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MR. BISHAL THAPA

VICE-CHAIRMAN

ENERGY DEVELOPMENT COUNCIL

Editorial

Lighting The Rural Future

'Nepal must adopt new approaches to rural electrification that not only deliver electricity but also improve the prospects for economic growth in rural area.'

Having secured reliable electricity supply, Mr. Kulman Ghising, the Managing Director of Nepal Electricity Authority (NEA), the national electric utility, announced last month that he would now seek to accelerate rural electrification.

NEA shares the national mandate on universal electricity access for Nepal with the Alternative Energy Promotion Centre (AEPIC), a government agency under the Ministry of Energy, Water Resources and

Irrigation (MoEWRI). NEA's scope is to achieve universal electricity access by extending the grid; AEPC's is through distributed renewable energy systems. With technology blurring the lines between the grid and distributed renewable energy systems, the two agencies increasingly overlap on the core mission of universal electricity access.

Having two agencies on the same mission shouldn't matter. Nepal needs all the help it can get on achieving universal electricity access.

Official data suggests that electricity has reached approximately 80% of Nepali households. The reality is probably something much lower, if accounting for power reliability, quality and pockets of unserved communities in grid connected areas.

With increased investments and genuine political commitment, 100% electrification could be achieved in Nepal within the next decade, if not sooner.

Do lights light up the future?

Does the arrival of reliable and affordable electricity enhance the economic prospects of rural areas?

Conventional wisdom is, of course it does. New economic activity typically follows the arrival of electricity supply – poultry farms, grinding mills, small shops and a wide variety of such micro-enterprises.

Nepal's development literature on electrification is resplendent with reassuring pictures of children reading under the lights, women sewing and shop keepers displaying their wares. Sometimes, it even feels like the chicken in the poultry farms are smiling!

But beneath these feel-good symbols of lives empowered by electricity, a much darker truth lurks.

Across Nepal there are hundreds of rural communities that have received reliable and affordable electricity supply. But almost uniformly across these communities, after a short small burst of economic activity, electricity demand invariably levels off and economic growth grinds to a halt.

The arrival of reliable and affordable electricity initially spurs micro-enterprises. These micro-enterprises are typically centred around the mechanization of every day functions of the local economy, (e.g., grinding mill, small freezers). Beyond the local economy, the inrush of investments, commerce, services and integration to the broader economy fails to arrive.

Electricity helps improve the quality of everyday life. But broader economic prosperity remains elusive. Electricity demand growth remains limited to incremental household consumption – mobile phones, a small television, more lights.

Even this growth is offset by the migration out of rural areas to towns or cities, so that the net impact over time is declining electricity demand.

Across Nepal there are hundreds of rural villages and towns where the lights burn brightly but the economic future remains dimly dark.

Why is it that the arrival of reliable and affordable electricity, even when accompanied by other enabling infrastructure like roads and communication services, fails to help rural communities prosper economically? Why does it fail to spark economic growth? Why don't such areas integrate more substantially into the broader national economy.

For economic growth to follow electrification, the methods (or approaches) used to achieve electrification turns out to be far more important than the availability of electricity supply alone.

No accident in off-grid

Rural areas that lack access to electricity are without electricity for a reason - it is not an accident, where someone just happened to overlook the fact that the area existed. These areas are without electricity because they are intentionally marginalized, for social, political and economic reasons.

With finite public resources, the fact that planners decided to electrify Kathmandu over some remote

village in Karnali reflects a clear intentional attribution of higher value to Kathmandu relative to Karnali. This attribution of relative value is why the approach to electrification is several times more important for economic prosperity than electrification alone.

The low economic value we assign to rural areas reflects the lack of confidence in rural economies. This value remains unchanged even with the arrival of electricity and other associated infrastructure, such as roads and communications.

Because a remote village in Karnali is now brightly lit with ample electricity and good roads doesn't mean that we have now found confidence in the economic prospects of the place.

Electrification is an expensive and difficult affair. It is a pity that our current methods for electrification are failing to use this expensive opportunity in ways that can simultaneously generate confidence in the economic prospects of rural areas.

Electrification as the state's generosity

NEA and AEPC both approach rural electrification as an obligation to serve. They have been told they must deliver electricity to every corner of Nepal and they go about it in a narrow insular way. Electricity delivered – check, task done. Nothing else matters.

NEA and AEPC both follow state led, monopoly approaches to rural electrification. In this, they identify, design, develop and implement the electrification schemes. Although both agencies work with local communities, their approach is very prescriptive with a high degree of top down direction. Their engagement with the private sector and service providers is equally limited, marked by a relationship where the state is the sole buyer and service providers are contractors.

Under such models of rural electrification, beneficiary communities become further dependent on the state's generosity for progress. How can we claim that electricity has empowered the lives of rural communities when they are now even more dependent on the state. Dependency is the exact opposite of empowerment.

With state led monopoly approaches to electrification, the economic prosperity that was to follow remains elusive. The rest of the economy either doesn't even notice or remains unconvinced that electricity has opened new economic opportunities in the region.

Such state led, monopoly approaches to rural electrification misses an important, and perhaps the

best opportunity to help the broader economy gain confidence of investing in, engaging with and integrating rural areas within its fold.

Approach matters

New approaches to rural electrification, consistent with Nepal's decentralized federal structure, could not only provide reliable and affordable electricity to rural areas but also spark economic growth in rural areas. These new approaches must aim to empower rural champions that can spot, develop and leverage rural economic opportunities.

Decentralization. Instead of electric poles, transmission wires or distributed energy systems, provide local governments financial resources, empower them to make decision and let them structure electricity services the way they want. Prescriptive centrally led schemes must give way to locally driven solutions. Local governments and stakeholder are much better at combining electrification with the needs for broader economic growth.

Private sector. The state must withdraw. The private sector must invest in the electrification and delivery of rural energy services. While public finance may be required to fill gaps in commercial viability, the state must enable private sector to lead these

investments in partnership with local communities.

Private sector led investments in rural electrification will be the seed to future economic activity in the region.

State led, monopoly rural electrification schemes that fail to adopt new approaches, which build the eco-system of rural champions, may still light every corner of Nepal but will tragically destine those very areas to a future of economic darkness.



EDC ACTIVITIES

12th April, 2019

Forest and Land Issues on Hydropower Development



[Watch the Interaction Program here](#)

PowerPoint Slides: [Key Challenges for electricity related infrastructure in Nepal](#)

Energy Development Council (EDC) with USAID's Nepal Hydropower Development Project (NHDP) co-organized an interaction program on "Forest and Land Issues in Hydropower Project Development" on 12th April, 2019 at Hotel Yak & Yeti, Kathmandu, Nepal. The main aim of this program was to bring together all associated stakeholder to discuss on the pertinent forest and land issues prevailing in hydropower project development.

Full Summary Report is available at: <http://www.edcnepal.org/forest-and-land-issues-for-hydropower-development/>

2nd April, 2019

Invitation to the Himalayan Consensus Summit 2019

Ms. Itnuma Subba, CEO of EDC participated in the fourth Himalayan Consensus Summit (HCS) on 2nd April 2019 at Hotel Himalaya, Lalitpur. The theme of the Summit was 'Towards a Share Future: People | Innovation | Cooperation' and the following topics were discussed. How will the region structure its increasing economic growth around sustainability? What will be the impacts of climate change and migration in the region? What will be the future of labor in the changing technological and sustainable contexts? What are the fresh initiatives that address the current complexities? What role can think tanks play to address such issues?



EDC ACTIVITIES

TenderNotice.com.np					
Tender, Bids and Notices related to Hydro and Energy segments in Nepal					
Month: April 2019					
S.No	Notice Publisher	Description	Published date	Notice Category	Product Service
1	Trishuli Hydroelectricity Company Limited, Vansthal, Kathmandu	Supply and Delivery of Laptop Computer and Vehicle	4/30/2019	Hydro Power/ Energy	Other Product/ Services
2	Trishuli Hydroelectricity Company Limited, Vansthal, Kathmandu	Supply and Delivery of Laptop Computer and Vehicle	4/29/2019	Hydro Power/ Energy	Other Product/ Services
3	Raghuganga Hydropower Limited	Construction Completion of Existing Building	4/28/2019	Hydro Power/ Energy	Construction / Building
4	Tanahu Hydropower Limited, Thapathali, Kathmandu	Construction of Headworks	4/25/2019	Hydro Power/ Energy	Construction / Building
5	SJVN Arun-3 Power Development Company (P) Ltd., Khandbari, Nepal	Observing Discharge and Silt Data at DAM G&D Site	4/20/2019	Hydro Power/ Energy	Other Product/ Services
6	Himal Rural Electric Cooperative Limited, Dhankuta	Consulting Services for Review of DFS Report, Preparation of DED Report and Tender Document Preparation Works of Small Hydropower Project	4/18/2019	Hydro Power/ Energy	Consulting
7	Uttar Ganga Power Company Limited, Head Office, Durbar Marg, Kathmandu	Consulting Services for Review of Feasibility Study Report, Preparation of Detailed Engineering Design, Bidding Documents for Project Construction	4/12/2019	Hydro Power/ Energy	Consulting
8	Uttar Ganga Power Company Limited, Head Office, Durbar Marg, Kathmandu	Consulting Services for Review of Feasibility Study Report, Preparation of Detailed Engineering Design, Bidding Documents for Project Construction	4/12/2019	Hydro Power/ Energy	Consulting
9	Tanahu Hydropower Limited, Thapathali, Kathmandu	Amendment Notice	4/10/2019	Hydro Power/ Energy	Other Product/ Services
10	Trishuli Hydroelectricity Company Limited, Vansthal, Kathmandu	बोलपत्र स्वीकृत गर्ने आशय	4/4/2019	Hydro Power/ Energy	Other Product/ Services
Powered by , www.TenderNotice.com.np 					



MEMBER UPDATES



Sunbridge Solar Nepal is building a 15 kw battery based solar power system in a hospital at Gamgadhi, Mugu, funded by KOICA.



Sunbridge Solar Nepal is also undertaking 46KW solar water pumping system in Tumlingtar, Sankhuwasabha this week. The largest single stage water pumping system as of date in Nepal.



MEMBER UPDATES



NMB bank head office in Kathmandu now has a brand new 50 kW grid connected solar rooftop system. NMB head office will manage 70% of their total electricity consumption from self generated clean energy. Through a private power purchase agreement, NMB will pay less per unit charge than the grid on units generated from the solar rooftop. This system will save 2 million units of grid electricity in its lifetime. Mr. Bishal Thapa, MD of Saral Urja is the visionary behind the rooftop revolution in Nepal.



NEPAL'S PERSPECTIVES

26th April, 2019

NEPAL'S ELECTRIC TRANSPORT FUTURE IS HERE

Residents of Kathmandu by now know that they breathe some of the dirtiest air in the world. But unlike elsewhere, that awareness has not created the public opinion pressure to force politicians to act.

Up to 35,000 Nepalis lose their lives annually due to diseases caused by air pollution. One in every 10 people in Kathmandu suffers from chronic lung diseases like COPD, bronchitis and emphysema. The average life expectancy of Nepalis is reduced by over two and one-half years because of air pollution.

“We have seen that electric public transportation can improve public health by reducing pollution,” says Sajha Yatayat Executive Director Bhusan Tuladhar. “Recent advances in electric transport provide the solution. What is sorely lacking in Nepal is political will, long-term commit-



RENEWABLE TRANSPORT: *Symbolic gestures like President Bidya Devi Bhandari using an electric limousine, and more practical tax breaks for EVs have won Nepal international praise for a proactive energy policy. However, reforms are still needed to encourage electric public transport*

ment and strategic planning for electric mobility.”

Indeed, Nepal's policy makers no longer have an excuse to do nothing about air pollution: they can follow the example of China and India and announce a national campaign to switch to electric public transport.

India is rolling out 7,000 electric buses this year. The Delhi Metro is now powered by solar energy and plans to go fully solar by 2021.

All 16,000 public buses in Shenzhen are electric. China has replaced all its petrol two-wheelers with electric motorcycles and scooters.

Global demand for electric vehicles is rising rapidly, and manufacturers are having a hard time meeting demand, mainly because of the shortage of lithium ion batteries. The sale of electric vehicles overtook fossil-fuel cars in Norway last month.

Here in Nepal, electric cars now make up 10% all of all new sales. The first 40 Hyundai Kona EV sold out as soon as they arrived, and the next batch of 40 are already booked. In fact, Hyundai launched Kona in Nepal before it did so in Australia and the US. The Korean car-maker listed Nepal as a top priority market in the Asia-Pacific because of tax breaks for electric vehicles here.

“We were able to convince the manufacturers that Nepal was ready to go electric because of our hydropower potential and the tax difference between electric and non-electric vehicles that showed a strong government commitment,” explained Nirakar Shrestha of Laxmi InterContinental, which represents Hyundai in Nepal.

While the retail price of petrol and diesel reaches up to 261% above the cost price, electric vehicles carry just a 10% tax on the purchase price. Electric

cars are exempt from road tax, which can be Rs30-50,000 per year for fossil-fuel cars. Nepal is the



***Hyundai Kona, which was launched in Nepal prior to Australia and the US in the street of Kathmandu.
Photo: LAXMI INTERCONTINENTAL***

only country in the world with such a huge relative tax difference.

However, there are still challenges to overcome before electric vehicles gain greater public acceptance, including the lack of charging stations, undependable electricity supply, and inadequate parking lots. A fast-charge electric station costs a minimum of \$30,000 and can charge only 25 vehicles a day. Establishing one requires a government subsidy as well as a regulator to permit the charging of different EV models.

Kathmandu Valley alone has 750,000 motorcycles, which are a major source of toxic gases like carbon monoxide and ozone. Introducing tax incentives for bikes and scooters similar to those for private cars

could be a pivotal move. Also, at the moment there is no registration policy on electric two-wheelers, discouraging buyers.

In October last year, Prime Minister KP Oli unveiled an electric mobility action plan, proposed to transform at least 20% of the fleet of public vehicles into battery-operated ones by 2020. Amidst much fanfare he inaugurated the first five Chinese, BYD electric buses inducted by Sajha Yatayat. President Bidya Devi Bhandari herself has a BYD electric limousine.

Last year, Kathmandu Valley's 18 mayors gathered for a workshop organised by ICIMOD to discuss an air pollution reduction strategy. Since then, beyond lip service little has been done to establish electric public transport and make emission tests for fossil vehicles more effective.

Local and provincial governments have shown an interest in providing financial support to develop electric public transport, but the plans are sketchy and ad hoc. A case in point is the confusing and conflicting proposals for electric bus rapid transit, monorail and light rail transit along the Ring Road. The proposals are restricted to speeches and slogans, but nothing concrete has been done.

One reason is the high investment cost of electric

public transport, which requires government to step in with subsidies.

Over the years, revenue from the Petroleum Tax has grown to a whopping Rs5.2 billion. Some of this could be invested in a clean-energy electric transportation strategy.

The Seoul-based Global Green Growth Institute (GGGI) has been helping the central government with just such a strategy on electric mobility, and to find potential investors. General Director Frank Rijsberman was in Kathmandu last week to sign an agreement to implement e-mobility in Nepal. GGGI is keen to help Nepal with its first purchase of 300 electric buses for cities across Nepal.

(See interview below)

“Operating an electric transport fleet is more complex, requires higher initial investment and more infrastructure than traditional buses, but in the longer-term, renewable energy sources are not only ecologically but also economically viable,” said Rijsberman.

[\[Read the full article here\]](#)

25th April, 2019

GOING ELECTRIC



Nepal should aim for promoting electric vehicle technology. Strategic approach should be adopted to formulate policies to encourage people to shift to electric vehicles.

Nepal faces a burgeoning trade deficit of 127.34 billion rupees. Import of motor vehicles and the subsequent import of petroleum to power these vehicles has been one of the biggest contributors fueling the deficit. To gain a perspective, look at the statistics. As of last fiscal year, there were 32, 21,042 registered vehicles in the country, marking a 16 percent

increase from 27, 83,428 vehicles of previous fiscal. Motor vehicle ownership has been increasing on an average of 20 percent per annum, soaring the demand for petroleum products. Refined petroleum products amounting to \$1.04 billion were imported in 2017, making for around 11 percent of the total imports. The increase in emissions due to higher burning of fossil fuels has exacerbated air pollution, particularly in the urban areas with higher concentration of registered vehicles. Adoption of electric vehicle technology can be a feasible strategy to tackle air pollution and widening trade deficit.

Electric vehicles are in use currently, both at the private and government levels, but the number is negligible. The federal and provincial governments have communicated their plans to prioritize purchase of electric vehicles. The federal government has recently decided to operate 300 electric buses in Kathmandu valley. Province 3 and Sudur-Paschim province have also brought out plans to operate electric buses. Importing these vehicles might stress out our foreign exchange reserves, but the reduction in fuel imports will compensate this financial burden.

We need electric vehicles to reduce pollution and trade deficit. But buyers do not think of it this way, for their main motive is to maximize profits. Electric vehicles are costlier than their fossil fuel counterparts, and as such are unlikely to be adopted if left alone to market forces.

Where are incentives?

Governments across the globe are incentivizing adoption of electric vehicles. Government of Nepal has been providing its own set of incentives in the form of customs duty rebates to public and private electric vehicles (one percent for public and 10 percent for private). But this is significantly low compared to the normal rate which stands at 225 percent for private petroleum vehicles. With just about 4500

registered electric vehicles in the country till date, the existing incentives have failed to substantially increase this number.

An incentive that doesn't work is as bad as having no incentive at all. What Nepal lacks is a strategic approach to encourage adoption of electric vehicles.

Both India and China have core strategies in place to turn electric. India has outlined a vision to have an all-electric vehicle fleet by 2030. It has launched a National E-Mobility Program which focuses on public procurement to facilitate demand for electric vehicles in India. The program also aims to create the necessary charging infrastructure and policy framework to meet 30 percent target of electric vehicles by 2030. China currently has the largest number of electric vehicles and has been providing financial incentives to both the manufacturers and end consumers. The National Electric Vehicle Subsidy Program grants subsidies based on three characteristics—vehicle range, energy efficiency and battery pack density. The incentives have been designed to push manufacturers to produce electric vehicles with a higher mileage range. China is also actively seeking to promote an electric transport fleet, including public transportation. The Chinese city of Shenzhen completely transformed its urban fleet of 16,359

buses to electric models in 2017.

Europe is moving forward faster in this direction.

Sweden plans to implement petroleum fuel-free transportation system by 2030. Other developed countries have also implemented various schemes to encourage adoption of electric vehicles. With hydro-power as the only major source of energy produced domestically, Nepal should aim at promoting the electric vehicle technology. A strategic approach should be adopted to formulate policies that encourage people to shift to electric vehicles.

Learn from others

Nepal needs to learn from the best practices in incentivizing adoption of electric vehicles. While the current incentives are sustainable from a fiscal perspective, they're grossly inadequate to promote electric vehicles. Subsidy approach is a tried and tested model for promoting electric vehicles. Under this model, a subsidy or tax credit is provided, which reduces the upfront costs of manufacturing or purchase of electric vehicles. The government can lead from the front, initiating public procurement for electric vehicles. Such a process must also incentivize establishment of manufacturing within Nepal.

Equally important is creating enabling infrastructure.

A mid-sized electric vehicle has an operational mile-

age of 160-170 kilometres per charge. Without adequate charging infrastructure, electric vehicles will be limited to daily commute within urban cities.

This requires huge investments in infrastructure, which can be financed through a Public-Private Partnership model. As a first step, the government can fund the state-owned Nepal Electricity Authority to establish electric charging stations. Private investment will flow in the electric vehicle sector only when the government is firmly committed to promoting electric vehicle adoption. To reduce the uncertainty surrounding policy on electric vehicles, the government must clearly communicate its strategic plan, with details on the types of incentives and the timeframes for which they will be applicable. The long-term perspective must be to encourage manufacturing of electric vehicles in Nepal itself.

Management of battery is another challenge. In general, the battery of a small vehicle lasts up to 7 to 10 years while that for larger vehicles needs a replacement every 3 to 5 years.

[**\[Read the full article here\]**](#)

3rd April, 2019

HOW A SOLAR-POWERED MICRO GRID IS CHANGING THE LIVES OF 1,000 PEOPLE



Approximately 1,000 people live in the village of Gutu in Nepal, about 800 kilometers away from the capital city of Kathmandu. There is no public electricity supply. Until recently, everybody shifted for himself: open fires to cook on, smoke in the house, a huge stock of candles or the hum of the diesel generator at the local metal processing company were a part of everyday life. Find out why the village inhabitants have been able to leave all this behind them. Up until now, daily life in Gutu, west Nepal was determined by the sun's natural cycle: it began at sunrise. As the sun rose higher in the sky, sev-

eral small, makeshift solar collectors provided a small amount of rather unreliable electricity. This was generally only sufficient to charge smartphones; the hospital was supplied with power via its own PV system. Here and there, diesel generators produced their characteristic noise and odor. There was no standard household alternating current for electrical appliances, and inhabitants therefore cooked over the wood-fired hearths of their homes. In the evenings, the day then ended rather abruptly at sunset. At that time of day, everything immediately went dark, and without electric current, there was not a lot the villagers could do. Only candles or open flame

provided a meager amount of light. In March 2019, public life was completely transformed for the 1,000 inhabitants of Gutu. Since then, 275 households, a post office, businesses, schools, the hospital and administrative offices have been connected to a solar-powered micro grid. System operator Peak Power has set up a 100-kilowatt PV power plant which reliably supplies clean electricity to the location via more than 7 kilometers of overhead power lines. Every building is connected to smart counters which ensure sustainability and fair use in the community. People be in control of purchasing their own power. They buy energy in pre-aid way and reinvest the money from the energy back into the co-operative that operates the plant. In this way it remains a sustainable business. The system can be controlled and monitored via the online portal SMA Sunny Portal using 3G Internet. Any excess solar energy is stored by a battery storage which can provide the energy as required even after sundown. Within a particularly short time, the solar micro grid has substantially improved the quality of life in Gutu. New opportunities for economic development and education. The hospital, government office and bank are now in a position to reliably operate their IT and communication devices as well as in part vital AC devices. Finally,

the school is now again able to utilize the computer room, which was put out of operation for years due to the unreliable electricity supply. Lights and heating can now be switched on wherever required. Farmers are profiting from electric grinding and husking machines and are able to process their harvest faster and more efficiently. The hotels are becoming more attractive for tourists due to their reliable lighting, hot water or cable TV. Several full-time jobs have been created in the power plant itself. The employees, who received appropriate training, are responsible for plant maintenance and administration of the settlement system, amongst other things. People are now able to cook using AC solar power instead of open fires – they use AC-coupled rice cookers without any soot and air pollution. The candles and diesel generators have mainly become redundant. The location is much quieter, and the air substantially clearer. I enjoyed participating in the provision of a micro grid for Gutu and am excited to continue experiencing its positive effects on the quality of life for the people there. (View next page for **Fact sheet of Gutu's solar-based microgrid**)

Fact sheet of Gutu's solar-based microgrid

- Location: Chaukune rural municipality, ward no-8. Gutu, Surkhet district
- 308 trina solar tsm-325w pc14 modules
- Ground mounted / 30 degrees south facing.
- 12 SMA Sunny Island 8.0H-12 grid-forming inverters
- SMA Multicluster Box-12.2 for ac-coupling
- SMA Data Manager M for remote control
- 2 SMA Sunny Tripower CORE1 pv inverters
- 192 sacred sun VRLA 2000AH gel 2v cells for battery storage
- 280 single phase smart meter
- 3 three phase smart meter
- 7.8 kilometres of 3-phase 4 wire transmission line
- 119 power line poles
- Commissioning: March 2019
- Engineering and commissioning: Peak Power designed and built this 100 kW micro-grid in collaboration with ADB, AEPC and the local partner Motherland Energy Group Pvt. Ltd.





GLOBAL PERSPECTIVES

4th March, 2019

CHINA EYES BIOGAS AS COAL ALTERNATIVE IN RURAL AREAS

It aims to produce 30bcm of biogas from agricultural waste and manure by 2030.

The Chinese National Development and Reform Commission has outlined a new objective to produce 30 bcm of biogas from agricultural waste and manure by 2030, as part of wider measures to reduce the domestic coal consumption in rural regions by 50 Mt (China's total coal consumption stood at 3.7 Gt in 2017). The development of biogas will also help the country to meet its growing consumption requirement and slightly cut the country's rising demand for LNG imports. China plans to replace coal-fired power capacities with gas-fired capacities to reduce air pollution in cities and meet its Paris climate agreement commitments (cutting CO₂ emissions per unit of GDP by 60-65% by 2030, compared to 2005 level), which will require new gas supplies. Gas consumption should rise to between 450 bcm and 500 bcm by 2030 and China



would then become the second largest gas consumer worldwide, behind the United States.

The development of biogas is one of many measures developed to achieve this goal. Meanwhile, gas producers such as state-owned Sinopec plan to boost domestic gas exploration, focusing on the development of shale gas resources, while others are investing in gas interests abroad (Australia, Russia, Kazakhstan). In addition, China is developing new gas import pipelines, from Central Asia and Turkmenistan in particular, and from Russia (Power of Siberia gas pipeline project expected in 2019). LNG import capacities should also be doubled in five years.

4th April, 2019

CHINESE SAIC BACKED MG MOTORS MAY BRING EV BELOW RS 10 LAKH



MG Motors also plans to launch a small electric SUV, 'eZs', towards the end of this year. The car was launched in overseas market on March 30, 2019.

NEW DELHI: British automaker MG Motors is working on an electric car for the Indian market that will be priced below Rs 10 lakh, a top executive of its Indian unit said.

"We feel that for markets like India, an electric car priced below Rs 10 lakh will work and the company is working on making it possible," Rajeev Chaba, managing director of MG Motors India, told ET in an interview. "We expect our second EV launch will be priced below Rs 10 lakh." He, however, declined to give a timeline. Chaba said the compa-

ny—a wholly owned subsidiary of China's largest automotive company SAIC—is also going to challenge the hybrid vehicle space in the country by launching a 48-volt mild hybrid variant of its first SUV, 'Hector', which is set to be available in India from June.

MG Motors also plans to launch a small electric SUV, 'eZs', towards the end of this year. The car was launched in overseas market on March 30, 2019. "This will be one of the most affordable EVs in India," said Chhaba, who is also the company's CEO.

On whether pricing will be the company's USP, Chhaba said, "We want to be known for providing value and experience to the customers at an accessible price point."

On the timeline for bringing in the below-Rs 10 lakh electric car, Chhaba said, "We will take a final decision only after watching the policy clarity in the space."

In electric vehicles, MG Motors is seen having a price advantage as the parent company, SAIC, has a joint venture with the world's leading battery manufacturing facility in Changzhou. In the JV—SAIC Motor Power Battery Co—CATL holds 51% stake and SAIC 49%.

MG Motors wants to operate largely in a niche space where digital features will take centre stage. On Monday, the company showcased India's first internet car technology, iSMART Next Gen, which will make its debut in the upcoming MG Hector. The company has developed this technology in partnership with global technology players including Microsoft, Adobe, Unlimit, SAP, Cisco, Gaana, TomTom and Nuance, MG Motor said in a release.



[WATCH: Interview with Rajeev Chabha, President and CEO of MG Motors India](#)

The company had earlier announced plans of rolling out four products over the next two years. In July 2017 MG acquired GM's plant in Halol, where it has set up a manufacturing unit and supplier park.

8th April, 2019

SOLARCENTURY, CANADIAN SOLAR, CATERPILLAR AND TESLA ENERGIZE 40,000 OFF-GRID AFRICAN HOUSEHOLDS AND BUSINESSES

Developers and technology companies worldwide continue to focus on electrifying energy-poor areas of Africa. Recent example: 40,000 residents and businesses in the northeast African country of Eritrea now have reliable electricity thanks to two new minigrids.

Developed by UK-based Solarcentury, the minigrids (Africa's term for microgrids) combine solar PV, lithium-ion batteries and diesel generators. The projects — a 1.25-MW minigrid in Areza and the 1-MW minigrid in Maidma — replace small diesel generators, which were comparatively costly and polluting, unreliable and limited in hours of operation.

Local economic opportunities should increase by a significant margin as a result of the minigrids coming online, said Daniel Davies, Solarcentury Africa general manager.

“There are also many wider social benefits, including lighting for study, power for the health clinic and enhanced opportunities for small businesses,” he said.

Solarcentury's involvement with the Eritrean rural minigrids projects began when it responded to an invitation for proposals issued by EuropeAid in 2016, said Davies. Solarcentury won the fixed-priced contract as the lowest-priced, qualifying bidder.

Less costly than extending grid

The project was finished on budget and cost less than extending the utility grid to the two towns, Davies said. Residents and businesses will pay for the minigrid power they consume. Smart meters have been installed to monitor and keep track of their consumption.

“As a model for rural electrification, this presents an alternative technical solution which takes advantage of low-cost solar and energy storage and will provide abundant power 24 hours a day, seven days a week,” he said.

Canadian Solar supplied the solar PV modules for the minigrids and SMA the PV inverters. Tesla supplied and supported installation of the energy storage and associated power electronics, and Caterpillar the diesel gen-sets.



Minigrids bring economic development to rural Africa. Photo courtesy of Solarcentury

“We are technology-agnostic and will choose the best technology for the project. Using second-rate materials in a harsh environment where the cost of replacements and repairs will be high is a common mistake, and we sought to avoid this to ensure reliable operation. The client had also specified that it wanted Tier 1 suppliers — which is in line with our supply strategy— so we selected suppliers who had the ability to support the project as well as providing the right materials at a competitive price,” Davies said in an interview.

“Environmentally, the system is expected to deliver power which is 70-80 percent solar — the balance coming from the new back-up generators,” he said.

“When the generators run they will be optimally loaded by using the batteries so that fuel use will be minimized. This is an improvement of the previous solution which was 100 percent diesel-powered. Obviously, the performance and impact of the system can only be determined after some time — as people adapt to having a continually available power supply.”

Local economic opportunities should increase by a significant margin as a result of the minigrids coming online, according to Davies. “There are also many wider social benefits, including lighting for study, power for the health clinic and enhanced opportunities for small businesses,” he said.

Model for future minigrids in Africa

Minigrid	Areza	Maidma
PV	1.25 MW	1 MW
Battery	2.3 MWh	1.9 MWh
Generator	690 kVA	600 kVA

Solarcentury provided extensive training in minigrid operations and maintenance to employees of the Eritrean Electricity (EEC), which will operate and maintain the minigrids going forward. The London, U.K.-based project developer “will also provide after-sales support both on-site and remotely from our Nairobi O&M service hub along with support from colleagues in London who oversee our remote monitoring platforms. The cost of the training and after-sales service is part of the original contract, and going forward this will be an operational cost for the EEC,” Davies said.

Funding for the project was provided by the Eritrean government with support from the European Union Delegation to the State of Eritrea and the U.N. Development Programme. “The Eritrean project presents a model for rural electrification, and Solarcentury is in discussions about similar projects across Africa,” said Tesfai Ghebrehiwet, director of renewable energy for Eritrea’s Ministry of Energy and Mines.

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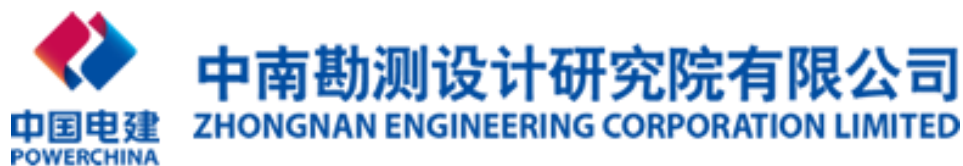




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Energy Development Council (EDC) is a non-profit umbrella organisation of the entire energy sector of Nepal established to ensure every Nepali has access to energy and energy security by promoting favourable policies and investments. EDC consists of Energy Developers, Energy Associations, Energy Consumers, Energy Financiers and other funds, Consumer Institutions, Energy Contractors from both private and government sectors involved in hydropower, solar, wind and other renewables, generating more than 80 percent of the nation's total electricity.



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