



Dr. Subarna Das Shrestha

It has been two years since I took over the continuity of leadership in IPPAN. We have witnessed many changes in the power sector of Nepal since then. The then Deputy Prime Minister and Minister for Energy Mr. Bharat Mohan Adhikary announced a series of measures that created ripples in Nepal's power sector. The Electricity Tariff Fixation commission was dissolved and VAT Exemption to the tune of 10 lakh Rupees per MW was announced. Later, Minister for Energy, Mr. Gokarna Bista announced a series of measures which were important for long term development of hydropower. The nationwide campaign to control leakages appointment of the Managing Director of NEA on the basis of competition; the new provision of the Energy Secretary being the Chairman of the NEA Board of Directors were all meant to free NEA from political interference and make it a financially stable and autonomous organization. Obviously, a financially strong and more efficient NEA is in the interest of IPPs' too. The revision made in the PPA rates, modest ones, encouraged new projects to enter into PPA with NEA for implementation of hydropower projects, resulting 100 nos. of PPA. Similarly, the new provision for a separate Power Transmission Line Company is believed to possess viability to rapidly expand Nepal's transmission line network and facilitate X - border power trade with India to address energy shortfalls in Nepal during dry

## Message from IPPAN President

season and export the surplus energy during the wet season. A committee was formed in the Ministry of Energy to recommend implementation modalities for the new power transmission line company and IPPAN members were also involved in the committee. Similarly, a separate committee was formed under the convensorship of Mr. Sriranjana Lacoul to recommend to the Ministry of Finance, fiscal measures needed for the power sector. IPPAN President being one of the members of that committee played a key role in selecting issues to be addressed by Ministry of Finance, Forest and Energy Ministries. Of late, a separate "Under Construction Project Facilitation Team" has been formed under the convensorship of Joint secretary, Policy and Foreign Aid Division of the Ministry of Energy to assist, monitor/evaluate and facilitate in the speedy construction of 'under construction projects'. The Facilitation Team has identified few important issues such as PPA rate adjustment by 20 %, VAT exemption in civil construction; facilitation in acquiring forest land and cutting down trees; facilitation on maintaining reasonable interest rates etc. later, the team in the convensorship of Mr. Arjun Karki, Joint secretary of Ministry of Energy further recommended these issues

for implementation, as a result of which 10 point action plan to support under construction project announced by Government got approval from the Cabinet Ministries. It is a matter of pride for all of us to note that IPPAN has been consulted by the Government in matters relating to energy development through private sector investment. Looking back, last year was an above the average year from the power sector point of view, as IPPAN presumes to be on limelight now.

However, the provision to cancel all survey licenses above 10 MW and putting them under competitive bidding was controversial and invited strong resentment from IPPs, citing inadequate homework for the purpose and that it should not be retrospective. IPPAN believes that genuine power producers, who have made progress in fieldworks, should not be victimized by this new provision.

Our consistent lobbying and efforts laden advocacy have encouraged the Government to revise its policies and announce a series of reformed measures as follows:

### Performance Guarantee Relaxed:

Last year, NEA made a provision for performance guarantee for IPPs. It sought guarantee of timely completion of hydropower projects by asking IPPs to deposit performance bond at the rate of 600 Rs. per kW. It is obvious that a politically volatile situation that we are currently indulged in disables guaranteed timely completion of any projects. After a series of active interactions with IPPAN, NEA agreed to make some relaxations in the provisions, relating to forfeiture of the Performance Guarantee: releasing of guarantee if construction is completed at least in the tune of 50% by the time of RCOD.

### Vision of IPPAN

To be the umbrella organization of IPPs that advocates for an investor-friendly environment for power development in Nepal.

### Mission of IPPAN

- » Lobby for private sector friendly policies, regulations and their prompt and effective implementation.
- » Disseminate information through media, seminar, conferences to political parties, government, Officials, civil societies and the people.
- » Build capacity of IPPs and related stakeholders.
- » Develop linkages for regional co-operation in power Sector.

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#### **Dol Company Registration Expenses Rationalized:**

The Ministry of Industry made public a rule, according to which IPPs willing to register a power company for feasibility study purpose, were obliged to pay registration revenues, based on the basis of 10 Crore Rs./Megawatt capital base for the company. It proved to be another burden to the independent power producers in keeping the cost of production hike under control. We, through Nepal Business Forum, actively lobbied for its abolition, which we eventually succeeded in doing so. I must express my gratitude to Mr. Shanker Koirala - Secretary, Ministry of Industry (former Secretary, Ministry of Energy) who was positive to IPPs legitimate interests.

#### **VAT Subsidy:**

IPPAN has been lobbying for zero VAT or full VAT exemption in the construction materials needed for the hydropower industry. The Government of Nepal recently announced VAT subsidy at the rate of 10 lacs per MW. This amount is too low compared to the VAT Exemption that IPPs have been asking for. However, our advocacy campaign for zero VAT will continue in the future also. Ministry of Energy's positive efforts in this case is highly appreciated.

#### **Tax Holiday:**

IPPAN has been lobbying consistently for income tax holiday for 15 years, as was provisioned in the Electricity Act, 1992. Government of Nepal recently announced 100 per cent Income tax Holiday for ten years and 50 % for subsequent five years. This is certainly a positive gesture on behalf of the government.

These developments have encouraged IPPs with new PPAs to move ahead in the implementation of hydropower projects. However, 28 projects, with a total installed capacity of approx. 400 MW are struggling hard for Financial Closures. Financial institutions are reluctant to invest in these projects at the old PPA rates. The Government must come forward to their rescue, because the State cannot afford to have these projects stop their implementation activities, especially in view of the very severe energy crisis that we are going to face in the near future.

#### **10 Points Relief Program for Under-construction and PPA concluded Hydropower projects:**

The Energy Ministry recently announced a 10 point program containing relief measures to help under-construction and PPA concluded projects having no financial closing hydropower industries to generate power. The 10 point program includes concessions like: loans in tune of 20 million Rupees per MW installed capacity at 8% interest rates, PPA rates of Rs. 8.40 and Rs. 4.80 for dry and wet seasons respectively, for the hydropower projects that will be operational by the end of 2071 BS. Full exemption of VAT in civil construction and waiver of delay penalty for those who will complete the project in one year delay from the RCOD date or end 2072 BS, whichever earlier.

The program also includes other important announcements like establishment of National Grid Company for planning, construction, management and operation of transmission line networks, purchase of captive power, re-structuring of NEA and leakage control, government's priority to storage projects and plans based on river basin planning, High Level Mechanism under the Chairmanship of the Hon. Prime Minister to solve problems associated with Forest, Law and Energy etc.

These measures, if implemented properly and expeditiously, will prove to be important milestones in the history of hydropower development in Nepal.

#### **Nepal Business Forum (NBF):**

We have been lobbying for resumption of negotiations for Power Development Agreement (PDA) with power developers, full exemption of VAT in civil construction materials, PPA Tariff Adjustment and Annual Price Escalation, Forest Clearance, Implementation of cross border transmission line project, Expansion and upgrading of Domestic Transmission line through the Nepal Business Forum's Infrastructure Working Group, of which, the Energy Secretary of the Government of Nepal and IPPAN President are co-chairpersons. Nepal Business Forum provides a platform for public - private dialogue which is aimed at accelerating and facilitating the reform process by providing the government and the private sector, with a structured, transparent, and result -oriented mechanism through which they can deliberate investment climate issues, and jointly agree on reforms. It was created by an Executive Order of the Government of Nepal in May 2010.

We believe that IPPs should be well assured of the internationally acceptable 16 to 18% rate of return on Equity, be it through fiscal incentives like VAT exemption, income tax holiday or through timely adjustment of PPA rates that reflect market prices. Without it, the talk of investment climate in Nepal's energy development would remain a pipe-dream.

IPPAN's constant efforts will be directed to make the power sector competitive, so that investors investing in other sectors will also be attracted towards power development. IPPs, wary of very tedious land acquisition problems, have asked for land acquisition by the government itself. This is justified because the land thus acquired, and the entire project assets including transmission lines will ultimately belong to the Government upon maturity of the generation license tenure.

We have been advocating for a timely adjustment in PPA rates and consumer tariff, so as to reflect market conditions, expeditious construction of domestic and Cross-border transmission lines, signing of Project Development Agreement, and financial incentives such as VAT exemption, through Nepal Business Forum.

IPPs are also worried because of local disturbances at plant sites. We strongly urge the Government to curb such activities and help maintain law and order in the project areas. In absence of proper regulations regarding managing local expectations, IPPs are working like a local Government in the project areas, fulfilling local community demands like constructing health posts, school buildings, drinking water systems, irrigation schemes, facing employment demands, forced donations, etc.

As part of the capacity building exercise, we also organized a Tunnel Boring Machine Workshop last year. The response of the participants was overwhelming. It has encouraged us to organize similar events in future as well. We also organized Media Training for energy journalists. IPPAN joined hands with International Center for Hydropower, Norway (ICH) in conducting workshops and trainings for the sector. We organized "Hydropower Financing and Project Economy" and "Condition Monitoring of Francis Turbine and

Maintenance Planning" workshops in Dhulikhel, Nepal. Participants from Laos, Pakistan, Bhutan and Nepal attended the Hydropower Financing and Project Economy Workshop. We look forward to organizing other ICH Training Courses like Concession Agreement and Negotiation skills in the coming months.

This year also witnessed the establishment of the Nepal Tunnelling Association with the active role of IPPAN. IPPAN is a founder member of this Association.

Hydropower Summit - 2012 was organized on March 14, 2012 in Kathmandu, Nepal on 2012 by FNCCI, CII, NICCI, SEJON Exim Bank of India, and IPPAN. We believe that the Summit was successful in the sense that it sensitized both the stakeholders of India and Nepal about the need for the exploitation of Nepal's hydropower potential for the benefit of Nepal, India and South Asia. Similarly, Hydropower Workshop/Training for Economic Journalists of Nepal organized in August, 2011 was appreciated by the participating journalists of local newspapers, and media house.

We also made visits to Rt. Hon'ble Dr. Ram Baran Yadav, President of Nepal and energy ministers, secretaries to put across our concerns, grievances.

From this year onwards, we have started a monthly e-Newsletter. We also plan to open a Facebook account so that IPPs and others interested in Nepal's power development can share/exchange their views/ideas through IPPAN's Facebook account.

We have been advocating for a timely adjustment in PPA rates and consumer tariff, so as to reflect market conditions, expeditious construction of domestic and Cross-border transmission lines, signing of Project Development Agreement, and financial incentives such as VAT exemption, through Nepal Business Forum.

We highly appreciate any comments, suggestions from our IPPs for the accelerated development of hydropower in Nepal, so that we can "fine tune" in our IPPAN positions in the issues to be lobbied or advocated for.

Lastly, but not the least, I would urge all IPPAN members to support IPPAN's cause more vigorously, and participate pro-actively in IPPAN's programs and activities.



**Miss Missu Bhandari**  
Information Management Officer

Miss Missu Bhandari has joined IPPAN as an Information Management Officer since April 6th 2011. She is an IT graduate and previously worked as a Technical Officer in Sky Nepal Pvt Ltd, an official distributor of "Planet" devices in Nepal and networking solution provider. She has completed her Bachelor's Degree of Information Technology (BIT) from Purbanchal School of Engineering and Technology (PuSET), Biratnagar, Nepal.



## Workshop on: Condition Monitoring and Maintenance Planning of the Francis Turbine

March 25-28, 2012

A five day workshop on "Condition Monitoring and Maintenance Planning of the Francis Turbine" was organized in Dhulikhel, Nepal on March 25, 2012. Condition Monitoring is necessary to reduce the risk of failure of power plants using preventive and predictive maintenance tools and strategies.

Centre for Hydropower (ICH) and Independent Power Producers' Association, Nepal (IPPAN). Previously, power companies had to send their participants abroad to obtain such types of training.

Mr. John Moe, Senior Hydro- Mechanical Engineer of Nor Consult, Norway was the Resource Person for the workshop.

thanked ICH for organizing such a training for the first time and wished all the participants best wishes in successfully implementing the lessons learnt during workshop.

After their presentations, Mr. John Moe opined that keeping in view the sedimentation problems, Nepal's hydropower industry should strive towards heavy, rugged Francis turbine selection, rather than opting for a mere efficient turbine. It will help power companies to run the turbines relatively for longer time. He also observed and commented that Francis turbine for Nepal should be tailor made in order to cope up with the erosive power of the sediments of the Himalayan Rivers.

The practical classes were followed by a Field visit to Bhotekoshi Power Plant where he demonstrated that by making a simple adjustment, the Francis turbine can be made to run more efficiently.

Participants appreciated the initiatives taken by ICH and IPPAN for organizing such training courses for the first time in Nepal. They found the training very fruitful and hoped for similar types of training to be frequently arranged in Nepal in future as well.

The participants also visited Turbine Testing Lab, being installed by the NORAD of the Norwegian Government in the Kathmandu University.

It is hoped that such training will help Nepalese power companies to run power plants in a proper way, thus keeping the plants maintenance free for relatively long time.



Ten participants from Nepal Electricity Authority, S N Power, Bhotekoshi Power Company, Nepal Hydro-Electric Company Limited, Hydro Solutions and Annapurna Group Company participated in the meeting. They had previously partaken in the online course on Francis Turbine, facilitated by ICH. The workshop was jointly organized by International

During the inaugural session, Mr. Tore Jorgensen and Carole Roselund from ICH mentioned about the agreement between ICH and IPPAN to organize trainings related to hydropower in Nepal and expressed happiness for getting this opportunity to organize such trainings in Nepal. Dr. Subarna Das Shrestha, IPPAN President and Mr. Narendra Prajapati, IPPAN Treasurer

## Hydropower Workshop/Training of Economic Journalists of Nepal

23rd August, 2011

IPPAN organized a Hydropower Workshop for Economic Journalists of Nepal on August 23rd, 2011 at Hotel Royal Sonapat, Kathmandu, Nepal.

The workshop was coordinated by Society of Economic Journalists of Nepal (SEJON). Present in the workshop were participants from The Himalayan Times, Rajdhani, Karobar, Abhiyan dailies, The Rising Nepal, Nepal Samacharpatra, Nagarik daily, Avenues TV, Annapurna



Post, Himalaya TV, News 24 TV, Image TV, Ujyalo 90 FM., NayaPatrika, TeraiTelevision, Radio Nepal, The Kathmandu Post, Nepal Television etc.

The workshop was inaugurated by Energy Secretary Mr. Balananda Paudel. Dr. Subarna Das Shrestha, Mr. Kumar Pandey, Mr. Narendra Prajapati, Mr. Suman Basnet, Mr. Ajoy Karki presented their papers on various aspects of Nepal's hydropower development.

## Hydropower Summit, 2012

14th March, 2012

The summit was inaugurated by Hon'ble Prime Minister of Nepal, Dr. Baburam Bhattarai by lighting the Nepali traditional lamp "Panas" on March 14, 2012 at Hotel Soaltee Crowne Plaza, Kathmandu. Those present on the dais of the inaugural session were Hon'ble Mr. Posta Bahadur Bogati, Minister of Energy, Government of Nepal, Hon'ble Minister of Irrigation, Government of Nepal, Mahendra Prasad Yadav, Ms. Sudha Pilai, Member Secretary, H.E. Mr. Jayanta Prasad, Ambassador of India to Nepal, Mr. Suraj Vaidya, President of FNCCI, Mr. Sanjeev Keshava President of NICCI, President CII, Dr. Subarna Das Shrestha, President of IPPAN. The summit was organized by Federation of Nepalese Chambers of Commerce & Industry (FNCCI); The Confederation of Indian Industry (CII); Nepal-India Chamber of Commerce and Industry (NICCI); Nepal-India Chamber of Commerce and Industry (NICCI); The Society of Economic Journalists-Nepal (SEJON); Export-Import Bank of India (EXIM Bank) and The Independent Power Producers' Association, Nepal (IPPAN).



### Mr. Suraj Vaidya, President of FNCCI

Hydropower development in Nepal has the potential to create around 3.5 Million jobs that will prevent mass exodus of Nepalese youth to foreign countries in search of jobs. Huge trade deficits with India can only be balanced by exporting power to India. Potential investors like IFC, World Bank, CII should be attracted to invest in Nepal by investor friendly Acts, Regulations and Policies. Nepalese private sector doesn't have sufficient capacity to make investments required to build mega projects. Thus, if Indian companies make the investment in Nepal, both the countries would benefit.

### Mr. Sanjiv Keshava, President of NICCI

Despite huge potential in renewable energy, Nepal is heavily dependent upon the import of fossil fuels, which is not economically viable. The Foreign Investment and Technology Transfer Act (FITTA) is moving in a positive direction and in favor of foreign investment which will bring sufficiency in employment opportunities in the country.

### Ms. Sudha Pilai, Member Secretary, Planning Commission, Government of India

Indian companies are interested to invest in Nepal's energy sector, and a few Indian companies have already started investing in Nepal. There is a need to review power policy from the perspective that meets a long term objective for small to all sized companies. Likewise, public, private partnership (PPP) model should be explored. Free power, sales royalty or capacity royalty and as such should be adopted as per the best international practices. Country risk, political risk and other risks should be supported by clear-cut road map of the country.

### President CII

Hydropower is the clean and renewable energy. The overall cost of hydropower for the entire life is less compared with coal and thermal power. A strong commitment is needed from both countries for realizing Indo-Nepal Power Trade for the mutual benefit of two countries.

### H.E. Mr. Jayanta Prasad, Ambassador of India to Nepal

There have been concerns from Nepali developers about the tariff imposed by the Indian government. Due to impending power shortage in India, the duties will eventually be waived.

### Hon'ble Minister of Energy, Government of Nepal, Mr. Post Bahadur Bogati

Government of Nepal is focusing on the development of storage projects. West Seti, is a 750 MW, storage type project to be developed purely for domestic use and government has already signed Memorandum of Understanding (MOU) with a Chinese company. One separate transmission line company will be formed to solve TL related issues.



### Hon'ble Minister of Irrigation, Government of Nepal, Mahendra Prasad Yadav

Nepal is rich in hydropower, and right, optimum use of water will lead to economic prosperity of the country. Both Nepal and India can mutually benefit from the optimum use of available resources.

Chief Guest, Hon'ble Prime Minister of Nepal, Dr. Baburam Bhattarai

Nepal should focus on transmission line network for domestic and cross border for export of surplus power to India and Bangladesh. Power Development Agreement (PDA) will be finalized within two weeks.



After completing the peace progress, Nepal Government will focus its attention on infrastructure development. As Asia is the richest continent in hydropower potential in the world, we all should march ahead and make significant achievements from this power summit. The slogan of the New Nepal should be :

**Democracy + Hydropower= New Nepal**

### Dr. Subarna Das Shrestha, President of IPPAN

The proposed regional energy grid i.e. SAARC Grid can be developed in such a way that the coal resources of India and Pakistan, gas resources of Bangladesh, and hydropower resources of Nepal and Bhutan are utilized optimally. The base load of the regional energy grid can be supplied through coal and gas of India and Pakistan and the peak load through hydropower of Nepal and Bhutan. The recent recommendations of the Indo-Nepal Joint Economic Council of the CII and FNCCI, if implemented seriously will go a long way in further strengthening the age-old economic relations between Nepal and India. It is worth mentioning in this context, that IPPAN was also represented in the Joint Economic Council.

## Hydropower Financing and Project Economy

November 14-18, 2011

International Centre for Hydropower (ICH), Norway and Independent Power Producers' Association, Nepal (IPPN) jointly organized ICH International Training Course on: Hydropower Financing and Project Economy from November 14-18, 2011 at Mirabel Resort Hotel, Dhulikhel.

More than twenty participants from Nepal, Bhutan, Pakistan, and Laos attended the course. Local participants were from NEA, Employees Provident Fund (KSK), Nepal Bank, NIBL Capital Market Limited, Bank, Butwal Power Company, Sanima Hydropower Company, ITECO Nepal Ltd., Clean Energy Consultants, Tundi Power Company Pvt. Ltd., DFID and CIG, The World Bank and Ridi Hydropower Development Company Ltd. The course has been designed for management personnel and executives with responsibilities in the planning and development process of hydropower projects. The course provided

participants with insights into a variety of financing models for hydropower projects. Participants were also introduced to concepts necessary in the assessment of the economic viability of hydropower projects.

The international Training Course was organized for the first time in Nepal, which otherwise used to happen in Norway.

The Training course was inaugurated by Mr. D.B. Singh, Director General of the Department of Electricity Development, Ministry of Energy, and Government of Nepal.



## Meeting between IPPAN Delegation Team and Hon'ble Mr. Posta Bahadur Bogati

13th September, 2011  
Ministry of Energy

IPPAN Delegation Team led by IPPAN President, Dr. Subarna Das Shrestha met Hon'ble Minister for Energy, Mr. Posta Bahadur Bogati, and present on the occasion were Mr. Balananda Paudel, Energy Secretary along with other thirty five (35) Independent Power Producers, representing different power companies complemented by energy journalists.

Dr. Subarna Das Shrestha, IPPAN President, congratulated Hon'ble Minister Mr. Posta Bahadur Bogati, on his appointment as the minister for energy. MR. Khadga Bahadur Bisht presented the minister with the Hydropower Book, published by IPPAN. Then Mr. Shrestha had put forth the following issues before the minister.

- ▶▶ Rescue Package for projects under construction and enabling environment for PPA-ed projects for financial closure;
- ▶▶ PPA Tariff adjustment
- ▶▶ Postponement (unofficial) of PPAs by NEA
- ▶▶ Delays in project development agreement and its fall-out in international field
- ▶▶ Expiry of Survey licenses resulting from government's procedural delays and compensatory mechanism for renewals
- ▶▶ Discrimination imposed by the newly established Hydropower Investment and Development Company in making available loans to small power projects
- ▶▶ Moves made by NEA for cancellation of PPAs of 22 power projects
- ▶▶ VAT Exemption of Civil Construction Materials
- ▶▶ Re-financing facility for two years @ 10-12 % interest
- ▶▶ Survey License based on competitive bidding (for projects above 10 MW)
- ▶▶ Expedient construction of domestic and Cross Border Transmission Lines
- ▶▶ Revision of NEA's consumer tariff
- ▶▶ Sovereign Guarantee by the government for international loan

On the same occasion Dr. Shrestha, underlined the importance of revision of both consumer and PPA Tariff and added that IPPAN has been lobbying for the new PPA rate of NRs. 5.99/kWh, with an escalation rate of 5 % for nine consecutive years. He also informed that 22 projects are on the verge of being black listed for their failure to complete their financial closure. He said that IPPs cannot do much, when banks are reluctant to finance the projects under construction, because PPA

rates have not been revised in case of such projects. This problem will worsen further, because banks will tend to finance only those PPA-ed projects with the new revised PPA rates.

He also remarked that the recent announcement of VAT exemption of 10 lacs rupees per MW was though a welcome step was far from being adequate.

**Mr. Gyanendra Lal Pradhan:** opined that a rescue package for "sick" hydropower projects is the need of the hour. If rescue package is announced, taking into account the legitimate concerns of IPPs, at least 50 projects will start generating power within 1.5 years to 2 years.

**Mr. L.B. Thapa** requested for a "Grace Period of one year" for 22 projects who had been notified by NEA for cancellation of PPAs for failing to complete their financial closures.



**Mr. Bijaya Krishna Shrestha** drew attention of the Hon'ble Minister and Secretary towards the local disturbances that arose in Khudi hydropower project.

**Mr. Balananda Paudel, Secretary, in response to the queries from the IPPs, made the following comments:**

### Improving Investment Climate:

Ministry is well aware of the fact that private sector will always come in, where there is profit and minimum risks involved. So, we are trying to reduce construction costs by various means like VAT Exemption, Income tax holidays, expeditious processing of files etc. Our whole efforts are directed towards reducing the construction costs so as to make the projects bankable.

We are trying to improve the investment climate, because if there is no profit, investors will not come to invest in power sector, even if we intend to welcome them on red carpets.

### VAT Exemption:

Regarding VAT Exemption, Ministry is lobbying for VAT Exemption, based on norms like XXX bags of cement per MW, XXXX tons of reinforcing bars /MW. Alternatively, MoEn is also working on VAT amount to be deducted from the Royalty Amount to be paid to the Government.

### About energy deficits:

Our power demand is estimated to grow at the rate of 80-90 MW of power. However, a recent study suggested that the yearly increment in power demand is estimated to be 124 MW (suppressed demand). Therefore, there will be continuous load shedding hours in the years to come.

### Additional Cross border Transmission Line to export surplus energy:

It is true that NEA now-a-days is reluctant to enter into PPA with IPPs. It is because, even if 50 % of the projects under construction or projects with PPAs signed, come into operation, NEA will have surplus energy after 2017 AD during wet seasons (although there will be energy shortage during dry seasons). Therefore we have to explore power markets across the border. Regarding power market for surplus energy after 2017 AD, ministry was planning to open another point for cross border Transmission Line, besides the 400 kV Dhalkebar-Mujjaffarpur Transmission line.

Since the 400 kV cross border Transmission Line between Dhalkebar and Mujjaffarpur is already booked to evacuate 1500 MW (to the point of saturation) of power, we have to explore cross border transmission line at different point, Butwal – Gorakhpur, or somewhere else.

### Project Development Agreements:

We know that PDAs are not moving fast. However, we will soon enter into PDAs with IPPs. IPPs should not be worried about the cancellation of Survey Licenses due to delays in procedural processing. The government will certainly take into account the delays it has made, while processing the 'files'.

### Transmission Line Network:

The past government's records regarding Transmission Line are not good. We are in contact with the officials of the Ministry of Finance to allocate more funds for transmission line network projects.

### Hon'ble Minister of Energy Mr. Posta Bahadur Bogati made the following concluding remarks:

Being a new minister, I am still in the process of familiarizing with the issues of power sector. Regarding budget for updating and construction of Transmission Lines and other issues related to Finance Ministry, soon we will have interaction with Finance Ministry at secretarial and ministerial levels. We are ready to support independent power producers in every possible ways.

Regarding local the disturbances that surfaced, the aspirations of local people have become high, and it has been a challenging task to manage them. Therefore, we should try to develop a sense of ownership of the local people towards the project.

We need small hydropower projects to meet our immediate energy needs. However, we will need mega projects for the long term planning.



## IPPAN Delegation meets with Mr. Arjun Kumar Karki, Joint Secretary, Ministry of Energy

24th April, 2012

IPPAN Delegation Team led by Dr. Subarna Das Shrestha met with Mr. Arjun Kumar Karki, Joint Secretary, Ministry of Energy on April 24, 2012, Tuesday at Ministry of Energy. Present in the meeting were EC members Mr. Kumar Pandey, Mr. Narendra Prajapati, Mr. Kiran Malla and Mr. Bharat Nepal. Also, present were IPPAN Members Mr. Bijaya Man Sherchan and Executive Manager of IPPAN, Mr. Pradeep Gangol.

Dr. Subarna Das Shrestha, while congratulating Mr. Karki, on his appointment as the Joint Secretary of the Policy and Foreign Aid Coordination Section of the Ministry of Energy, presented to him IPPAN's flagship publication "Hydropower Nepal." On the occasion,

Dr. Shrestha added that Mr. Karki deserves special thanks for the recent signing of MoU with Three Gorges for the implementation of West Seti Storage Project and the Rescue Package to bail out the sick hydropower projects.

Dr. Subarna Das Shrestha requested Mr. Karki to address the issues/concerns of IPPs like:

- » Speedy implementation of the 10 Point program
- » Timely adjustment in the PPA rates of small hydropower plants
- » Delays in the signing of Project Development Agreements

Mr. Karki, responding to the issues raised by the IPPAN



Delegation Team, said that Government of Nepal is determined to bail out the hydropower projects, since it (bail out of power sector) will stimulate the whole economy. He also hinted that Ministry of Energy is persuading Ministry of Finance for initiating a provision that will pass on the VAT from NEA to consumers.

## Meeting between IPPAN and NEA

1st September, 2011

Venue: NEA Meeting Hall

IPPAN Delegation Team led by Mr. Kumar Pandey, Secretary General of IPPAN met with Mr. Deependra Nath Sharma. IPPAN's participants were: IPPAN Treasurer Mr. Narendra Prajapati, EC Members Mr. Dikendra Raj Kandel and Mr. Kiran Malla, IPPAN Members Mr. L.B. Thapa, Mr. Rajeswor Neupane, Mr. Ananda Subedi, Mr. Bharat Khadka and Dr. Purushottam Adhikary and Executive Manager Mr. Pradeep Gangol.

Mr. Kumar Pandey, congratulated the new MD, on his new appointment, briefed him about the problems faced by the independent power producers. He said that hydropower industry has become a sick industry in Nepal due to high bank interest rates and the prevailing PPA rate that has failed to generate interests amongst the IPPs to jump into hydropower. He added that banks are reluctant to finance hydropower projects in the backdrop of high bank interest rate and the PPA rate that has remained "almost" stagnant since last ten years. He also drew attention of MD towards the grave situation, created after NEA issued 90 days ultimatum to some projects with PPAs, to complete Financial Closure. Mr. Kumar Pandey also reminded MD about the need to expedite the construction of transmission lines.

Mr. Narendra Prajapati informed the MD that the visit was only a courtesy and therefore IPPAN chose to discuss about IPPs' issues in general. He added that IPPAN Delegation will soon visit NEA and discuss with MD, with particular issues. He also informed about IPPAN's forthcoming plan to organize five days' Training Program on "Hydropower Financing and Project Economy" in Dhulikhel from November 14-18, 2011 and requested MD to delegate participants accordingly. He also briefly mentioned about a Training Workshop conducted on "Condition Monitoring of Francis Turbine" in the last week of January, 2012.

Mr. Shailendra Guragain said that seven out of twelve power projects (under construction) are in serious trouble, because of the old PPA rate and high interest rates. Banks are reluctant to inject money into their projects. If rescue packages are offered to these projects, they can come into operation within six months. He also added that power projects, totaling 400 MW in capacity are in danger of being black listed by NEA for failing to complete their Financial Closure. And 400 MW capacity is too large to ignore, in the context of the serious load shedding in the coming dry months.



Mr. Deependra Nath Sharma receiving Hydropower Nepal book and congratulatory letter. (Photo Courtesy: Mr. Narendra Prajapati)

Mr. L.B. Thapa said that NEA should understand the problems of IPPs, who are trying best to complete Financial Closure in time. NEA should understand that banks are not very much enthusiastic to provide loans due to not-very-attractive PPA rates. And we cannot bring international loans due to our country's internal risks. IPPs are worried due to NEA's recent notice to complete financial closure within 90 days.

### Mr. Deependra Nath Sharma, Managing Director, NEA

In our internal assessment also we found that the PPA rate (despite recent increments) is far from adequate.

For example, we carried out financial analysis of a project, with the prevailing PPA rate and interest rate of 12 % (being offered by Karmachari Sanchay Kosh, KSK to few companies), we could not achieve the internationally acceptable rate of return of 15%. Besides, KSK has its own conditions, which are not "palatable" to power companies. The conclusion is therefore that the present time is not appropriate to invest in power sector.

Regarding PPA rate, NEA is lobbying for an increment in Retail Tariff. Without proper revision in retail tariff, it is common knowledge that PPA rate cannot be revised. However, the revision of Retail Tariff is something that only political leadership can decide upon.

As all of you know, NEA has been initiating several measures to reduce its losses and run the institution on sound financial footing. Obviously, a financial strong NEA is in the interest of IPPs, too. We are lobbying to reduce the interest (from 8.25% to 6.25 %) that the Finance Ministry charges for the loan or grant amount that it receives for hydropower projects.

Moreover, the reality today is that NEA will have surplus energy during wet seasons by 2017 AD. Even if 50% of the PPA-ed projects come into operation, NEA will have to incur loss of about 20 billion Rs. because of its obligation to buy energy on Take or Pay basis. This is the reason why NEA is reluctant to enter into new PPAs, after similar PPAs with Sanjen, Upper Sanjen and Rasuwagadhi hydropower project.

The long term solution to surplus energy of wet season (after 2017) will be to sell surplus power to India by expediting the construction of Cross Border Transmission Line. Again Geopolitics also plays role in the export of power to India. This is where, Government of Nepal, comes into picture.

A lot of people inside NEA say that the new MD has no vision. Yes, this is my vision "to sell power to India by constructing Cross Border Transmission Lines at two points." In this case, the Nepali power projects can be optimized at Probability of Exceedance, as low as 20 %. The challenge faced by NEA is therefore to convert the spilt energy (beyond 2017) into opportunities.



## IPPAN Delegation Team meets Rt. Hon'ble Dr. Ram Baran Yadav, President of Nepal

21st March, 2012



IPPAN Delegation Team led by Dr. Subarna Das Shrestha paid a courtesy visit to Rt. Hon'ble Dr. Ram Baran Yadav on March 21, 2012. The delegation team comprised of Mr. Khadga Bahadur Bisht, Vice President, Mr. Narendra Prajapati, Treasurer and EC Members Mr. Bharat Nepal, Mr. Dikendra Kandel, and Mr. Pashupati Murarka. IPPAN's Executive Manager Mr. Pradeep Gangol was also present on the occasion. The meeting was held

in a cordial atmosphere. IPPAN President Dr. Subarna Das Shrestha presented Rt. Hon'ble Dr. Yadav, IPPAN's publication "Hydropower Nepal" and other brochures related to IPPAN activities. He also briefed the president about IPPAN and its sectoral issues.

The Hydropower Nepal was written by IPPAN's Vice President, Mr. Khadga Bahadur Bisht.

## Meeting with H.E. Mr. Arne Ramslien, Norwegian Ambassador to Nepal.

IPPAN delegation team led by Dr. Subarna Das Shrestha met with newly appointed Ambassador to Nepal, Mr. Ramslien. Other members of The IPPAN delegation team were Mr. K.B. Bisht, Mr. Narendra Prajapati, Mr. Kiran Malla and Mr. Pradeep Gangol. Mr. Bibek Chapagain, energy adviser of the Royal Norwegian Embassy was also present in the meeting.

H.E. Mr. Ramslien, Norwegian Ambassador made following remarks in the meeting:

Nepal has done remarkable progress in the last thirty years. Especially, health and education were two sectors that drew international attention, because remarkable progress had been made. In spite of its complicated political situation, Nepal has done well and saved it from turning into a failed state.

Regarding Nepal's energy development, Nepal has tremendous potential. Norwegian Government is ready to co-operate with IPPAN to help Nepal explore its energy potential.

Norwegian government always gives priority to projects that ensure Institutional Development, Capacity Development and Improving Investment climate of the country.



Dr. Shrestha welcomed and congratulated the Norwegian Ambassador and thanked the Norwegian Government and Norwegian Embassy, in particular, for supporting IPPAN in its institutional development.

Dr. Shrestha, in his welcome note, said that IPPAN is a member amidst the 86 other organizational member companies and is well positioned to advocate and lobby effectively for the promotion of private sector companies involved in hydropower sector.

If IPPAN has interesting project proposal that is important from strategic point of view, Norwegian Embassy will give serious attention to the proposal. It is also important that the project should have "Spin off" benefits.

Dr. Shrestha thanked Mr. Ramslien and the Norwegian Embassy for the financial support provided to IPPAN for its institutional development and presented him IPPAN's most recent publication "Hydropower Nepal" book, authored by Mr. K.B. Bisht, the Vice President of IPPAN's EC Committee.

## The 4th Meeting of the Infrastructure Working Group of Nepal Business Forum:

May 15-16, 2012

The Fourth meeting of the Infrastructure Working Group of Nepal Business Forum was held for two days, on May 15th, and May 16th, 2012 at Energy Ministry, Singh Durbar and IFC office at Hotel Yak and Yeti Complex, Durbar Marg respectively.

The meeting was attended by Mr. Hari Ram Koirala – Energy Secretary, Government of Nepal (GoN), Dr. Subarna Das Shrestha – President of IPPAN, the co-chair persons of the Infrastructure Working Group. Also, present in the meeting were Mr. Keshav Bhattarai, Secretary, Ministry of Science and Technology, Mr. Narendra Prajapati (IPPAN), Mr. Ashish Rauniyar (IFC), Mr. Gopal Tiwari (IFC), Mr. Pushpa Raj Khadka (NEA), Mr. Suresh Lal Karn (CAN President) Mr. Binod Dhakal (CAN), Arjun Pd. Arjyal (MoPPW), Mr. Rajendra Man Shrestha (MoPPW), Mr. Sushil Kumar Ojha (MoIC) and Mr. Pradeep Gangol (IPPAN).

The Independent Power Producers' Association, Nepal (IPPAN), Federation of Contractors' Association, Nepal (FCAN), Computer Association of Nepal (CAN) and Internet Service Providers' Association, Nepal (ISPAN) are the members of The Infrastructure Working Group from the private sector. The counterpart government agencies, Ministry of Energy, Ministry of Physical Planning and Works and Ministry of Information and Communication (MoIC) are also its members.

### The WG meeting decided:

- ▶ to take forward the issue of VAT Exemption on Construction Materials at High Level Business Forum
- ▶ to request Ministry of Energy to share the draft of PDA to independent power producers through IPPAN
- ▶ to give instructions to NEA to update WG about the progress made in the Cross Border Line Project.
- ▶ to forward the proposal to the Private Sector Development Committee (PSDC) for adequate budget allocation for the Expansion and Upgrading of the Domestic Transmission Line Network
- ▶ to constitute a three-member Task under the convenorship of Mr. Narendra Prajapati – to study the issues of PPA tariff Adjustment and Price index adjusted annually on tariff escalation
- ▶ to hold a consultative meeting with the stakeholders to prepare a set of recommendations/guidelines to devise fast-track process for the decision making regarding cumbersome, time consuming and sometimes frustrating process of forest clearance and
- ▶ to recommend for the formation of separate ICT Working group to PSDC.

### The Steering Committee meeting of the NBF

The Steering Committee meeting of the Nepal Business Forum was held in the Ministry of Industry, Singh Durbar, Kathmandu on June 21, 2012, under the Chairmanship of Hon'ble Minister for Industry Mr. Anil Kumar Jha. Co-chairs of all working groups from both private and public sectors were present in the meeting. Dr. Subarna Das Shrestha, IPPAN President also participated in the meeting in the capacity of Co-chair of the Infrastructure Working Group.

Among other decisions, the meeting decided to take up the VAT Exemption on Civil Construction Materials and timely revision in PPA rates to the High Level Business Forum, as it required inter-ministerial coordination.



## IPPAN Delegation Team Meets with Hon'ble Mr. Gokarna Bista, Minister for Energy.

1st June, 2011

IPPAN Delegation Team led by Dr. Subarna Das Shrestha, IPPAN President met with Hon'ble Mr. Gokarna Bista, Minister for Energy, Government of Nepal at his residence on June 1, 2011. Other members of the team were: Mr. Kumar Pandey, Narendra Prajapati, Mr. Kiran Malla, Mr. Pashupati Murarka, Mr. Bijaya Man Sherchan, Mr. Krishna Acharya and Mr. Pradeep Gangol. Also present in the meeting were Mr. Hari Bairagi Dahal, President of the Small Hydropower Association, Nepal (SHDAN) and Dr. Bhogendra Guragain.

Dr. Shrestha congratulated the Hon'ble minister on being appointed the minister for energy and handed over IPPAN's publications; Hydropower Nepal Book, IPPAN brochure and IPPAN Newsletter.

Dr. Shrestha made the following comments regarding the power issues.

IPPAN welcomes the proposal of the government to raise the PPA rates by 20 %. Though, the present increase in PPA rates is still not sufficient to enthuse power developers, it has certainly eased the difficulties of power developers. However, the decision to apply the new PPA rates only for those projects, which enter into PPA now, is incomplete, in the sense that it does not cover the power projects which are under construction, or which are in operation.

These projects/plants should also be incentivized by the new PPA rates and other financial measures. The spiraling prices of construction materials, labor costs and higher interest rates have made the projects under construction infeasible. Banks are not willing to finance in these projects. If the construction of these projects, with combined capacity of over 300 MW, are halted, it will only worsen the energy crisis of



the country, and send negative message to potential power developers.

The construction of many large hydropower projects has not started yet due to the delay and postponement in the signing of the Project Development Agreement (PDA). Since it is affecting seriously the investment climate, we request the government for expeditious signing of the PDAs.

We also attract the attention of the government to the delay in the issuance and renewal of generation Licenses. And we request the ministry for its expeditious processing, including that of EIA/IEE reports. IPPAN requests for extension of Survey License by 12 months, due to delays in the processing of documents from the government side.

IPPAN's position on PPA Tariff has been that IPPs need PPA rates of 6.99 Rs/unit (Flat) with price escalation of 5 % for nine years (base Year: 2067/68).

IPPAN also requests for accelerated development of Storage projects and cross border transmission lines and inter connecting Transmission Lines.

To make the hydropower projects feasible and viable, IPPAN has been lobbying for VAT Exemption on



construction materials and 1 % custom duties. Income tax holiday for 15 years for projects that went into commercial operation of generation or generation and transmission, or generation and distribution and generation or transmission and distribution by 2075 AD.

Generation license period for both domestic and export oriented projects should be 40 years. The capitals available with Nepal's banks are not adequate enough to meet the financial requirements of the hydropower projects, Nepal Power Development Fund should be established by the government.

Hon'ble Mr. Gokarna Bista, Minister for Energy, in response to the requests made by IPPAN Delegation Team made the following comments:

The government is trying its best to end load shedding at the shortest time possible.

I have instructed NEA to deal with strictly with the people who pilferage energy. Plans are being made to repair and maintain the NEA's power plants. I am ready to assist the genuine developers. However, the request of IPPs to apply the proposed PPA rates to the projects under constructions is not possible due to resistance from NEA's Trade Unions.

Regarding power development fund, we will soon come up with Power Finance Corporation, which will make available loans exclusively to power projects. The Corporation will make available loans from the Exim Banks of India, China, and other countries, at say, 1 – 2 %. It will make available loans to power developers at 11 %. If the prevailing bank interest is more than that, the difference in interests will be subsidized by the corporation. Therefore, the developers will not have to pay more than 11 % interest.

Regarding the need for sovereign guarantee for hydropower loans, I have asked Chief Secretary about its mechanisms.

I have requested the finance minister to allocate substantial amount of budget for power development.



Mr. Pradeep Gangol, Executive Manager of IPPAN Secretariat presenting Hydropower Nepal Book to Ms. Marla J. Barnes, Publisher and Chief Editor, Hydro Group, Penn Well Corporation, USA. Mr. Gangol had participated in the Hydro Vision International held in Sacramento, California, USA from July 19 – 22, 2011. He had presented a paper on "Nepal's Hydropower, a regional perspective".





## Mr. Gokarna Bista, former Minister for Energy

Former Minister for Energy, Mr. Gokarna Bista was successful in leaving an imprint of a minister "that believes in showing concrete results" among the general public. He was also awarded with Hydro Excellence Award – 2011 by Hydro Nepal in recognition of his commendable jobs as a Minister for Energy. While in ministerial post as Minister for Energy, Mr. Bista shared his plans, viewpoints, and visions regarding Nepal's hydropower development during a tete-a-tete with Pradeep Gangol, Executive Manager and Missu Bhandari, Information Management Officer of IPPAN on August 10, 2011.

**Hon'ble Minister, First of all, I would like to congratulate you, on being awarded with "Hydro Excellence Award- 2011", by Hydro Nepal.**

Thank you. I want to thank Hydro Nepal and family for the award. My colleagues too deserve congratulations for the award, because what I did was teamwork. It has encouraged me to work more in Nepal's hydropower sector.

**Will you pls. list down the steps taken by your ministry to solve the energy crisis?**

We have carried out projects like leakage control, separate company for hydropower investment-Hydropower Investment and Finance Company, more focus on storage projects to address the problems of peak energy, PPA adjustment for IPPs, appointment of CEO on competitive bidding, new provision of energy secretary as Chairman of NEA Board of Directors to make NEA free from politics, scrapping quotation

system, procurement of materials based on competitive bidding, promotion and transfer of employees based on skill, ability and performance.

We have also made a new policy to collect arrears from the government offices, to ensure security in the project area. I have requested Ministry of Finance for VAT Exemption on Construction materials. I am going to take proposal to cabinet for the establishment of a separate transmission line called national grid company. We have increased the PPA tariff by 20 %.

I think, we have initiated important initiatives for Nepal's hydropower development.

**IPPs are concerned due to financial health of NEA. What are you plans to improve the financial health of NEA ?**

To get NEA on sound financial footing, we have decided to bring down the leakage by 9 %, revise consumer tariff. We have already scrapped the quota system to procure materials and replaced it with procurement system based on competitive bidding. We have made policy for NEA to cut down unnecessary expenses.

We have felt the need for adjustment in consumer tariff. It has remained stagnant since last ten years.

**Rt. Hon'ble Mr. Bharat Mohan Adhikary, Deputy Prime Minister and the then minister for energy announced that load shedding will end within 4.5 years. He also announced series of measures to this direction. How do you assure our readers that load-shedding will really end within 4.5 years?**

I believe that load shedding can be ended even before that period. A lot of work can be done in this direction, by leakage control, generation of additional power by repair and maintenance of NEA plants, by upgrading the existing Indo-Nepal interconnecting transmission lines for import of power from India.

We are also planning to encourage the independent power producers to generate power as soon as possible by announcing special incentive packages.

**Hon'ble Minister, since you became Minister for Energy, you took several steps that made us believe that something is really happening in Nepal's Power Sector in Nepal. For example, you took the decision to appoint MD of NEA by competitive bidding, stern action against pilferage of power, security to large power projects, power finance corporation, decision to relinquish the chairmanship of the NEA board ...etc.**

**If we can ensure adequate rate of return from hydropower projects, investors investing in unproductive sector like real estate and housing, will also start investing in hydropower projects. Are you planning to do something in this direction?**

It is not so easy to invest in hydropower projects. Due to liquidity crunch, high interest rates, projects are not coming in time. There are local problems as well. In spite of difficulties, IPPs are building projects. I think, certain incentives should be provided to IPPs who generate power in time.

**Many projects financed by foreign direct investment (FDI) are waiting since long time for Power Development Agreements. What are the reasons for delay in the signing of PDAs? And how long will they have to wait for PDAs?**

We need to take care of our national interests, while preparing PDA documents. I understand that the preparation of PDA is pending in the ministry since quite long time. I have instructed officials to expedite the process of preparation of PDA. I will check with my colleagues the progress made in this direction.

**Many people believe that power sector in Nepal is suffering due to lack of inter-ministerial co-ordination. They suggest that there should be a separate Ministry of Economy, headed by Deputy Prime Minister, which will look after infrastructural development like energy, transport, communication etc. The Deputy Prime Minister can coordinate between ministries like energy, finance, forest, industry, environment, home and defense for Nepal's energy development etc. What is your take on this subject?**

Ministry of Energy is ready to think over it. The main point is that investment environment should be improved. We have already made our plan public for a one window policy. We will soon take the proposal to the cabinet.

**Government of Nepal awarded six projects to Independent Power Producers based on competitive bidding. However, their main grievance is that government has failed in its commitment to build interconnecting transmission lines for these projects. Obviously, they cannot proceed with the implementation of projects, without the surety of interconnecting transmission line for evacuation of their power. What is your message to them?**

Let the six projects proceed with the implementation of projects. We are determined to build transmission lines for these projects. If needed, we are ready to give them assurance in writing.



## Legal Framework for Hydropower Development

**Mr. Ratna Sansar Shrestha**  
Water Resources Analyst  
18th Feb, 2011

Nepal is facing an unprecedented energy crisis, which is expected to become worse, for quite some time. One major problem of Nepal's power sector is its isolation from water resources development. Storage project should be an essential element of hydropower development in Nepal. It is most imperative that storage projects should be essentially multi-purpose based in order to reap multiple benefits like providing energy at peak-loads during the dry seasons, facilitating irrigation, drinking water, recreation, flood control etc. Though the government announced plans like :

5000 MW in ten years; 10,000 MW in ten years; 25,000 MW in twenty years, at different periods of the time, unfortunately, no farsighted policies resulted which eventually mitigated multiple benefit obtainment like power, irrigation, drinking water, fishery, navigation, etc. Generally, it is presumed that Nepal's power has no market inside Nepal. The only market is Indian power market. This is not true. Nepal will need, for example 5700 MW of power within 2021, which literally means 15,000 MW of installed capacity, assuming all plants to be run of rivers and that also at a normal growth rate.

Prerequisites like forward linkages, backward linkages, fiscal linkages and investment linkages are necessary to propel the country towards economic development through hydropower.

Regarding changes in the proposed Electricity Act – 2068, the aim of the proposed electricity generation

should be to ensure energy security making the country non-reliant on fossil fuels. Nepal government should issue license to the IPPs, based on the optimum exploitation of the water resources of the major river basins and of the country.

A separate electricity trading enterprise should be provisioned to purchase electricity at a cheaper wholesale rate and resell them at reasonable rates in domestic market and export the surplus energy. The concession period of hydropower projects should be counted from the date of commissioning.

The provision to make available free energy of up to 50 units per month for project affiliated people should be immediately scrapped. In the case of capacity royalty, the proposed formula for calculating the capacity royalty is illogical and therefore should be scrapped, too.

## Nepalese Power Sector at the Cross Roads: Where do we go from here?

**Surendra Rajbhandary**  
Corporate Planning Department, NEA  
29th July, 2011

The current mismatch between energy supply and demand in Nepal leading to the power cuts of 14 hours a day is expected to continue for quite some time even if everything goes as planned. This clearly indicates the failure of government's policy and the corporate strategy of NEA, state owned utility responsible for generation, transmission and distribution in the country. The need for a suitable storage hydropower project in the system to balance this seasonal shortage and surplus has also become acute. The extremely limited investment capability of the country continues to remain one of the major impediments in the development of Nepal's power sector. Also, the political instability, deteriorating law and order situation, unrelated demands and resistance by the local people, changing fiscal and other policies of the government with regard to the development of hydropower, land and Rights of Ways acquisition problems all have contributed to the present impasse. The existing transmission system needs major rehabilitation to continue the services in the coming years. The Nepalese power sector is therefore at the crossroads. At this stage the step taken by the government can make or break the power system of the country. The current challenges facing Nepal is the ultimate need to define



energy related future vision and a road map that efficiently meets the nation's growing demand for electricity over the next 30-50 years.

DoED has issued survey license for projects totaling more than 8000 MW. Applications for survey license pending in DoED are for 40,000 MW. Evacuation of power of this magnitude needs multiple EHV transmission networks. Even for 10,000 MW in the same direction, multiple circuits of 765 kV transmission line with four bundle conductors is necessary.

The government has declared many transmission lines of various voltage levels ranging from 132 kV to 400 kV to be constructed within next 5 years period. In such a scenario, for the smooth execution of the projects and the operation of facilities, a separate, autonomous public entity - Transmission Line Company is needed to manage the transmission activities. The company established for the



specific purpose will provide open access to all the prospective users. Regional Transmission Companies may also be needed, one, in each

development regions to manage transmission lines within Sapti Kosi River Basin, Sapt Gandaki River Basin and Karnali-Mahakali River Basin.



## Hydropower Financing

**Apar Neupane**

*Business Manager*

*SN Power Nepal Office*

*23rd December, 2011*

The hydropower industry is characterized by High front-end costs and time (during feasibility and design stage) such as the long construction periods, limited availability of Export Credit –; Capital Intensive; Involvement of various stakeholders, long gestation periods; high risks associated with hydrology, geology, political, currency, and power market etc. It is a large infrastructure project; with the possibility of cost and time over-run. It is a clean/renewable energy and has low operating costs. It has a peaking advantage with the inherent flexibility of starting and stopping the plant as and when required.

In spite of huge hydro-power potential, and relatively long history of power development, Nepal has an installed capacity of 652 MW (hydro plant) only.

The power demand of 1000 MW in winter and 800 MW in summer has led to long hours of load shedding in Nepal. The stages of hydropower development are: survey license, feasibility study and ESIA, Detail Engineering design, power sales arrangement, financial closure, Project Development Agreement, Generation License, Project Construction; Operation and handover to the government.

Regarding financing of hydropower projects, there should be appropriate allocation of risks and return

Project Financing is also a preferred method of financing, since it can attract more long term favorable financing than balance sheet financing. However, the project becomes expensive due to the inevitable costly project due diligence and comparatively longer time to reach to its financial closure.

There are numerous problems that developers have to face while financing hydropower projects like: limited availability of Less availability of NPR financing, high and volatile interest rates, short debt tenure,



among stakeholders. The financing of hydropower projects in Nepal have been through grant/soft loan of bilateral, multilateral agencies like the World Bank, ADB, or through project financing of sizable projects, mainly through IFC. In the case of small projects of private sector, the financing has been executed through the consortium loans via the local commercial banks.

requirement of numerous guarantees; short repayment period; borrowers' limit, limited power market and weak utility companies (problem for project finance and PPA); Insufficient financial planning and financial evaluation resulting in cost and time over run, higher debt/equity ratio etc. Some projects could not meet the requirements for international financing on environmental issues and level of project investigation.

## Searching for Political Solutions to Address Impediments in Hydropower Developmental Business Forum

**Mohan Das Manandhar**

*Executive Director, Niti Foundation (A Policy Research Funding Institute)*

*4th March, 2011*

Hydropower is a source of energy, a crucial component required to fuel economic development. There are several alternatives to hydropower energy like diesel, multi-fuel including nuclear energy. However, given our technical expertise and the cost of diesel and the ready availability of water resources in the country, hydropower is the most feasible option for generating energy. The tone and intent of most of the ongoing debate and discussion on hydropower is such that it is treating hydropower development as an end in itself and forgetting that most importantly it is also the crucial input (infrastructure) for economic development. Unless this underlying factor is not realized and acknowledged all problem solving endeavors, policies and efforts related to hydropower will not be complete. By looking at a tree too close we might be guilty of missing the forest, the bigger picture in reality.

In addition, the hydropower discussion needs to come out of the exclusive domain of hydropower experts and direct stakeholders of the sector. Policy solutions alone will not ensure hydropower development. The politics of hydropower needs to be understood and addressed. In this regard there are several impediments facing hydropower development. Amid escalating inflation and the absence of a corresponding rise in income (through increase in tariff), NEA is heading towards bankruptcy. Despite regular appeals from NEA to the Electricity Tariff Fixation Commission, Ministry of Energy directives and even what seems to be the Prime Minister's parting endeavor before leaving office, the Tariff Commission has remained impassive. There is a need for a mechanism to address the issues and stakes of the local people. Almost a decade into the Hydropower Policy of 2001, there are still no Acts or Regulations to support the policy. The absence of supportive Acts means that incentives like tax breaks and benefits to private companies have not been formalized and therefore been susceptible to varied interpretations by changing political parties and the 'One Window Policy' remains so in name alone.

It will take a few more years for the market mechanism to be in place for power export to India without which the private sector investment in mega hydropower projects in Nepal is a far cry. Government of Nepal is understood to have forwarded in the first week of December 2010, the Electricity Trade Agreement dossier to India seeking a free power market for the electricity generated in the country. If India endorses this agreement, Nepal will be able to trade power in free market.



## Linking financial sector with Nepal's hydropower development

**Biswa Gauchan,**

Founder Chairman of Shangri-la Development Bank Ltd,  
Pokhara

2nd December, 2011

Nepal's economy has witnessed a gradual decline of productive sector's share in GDP in the last few years due to political instability, energy crisis, lawlessness, labour unrest, bandhs, security etc. In the absence of the opportunity to invest in productive sectors, the banking sector has fueled consumption by channeling funds into retail sector of the economy.

As a result, it is estimated that more than 120 billion rupees has gone into real estate in the last few years which would have otherwise generated more than 800 MW of hydro electricity – adequate to provide for the country's electricity needs.

The highly valued sectors of Nepal's economy are: Hydro Power, Agriculture, Tourism, Education, and Mining. However, all the above sectors are extremely underfinanced as evidenced by bank's total credit – less than 8% (41B) in 2067/68.

Equity participation by Development banks and Finance companies in hydropower sector would help in channeling bank's credit into productive sector. Such investment will generate a Hydropower capacity of more than 750 MW – greater than the Country's current capacity. This will then assist in restructuring asset allocation mix by diversifying portfolio to more productive from highly risky sectors of the economy such as real estate, consumption etc. thereby eventually re-profiling and redefining Nepal's economy.



Hydro power sector, therefore, should be declared as the Government's Priority Sector for next 20 years and accordingly the Commercial Banks will have to build certain percentage of their portfolio in this sector starting from 2% in the first year to 10% over the period of 10 years. Development (Bikas) Banks shall be allowed to make Equity participation in Infrastructure Projects. The Special Purpose Vehicle (SPV) to execute such projects can be a private limited company (not necessarily PLC with mandatory IPO requirement) in the form of either

wholly owned subsidiary or with different equity mix. The SPV shall be empowered to raise funds from bonds, debentures, loans from both domestic as well as international markets. Government shall reallocate licenses to resource equipped institutions like SPV to fast track the development of country's productive infrastructure.

NRB can play important role by providing liquidity facility to Development Banks against the collateral of hydropower projects.



## Investment Environment in Nepal's hydropower

**Dr. Sandip Shah,**

Country Director and Vice President/SN Power  
Nepal Office

1st July, 2011

The Objective of Nepal's Power Sector Reform Program should be: Reducing Electricity costs; attracting private investment; maximizing public revenues, creating energy security in an environmentally and socially sustainable manner and optimizing power plants with possibilities of exports.

The development process of hydropower starts with Project Identification and survey License. It is followed by Project Development Agreement (PDA), Power Purchase Agreement (PPA), and financial closure. Once the financial closure is over, construction of the project starts followed by commissioning and then operation and maintenance (O & M) of the plant, Loan Repayment and finally hand over the ownership of the plant to the government seals the deal.

To start with, field and desk studies are carried out and concept notes are made. Survey License is issued for five years, with the provision of annual renewal. Once



the developer starts investing in the field and desk studies, there should be certainty that s/he should get Generation License as well.

Project Development Agreement (PDA) defines the framework of project development. The PDA consists of provisions like tenure of license, tax incentives, permits and licenses, obligations of developer and government, PPA Guarantees; repatriation, etc. The PDA also protects the developer against changes in Law.

Financial Closure is needed to secure all project parameters, terms and conditions for project finance, lenders and sponsors' commitments, off-taker and government commitments, contractors' commitment, responsibility for cost over-runs and delays and contingent equity.

Generation License is needed to secure terms of project development. During construction, the developers have to face problems like land acquisition, permit and licenses, labour issues, local expectations, geological and hydrological

challenges, cost over-run and time over run, funding of cost and time over run etc.

During the operation and maintenance, the project has to deal with sediment handling, PPA and PDA Administration, proper O & M practices. During the loan repayment period, the developer has to ensure timely payments to lenders.

At the end of the generation license period, the developer has to hand over the plant to the government in proper operating conditions.

The absolute pre-requisites for project development are: Legal stability; Political and bureaucratic will; Security; Effective "Single-window"; power Market; Cross-border transmission lines and Finance - including CDM.

The present investment environment for hydropower development in Nepal is too harsh to deter any potential investors from investing in Nepal's hydropower development.

## Introduction to Mechanized Tunnelling and Tunnelling Machines

**Ram Hari Sharma**

Deputy General Manager, Green Ventures  
March 18, 2011



The importance of underground structure is increasing every day, because the underground offers the space which mostly is not available any more on the surface. The underground structures are one of the best solutions for inter urban subsurface mass transport system, fast linking one city to another, water conveyance in mountainous landscape, urban utility transport, underground storage and for defense purpose.

The world of underground engineering and construction has acquired a wide-ranging and high level experience on tunnel construction by mechanized tunneling with Tunneling Machine (Tunnel Boring Machine). Thanks to the advanced tunneling technology, the question now-a-days is not whether tunneling is possible or not for any

underground structures. The decisions to be made are generally to choose among different tunneling techniques, depending upon the nature of ground conditions.

Boom Excavator (digger) is used for weak weathered rock and firm soil conditions. Boom excavator (Road Header) is used in competent rock. Non-shield Rock TBMs, (Reaming machine or Gripper TBM) are used in competent rock. Shield TBMs are used in rock soil mixed ground. The shield TBMs may be open face, mechanical face support, compressed Air Shield, slurry Hydro Shield and Earth Pressure Balance Shield depending upon its use in the types of rock or soil.

In underwater tunneling technologies, Immersed and Submerged Floating Tunnelling technologies are available. However, submerged floating tunnel is a new technology yet to be constructed.

The advantages of mechanized tunnelling using tunnel boring machine are many. It helps to enhance the health and safety conditions for the workers. The tunnelling process is to some extent, automated, resulting in reductions in construction cost and time. The finished product (tunnel lining) is of good quality due to the use of precast segment lining. The surrounding landscape remains unaltered. It is now possible to cross complex geological and hydro-geological conditions safely and economically, by using TBMs.

However, the use of mechanized tunnelling is inflexible, in the sense that once the technique has been chosen it is virtually impossible to change it throughout the construction of the tunnel. A correct analysis of different parameters is therefore, needed for the choice of the correct mechanized tunnelling technique.

In the case of Switzerland, nearly 275 kilometre long tunnels were constructed by 2000 AD, out of which, tunnelling by TBM had more than 50 % share.

## Hydropower Project Financing in Nepal

**Manoj Goyal,**

CEO, Clean Energy Development Bank Limited.  
September 9, 2011

Project Finance is a specific mode of financing the construction of new projects in which Lenders/ BFI's provide a non-recourse/ limited recourse debt to a Special Purpose Vehicle (SPV) i.e. legally independent company created specifically for undertaking the project; look primarily to the cash-flow/ revenue stream generated by the project for repayment; and take charge over asset created in the project as the security. Project Finance contributes to the integration of markets and channelizes public and private investment.

Hydropower financing is capital intensive. Though, Nepal is rich in hydropower potential, the local banks cannot go for mega projects due to equity constraint. Therefore, project financing is imminent in Nepal. Project financing had its origins in the energy industry in industrialized countries (oil & gas production loans), which was later extended to infrastructure, transportation, mining, utilities and large industrial projects.

The value of PF relies on a simple cash-flow stream generated by a single project and the collateral value of the project assets. The source of the cash-flow may be a single buyer or consumers.



An independent SPE is created to hold the project assets and to integrate all legal contracts in an effective and efficient manner for funding, building and operating a single purpose project. SPE is owned by one or a few sponsors. The key to project financing is the reallocation of any risk away from the lenders to the project. PF is necessary for Risk minimization; and preservation of borrowing capacity and credit rating; and for ensuring that enough funds are generated for large projects.

In Nepal, the Banks/ FI's have started practicing half hearted project finance to IPPs (Hydropower projects), sans an IPF guideline by the NRB;

Following recommendations can be prescribed, in order to make Project Finance successful in Nepalese context.

- ▶ Nepal Rastra Bank (NRB) should come up with infrastructure Project Finance (IPF) Guidelines for standardized approach by all Banks;
- ▶ Banks/ Financial Institutions should strengthen their Credit and Technical Team for critical assessment of risks associated with Project Financing;
- ▶ Professionalization of Engineering Consultant, construction companies,
- ▶ Insurance & Legal framework



## UP-COMING EVENT

### ICH Seminar on Concession Agreements

International Centre for Hydropower (ICH) and Independent Power Producers' Association, Nepal (IPPAN) are going to organize jointly International Training Course on "Concession Agreements" from bidding through negotiations to Conclusion from November 5th – 9th, 2012 in Tulsi Hotel Pokhara, Nepal.

- ▶ Timeliness for Hydropower projects
- ▶ Examples of Challenges experienced in projects in Nepal
- ▶ Concession Agreements – legal and practical challenges
- ▶ Economic and Financial assessments, investment

The course is designed to complement the ICH/IPPAN course on Hydropower Financing and Project Economy held at Mirabel resort Hotel, Dhulikhel from 14th to 18th November 2011 and it also forms the first part of a two part programme in Negotiation Techniques. The second part of this two part programme is planned for first half of 2013.



About 30 participants from Nepal, Bhutan, China and Norway are participating in the five day residential training course.

The course will mainly focus on the strategies and processes involved in making Concession Agreements, and highlight the necessary interconnections between the various factors that need to be considered. The planning process of a project, with emphasis on the economic and financial considerations and assessments, will also be elaborated.

The main topics of the training course include:

- ▶ Relevant agreements for project-financed Hydropower projects

decision, negotiation strategy, export challenges

- ▶ Survey Licenses and feasibility studies, challenges from the investors' point of view
- ▶ Experiences from Laos regarding foreign investments and export to Thailand
- ▶ Investors' challenges, International Financial Institutions
- ▶ Negotiating Concession Agreements, strategy and potential risks
- ▶ Experiences from performance of negotiations related to investments in the electricity supply industry – in particular with reference to negotiation of Concession Agreements

The second part will focus on the practical aspects of negotiation Techniques, and a requirement for participation will be the completion of the first part of the two –part programme.

The participants of Nepal are from Ambeshwar Engineering, Bhotekoshi Power Company, Butwal Power Company, Employers Provident Fund, Himal Power Limited, IDS Energy, IPPAN, Nepal Hydro & Electric Limited, Nepal Investment Bank Limited, Nepal Industrial and Commercial Bank Ltd, Nyadi Group Pvt. Ltd, SN Power, Sanima Hydropower (P) Ltd, Sinha and Verma Law Firm, Tara Energy Pvt Ltd, Tundi Power Company, Upper Solu Hydro-electric Company and Upper Tamakoshi Hydropower Limited.



## Sanima Mai Hydropower Limited

### 1. Connection Agreement of Mai Cascade Hydropower Project (7 MW) has been signed on 3rd April, 2012

(From Right to Left) Dr. Subarna Das Shrestha (Director of Sanima Mai Hydropower Limited) shaking hand with

We are pleased to announce that Power Purchase Agreement (PPA) has been signed between Sanima Mai Hydropower Limited and Nepal Electricity Authority

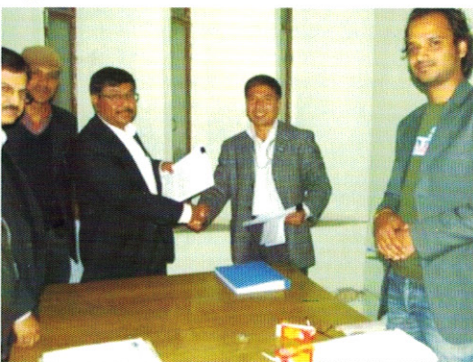
(NEA) on 21st March, 2012 for the upgraded capacity of the project from 15.6 MW to 22 MW. The earlier PPA was signed for 15.6 MW.

### 3. AGM of Sanima Mai Hydropower Ltd 15.6 MW (22 MW)



Hari Ram Shrestha (Director, Department of Grid, Nepal Electricity Authority)

### 2. PPA signed with NEA on 21st March,

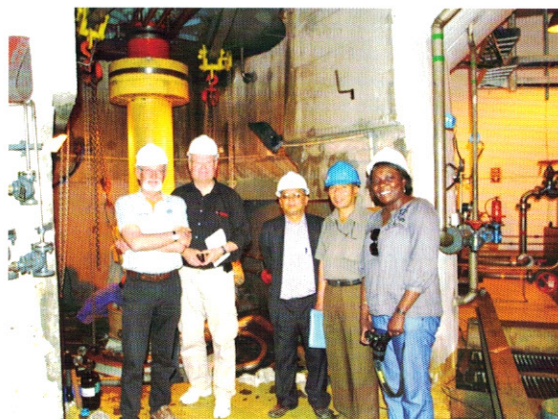


(From Right to left) Dr. Subarna Das Shrestha (Director of Sanima Mai Hydropower Limited) shaking hand with Mr. Rajeshwor Man Sulpiya (Officiating General Manager, Generation Construction) during signing of PPA



Annual General Meeting of Sanima Mai Hydropower Limited was conducted at Sanima Hydropower Office on 11th January, 2012.

## Bhotekoshi Power Company



### Workshop on Condition Monitoring Of Francis Turbine

International Center for Hydropower (ICH) and IPPAN has jointly organized a training workshop on Condition Monitoring of Francis Turbine in Nepal during March 25-28, 2012. Such training is expected to build confidence amongst the existing operators. These types of training used to happen in Norway. Lately, similar trainings have been conducted outside Norway in the required destinations for economies of scale. Conducting such workshops in Nepal has benefited Nepalese aspirants by allowing more participant to attend due to the nominal costs of the workshop.. The Training workshop had



two sessions – one Theoretical session conducted in Resort hotel at Dhulikhel; and the final practical session of the Turbine Runner and the related cause effect case.

Bhote Koshi Power Company P. Ltd. (BKPC) hosted the practical session on 28th March in its plant at Phulpingkatti VDC, Sindhupalchowk. Non Destructive Tests (NDT) were also conducted during the session apart from other measures.

The faculty of the program John was impressed with BKPC runner that was manufactured by Chinese OEM – Chongqing Water & Turbine Works (CWTW) and operated and maintained by BKPC in-house team.

BKPC is proud to host the practical session in its plant and contribute to the Learning Process for the Nepalese Hydro Power Plant Engineers.



## Name List of IPPAN Members

### Corporate Members

- |   |   |   |
|---|---|---|
| 1 Bhote Koshi Power Co. Pvt. Ltd.         | 23 Upper Maiwa Hydropower Pvt. Ltd.       | 45 Baishno Devi Hydropower Co. Pvt. Ltd.      |
| 2 Butwal Power Co. Ltd.                   | 24 Upper Madi 0 Hydro Pvt. Ltd.           | 46 Synergy Power Development Pvt. Ltd.        |
| 3 Himtal Power Limited                    | 25 Super Khudi Hydropower Pvt. Ltd.       | 47 Energy Engineering Pvt. Ltd.               |
| 4 Himtal Hydropower Company Pvt. Ltd.     | 26 Unique Hydel Co. (P.) Ltd.             | 48 Upper Mai Hydro Devt. Pvt. Ltd.            |
| 5 Lamjung Electricity Devt. Company Ltd.  | 27 Shikhar Hydropower Co. Pvt. Ltd.       | 49 GMR Upper Karnali Hydropowr Ltd.           |
| 6 Molnia Power Ltd                        | 28 Ankhu Hydropower (P.) Ltd.             | 50 Lower Arun Hydro Electric Pvt. Ltd.        |
| 7 Sanima Hydropower (P.) Ltd.             | 29 Annapurna Group (P.) Ltd.              | 51 Sinohydro-Sagarmatha Power Co. (P) Ltd.    |
| 8 Annapurna Renewable Energy (P) Ltd.     | 30 Grid Nepal Company Pvt. Ltd.           | 52 Essel - Clean Solu Hydropower Pvt. Ltd.    |
| 9 Khudi Hydropower Ltd.                   | 31 Welcome Energy Devt. Co. (P.) Ltd.     | 53 Chirkhwa Hydropower Pvt. Ltd.              |
| 10 Himalayan Hydropower Pvt. Ltd          | 32 Nepal Hydro Developer Pvt. Ltd.        | 54 Mailun Khola Hydropower Co. Pvt. Ltd.      |
| 11 Rairang Hydropower Devt. Co. Pvt. Ltd. | 33 Dordi Khola Jalabidyut Co. Ltd.        | 55 Liberty Energy Hydropower Co. Ltd.         |
| 12 Mai Valley Hydropower Pvt. Ltd.        | 34 Himalayan Power Partner Pvt. Ltd.      | 56 Sikles Hydropower Pvt. Ltd.                |
| 13 Manang Trade Links (P) Ltd.            | 35 Naulo Nepal Hydroelectric Pvt. Ltd.    | 57 Hira Ratna Hydropower Pvt. Ltd.            |
| 14 Balephi Hydropower Company Ltd.        | 36 Numbur Himalaya Hydropower Pvt. Ltd.   | 58 Ambeshwor Engineering Hydropower Pvt. Ltd. |
| 15 IDS Energy Pvt. Ltd                    | 37 Global Hydropower Associate Pvt. Ltd.  | 59 Alliance Power Nepal (P) Ltd.              |
| 16 PAN Himalaya Energy Pvt. Ltd.          | 38 Nasa Hydropower Pvt. Ltd.              | 60 Jumdi Hydropower (P) Ltd.                  |
| 17 Pashupati Energy Dev. Co. (P) Ltd.     | 39 Rara Hydropower Devt. Co. Pvt. Ltd.    | 61 Mount Kailash Energy Company Pvt. Ltd.     |
| 18 Tundi Power Co. Pvt. Ltd.              | 40 Sanima Mai Hydropower Pvt. Ltd.        | 62 Daraudi Kalaika Hydro P. Ltd.              |
| 19 Mukdishree Pvt. Ltd.                   | 41 Tara Energy Pvt. Ltd.                  | 63 C.D.B.L. Hydro Fund Ltd.                   |
| 20 Cemat Power Dev. Co (P) Ltd.           | 42 Nimrung Hydropower Co. Pvt. Ltd.       | 64 Nepal Water & Energy Development Company   |
| 21 Ru Ru Jalbidhyut Pariyojana Pvt. Ltd.  | 43 River Falls Hydropower Devt. Pvt. Ltd. |   |
| 22 Radhi Bidyut Company Ltd.              | 44 Nyadi Group Pvt. Ltd.                  |   |

### Associate Members

- |  |   |  |
|--|---|--|
| 1 Shangrila Energy Ltd.                    | 10 Nabil Bank Ltd.                      | 19 Qian Kang Allonward Hydro-Equipment Co. Pvt. Ltd. |
| 2 Clean Energy Development. Bank Ltd.      | 11 Himalayan General Insurance Co. Ltd. | 20 Structo Nepal (P) Ltd.                            |
| 3 Klen Tech Pvt. Ltd.                      | 12 Standard Chartered Bank Nepal Ltd.   | 21 Siddhartha Bank Ltd.                              |
| 4 SN Power                                 | 13 Bank of Asia Nepal Ltd.              | 22 Laxmi Bank Ltd.                                   |
| 5 Nepal Hydro & Electric Ltd.              | 14 Sanima Bikas Bank Ltd.               | 23 DCBL Bank Ltd.                                    |
| 6 ICTC Pvt. Ltd                            | 15 Sunrise Bank Ltd.                    | 24 K-water (Korean Water Resources Corporation)      |
| 7 Himtal Hydro & General Construction Ltd. | 16 Nepal Investment Bank Ltd.           | 25 Jade Consult Pvt. Ltd.                            |
| 8 Hydro Solutions Pvt. Ltd.                | 17 ACE Development Bank Ltd.            |  |
| 9 Jyoti Bikash Bank Ltd.                   | 18 Feedback Ventures Nepal Ltd.         |  |

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