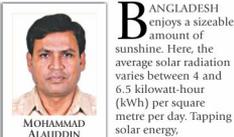


# Transforming electricity consumers into producers



**B**ANGLADESH enjoys a sizeable amount of sunshine. Here, the average solar radiation varies between 4 and 6.5 kilowatt-hour (kWh) per square metre per day. Tapping solar energy,

Bangladesh has been unable to provide access to electricity to over 12 percent of her population outside the grid network through the installation of more than 4.5 million solar home systems. Despite its huge potential, however, consumers of grid-connected electricity are yet to exploit the power of the sun to their advantage. The fact is, every on-grid household and commercial establishment can utilise solar energy to generate electricity by installing solar photovoltaic (PV) panels on their rooftops and become electricity producers, reducing electricity demand partly or fully by themselves, and even selling excess electricity to the distribution utilities through net metering.

*Net metering contributes to the reduction of greenhouse gas emission through generation of electricity from renewable while decreasing a country's dependence on costly imported fossil fuels. Several South Asian countries such as India, Pakistan and Sri Lanka have also adopted the system realising its benefits.*



The Infrastructure Development Company Ltd (IDCOL), a government-owned company, has installed solar-powered irrigation pumps across the country.

Net metering allows the customers of distribution utilities, who generate their own electricity from solar power or any other renewable source, to feed electricity they do not use back into the grid. Net metering typically uses a bidirectional meter that can measure and record electricity flow in two directions—from utility to the customer (import) and from customer to the utility (export). The customer is billed on the basis of net meter reading; that is, imported unit minus exported unit. A net balance in favour of the customer is carried forward to the next month, while a balance in favour of the utility is settled at the end of the month as usual.

Then, at the end of the year, annual energy balance is calculated, and if there is any net exported unit, it can be sold to the utility at a tariff agreed to by the utility and the consumer. To operationalise net metering, an agreement needs to be signed between the utility and the consumer. One can check out samples of typical net metering architecture online to know how it works when a solar PV system is set up on a rooftop.

As a policy mechanism to incentivise renewable energy, net metering is not a new concept. The US state of Massachusetts introduced net-metered connection for the first time in the world in 1979. Afterwards,

developed countries like Australia, Canada, Italy, Spain, and Denmark adopted net metering considering its manifold benefits. Net metering, for example, reduces the electricity bill of customers by lowering the use of electricity from the grid. Secondly, the customers may receive compensation for excess electricity fed into the grid. Thirdly, transmission and distribution losses can be avoided as electricity is consumed at the point of generation (distributed generation).

Finally, net metering contributes to the reduction of greenhouse gas emission through generation of electricity from

renewables while decreasing a country's dependence on costly imported fossil fuels. Several South Asian countries such as India, Pakistan and Sri Lanka have also adopted the system realising its benefits.

In Bangladesh, the Directorate General of Food installed a Grid Tied Solar PV System with the capacity of 360 kWh on the rooftop of its multi-storied warehouse at Santabar (Bogra) Grain Silo with net-metered connection, which is the first of its kind in the country. Upon signing an agreement with the Bangladesh Power Development Board (BPDF), the Directorate General of Food's Santabar Grain Silo can now export electricity to the grid after meeting its own demand and is billed only for their net energy use. Since it came into operation in February 2017, the facility's Grid Tied Solar PV System has been able to generate more than 150,000 kWh of electrical energy, saving electricity bill to the tune of more than Tk 10 lakh.

In Bangladesh, where securing land for ground-mounted, large-scale solar power generation poses a huge challenge, net metering can be a good choice to incentivise solar power generation on rooftops. The example set by the Directorate General of Food by setting up Grid Tied Solar PV System on Grain Silo's rooftop is expected to be followed by other departments. Meanwhile, the owners of grid-connected private households and commercial establishments can also derive benefit from net metering by setting up similar systems on their rooftops. Thus, the transformation of electricity consumers into rooftop producers will result in significant renewable electricity generation, reducing government investment in the sector, and help attain energy security for the country.

Mohammad Alauddin is Joint Power Division, Ministry of Power, Energy & Mineral Resources, Bangladesh. Email: mohammad\_alauddin412@yahoo.com

## Reweaving a lost past



**I**T is not always easy to travel back in time. For, we have a tendency to block the memories that generate emotional turbulence of some sort. But, once in a while, a unique moment of reckoning hits us and we cannot help but revisit our past—both beautiful and ugly. The French novelist Marcel Proust grappled with this dilemma before he started writing his seven-volume

novel *In Search of Lost Time (À la recherche du temps perdu)*—a masterpiece in fictional writing that past feelings and experiences, far from being lost, remain eternally present in the unconscious and could help reconstruct our perceptions of the present. This began his mission to look lost time through his writing.

For most of us, the good, bad, beautiful and ugly experiences of life fuse together at some defining moment so that they underlay our present. Something insignificant. And like Proust, we, too, search for our lost past to better understanding ourselves. My Proustian moment came while watching a TV clip of Rohingya refugees fleeing from the atrocities committed by the army in Rakhine state of Myanmar...

More than 400,000 Rohingya men, women and children have fled the brutalities of the Myanmar government, crossing over to neighbouring Bangladesh. In the deadliest ethnic cleansing in decades, the Rohingyas, mostly Muslims who have lived in Rakhine for generations, were subjected to rape, murder and unimaginable cruelties by Myanmar's security forces and Buddhist vigilante groups. Heart-wrenching stories of overcrowded boat ricks, hazardous walks through forests, and dead bodies are being narrated by the refugees. The UN and world powers have cautioned Aung San Suu Kyi's government against killing innocent civilians but the Nobel Peace Prize winner seems to be immune to calls for compassion or empathy. In the Bangladesh border district of Cox's Bazar, makeshift camps have been set up for the thousands of displaced who have found a safe haven in a friendly neighbour.

You might ask why the layers of the Rohingya people activated the subterranean plight of my past. The



David Ajenjo, "Hands-on VIII", acrylic on canvas.

Rohingyas tragedy has touched an inner chord, reminding me of my days as a refugee in Kolkata during the Bangladesh Liberation War in 1971. Having survived the carnage of the Pakistan army on March 26, I crossed over to India, where, fortunately, I received a warm welcome. However, I still carry deep within me the trauma and insecurity of living for nearly a year with no identity and no position. The pain recedes only because I focus on the positive outcome of an independent Bangladesh.

Interestingly, the time I spent as a refugee has, in many ways, shaped my character and made me who I am today. It taught me that the best human values are those that inspire compassion and kindness for the less fortunate, irrespective of their religion, race or class. What especially moved me during my ordeal was that ordinary folks responded with extraordinary gestures of humanity: providing shelter, food and emotional support. Seeing the same empathy for the Rohingyas among countless

Bangladeshis today gives me a sense of déjà vu. These are the people who restore our belief in the goodness of man. And these are the people who should be collectively awarded the Nobel Peace Prize—not the hypocritical leaders who orchestrate the massacre of innocent civilians for power and political capital!

The distressing memory of my own refugee experience has also helped me discern the subtle differences between perception and reality. I cannot, for instance, view the Rohingyas as part of a political power game or merely as sociological statistics. They are not voiceless, nameless men, women and children struggling for a seat on a boat or a mat in the corner of a tent. They all have stories of love, hope and aspirations that they have left behind. With time they may find shelter, jobs, safety, but can they ever reconstruct their shattered dreams? And who knows how many will succed in fighting the battle of reforming their identity and regaining their sense of dignity.

The global unrest in recent years has resulted in an upsurge in the flow of refugees. Unfortunately, the term "refugee" evokes shocking reactions both from those reaching out to help and those who perceive them to be a serious threat to social order, security, and cultural values. The lamentable fact is that while political and strategic battles are raging around the "refugee issue", desperate people languish in makeshift camps—stateless, homeless and hopeless.

International reaction to the Rohingya crisis has been mixed. Some governments, civic bodies and celebrities have raised their voice against the terrible human tragedy, but the tepid denouncement of the organised brutality by Aung San Suu Kyi's government and the refusal of some neighbouring countries to offer a sanctuary to the refugees are shocking! As for the latter, one needs to remind them that discord, disharmony and suffering in their backyard could result in a blowback in their immediate vicinity. It is, therefore, only sensible that we adopt their own narrow political agendas and prejudices, and adopt a just and humane approach to the refugee crisis. For, we have a moral responsibility to ensure that our children do not inherit a socially polarised and unstable world.

Milla Ali is a renowned Rabindra Sangeet exponent and a former employee of the World Bank.

### A WORD A DAY



**QUORUM**

NOUN

The number of representatives or Senators (US) that must be present before business can begin.

### CROSSWORD BY THOMAS JOSEPH

<b>ACROSS</b>	spot	8 Multiple choice
1 Get on	33 Relaxed	9 Choice
6 Goes through	34 Fill	9 Pull numbers
11 Holiday setting	36 Moronic	10 Try for a fly
12 Holiday visitor	38 Floor piece	18 Letter after pi
13 Wife of Menelaus	40 Composer's creation	18 "Memory" musical
14 Island south of Sicily	43 Bloodline	19 Med. sch. subject
15 Finished	44 Middling card	21 Nile snakes
17 Dry or dinghy	45 Cattered	23 Snagger
20 Sports period	46 Gunting materials	24 Sea dogs
22 Picnic invader		25 Wroong
23 Nile Delta city		27 Sets straight
26 Western resort		30 Antique
28 "Fiddle-sticks"	1 Derivise cry	33 Game leader
29 Sound systems	2 Flamenco cheer	34 Unwanted email
31 Goof up	3 Ed Sheeran song	35 Lotion additive
	4 "Superman" star	37 Cold War side
	5 Unit of force	39 Band-leader Kysar
	6 Crater part	41 Spectrum end
	7 Facilitates	42 Print units



**YESTERDAY'S ANSWER**

J	E	T	I	C	O	B	R	A	S
A	K	I	N	A	I	R	O	U	T
V	E	S	T	A	I	R	I	N	K
A	S	S	O	N	T	E	D		
B	A	I	A	I	A	I	A	I	A
A	M	T	S	H	E				
B	E	E	T	S	P	O	S	E	D
E	N	D	U	O	D	E			
C	A	N	A	D	A	S	T	O	P
A	T	O	N	E	S	S	E	A	T
P	E	T	E	R	S				

### BEETLE BAILEY BY WILLIAM WALKER



### BABY BLUES BY KIRKMAN & SCOTT

