkel used to be with the global energy giant E.ON managing 60,000MW grids, and says PEMa is trying to find the optimal technology to meet the shortfall in Nepal's peak energy supply. He adds: "Making renewable energy competitive has driven me for many years, and PEMa makes this vision a reality by combining state-of-the-art power generation and storage technologies to deliver clean, secure and competitive electricity for Nepal."