POWERCLUB

A MERALCO PUBLICATION | MAY 2017

GREEN-LIGHTING RENEWABLE ENERGY

From the fringe, eco-friendly power sources now take center stage

SEEKING ENDO'S END

Facing hard facts in doing away with contractual labor

BIG THINGS FROM SHRINK WRAP

Shrinkpack turns to high-tech and solar energy to stay competitive

RAMON LOPEZ
Secretary
Department of Trade and Industry

COVER STORY

BOOSTING INDUSTRIAL STRENGTH

The Department of Trade and Industry sets out to increase Philippine productivity

MESSAGES

THE REALM OF GOOD INTENTIONS

ALFREDO S. PANLILIO

Senior Vice President and Head,
Customer Retail Services and
Corporate Communications

Nothing ventured, nothing gained. It's an adage that seems to capture the willingness of President Rodrigo R. Duterte's administration to explore every avenue in addressing long-standing economic and social issues.

The repeal of "endo" (repeating renewals of short-term contracts) is one such policy being pursued. It's a complex task, given the need to provide workers with improved security and the means to achieve their aspirations, balanced against the imperative to keep businesses viable and the Philippine economy competitive.

Despite the challenges ahead, there remain many opportunities in our economy if business and government are prepared to make the necessary investments. We must improve our capability in areas such as manufacturing, while enhancing our advantages in key service industries such as business process outsourcing and tourism.

No amount of increased economic activity can happen without the energy to drive it. But with the environmental concerns that face the power industry, more attention is being placed on renewable energy (RE) from sun, wind, and water. These may not yet become our primary sources of energy, but they are slowly becoming an important part of our energy mix. Meralco is keen on leveraging its expertise in this area, through our RE subsidiary, Spectrum.

This spirit of exploration and risk-taking is a mindset I believe we – our business partners, entrepreneurs, and our government – can all benefit from. Aside from improving our competitiveness, it can make our economic policies more inclusive of all Filipinos.

CREATING THE BEST PACKAGES

VICTOR S. GENUINO

Vice President and Head,
Corporate Business Group

Never underestimate the power of an image. As Century Properties Group Chairman and Special Envoy to the US Jose E.B. Antonio demonstrates, the images he captures in his travel photography have the power to change our perspectives on countries, cultures, places, and people.

Projecting the right image is a challenge faced by every government in the world since time immemorial. Certainly, it's a challenge Trade and Industry Secretary Ramon Lopez must address in the coming months, given the issues surrounding labor contractualization. At stake is nothing less than the foreign investment potential of the Philippines, not to mention the sustainability of local enterprises.

Image certainly influences the way we see the products we buy. Good packaging, for example, can project an image of purity, quality and good value for money. This is why manufacturers of every kind of product want to partner with state-of-the-art packaging companies such as Shrinkpack, to give their brands that extra level of competitive advantage.

We at Meralco also understand the importance of packaging electric distribution with value-added services. That's why we provide continuous support and technical consultation to our corporate customers like San Beda College Alabang, helping them maximize their power usage while minimizing energy costs.

In the long run, we're working toward a future where the entire energy value chain can start, and not just end, with the consumer. Meralco is already rolling out advanced metering infrastructure that will allow residential and commercial customers to better monitor their power consumption, and even become part of the energy production system. It's a way of packaging our services so that our customers get the assurance of quality in the power they pay for.

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ANALYSIS

BY TINA ARCEO-DUMLAO

A FAIR *Contract* FOR EVERY WORKER

A drive to end repeated contractualization must contend with business realities

Maricel delos Santos looked forward to a bright future as an Information Technology student at a college in Laguna, but her dreams came to an abrupt end when she dropped out because her father, a tricycle driver, could no longer afford her education.

She remained optimistic, and eagerly sought employment at one of the biggest retail companies in the Philippines. Rather than receive a secure, lifelong job, she was offered a five-month, non-renewable employment contract as a sales associate in the ladies'-wear department.

Delos Santos signed on as a "seasonal hire"; she needed the job.

"The HR (human resources) department of the mall said it was a one-time deal," Delos Santos reports in Filipino. "It was not what I expected, but I accepted it. It's so hard to find a job, any job."

She performed her duties as best she could, but when her contract ended, she was unable to find regular employment with guaranteed benefits and security of tenure.

"I want to be a regular employee, but if I'm offered another contractual job, I'd take it. I badly need a job," narrates Delos Santos, 26, who temporarily stopped looking for work due to a high-risk pregnancy.

"I'll look for work again as soon as I am ready," she says.

Promising to end 'endo'

Delos Santos and others like her cheered candidate Rodrigo R. Duterte, who made a pledge at the third and final presidential debate last year: if elected president, he would put an end to "endo" within a week.

Short for "end of contract," endo refers to the practice of hiring workers on five-month contracts to avoid providing the legally mandated pay rates and benefits due to regular, full-time employees. Labor laws entitle new hires that pass a six-month assessment period to be signed on as permanent employees; hence, the five-month endo period.

Although legal in the Philippines, contractualization can be prone to abuse by companies. Employers violate the rights of workers by engaging labor contractors to do the work of regular employees.

The Philippine Statistics Authority's Survey of Employment in establishments with at least 20 workers shows that there were 1.3 million non-regular workers in the country in 2014. This accounted for close to 30 percent of the total establishment workforce of 4.5 million, 16.3 percent more than the 2012 number. Of these non-regular workers, about half, or 672,279, are contractual or project-based workers. This is a little less than the 2012 percentage of 52 percent. The balance includes probationary workers, casual workers, and apprentices.

Nearly a year since his vow to outlaw endo, President Duterte

Photography by **Jun Pinzon** Grooming by **Arlene Adto**

has grasped the complexity of what he, as an electoral candidate, had thought was an executive-order quick fix that simply required political will to resolve. Yet it is encouraging that the business sector is coming around to the government's agenda.

Extra staff during peak seasons

Involved in helping change endo is the Philippine Chamber of Commerce and Industry (PCCI), the country's largest business organization with the broadest member base to represent the private sector.

PCCI President George T. Barcelon is quick to stress that his organization supports the administration's move to end illegal contractualization, and participates actively in high-level discussions spearheaded by the Department of Trade and Industry (DTI), as well as the Department of Labor and Employment (DoLE).

'Companies now want to spin off their non-core operations, or hire contractors to provide those non-core services to keep its regular workforce focused on their main operations.'

He insists the private sector must have the leeway to engage in contractual arrangements when the need arises: "When demand is high during certain times of the year, the number of needed workers can go up by as much as 30 percent."

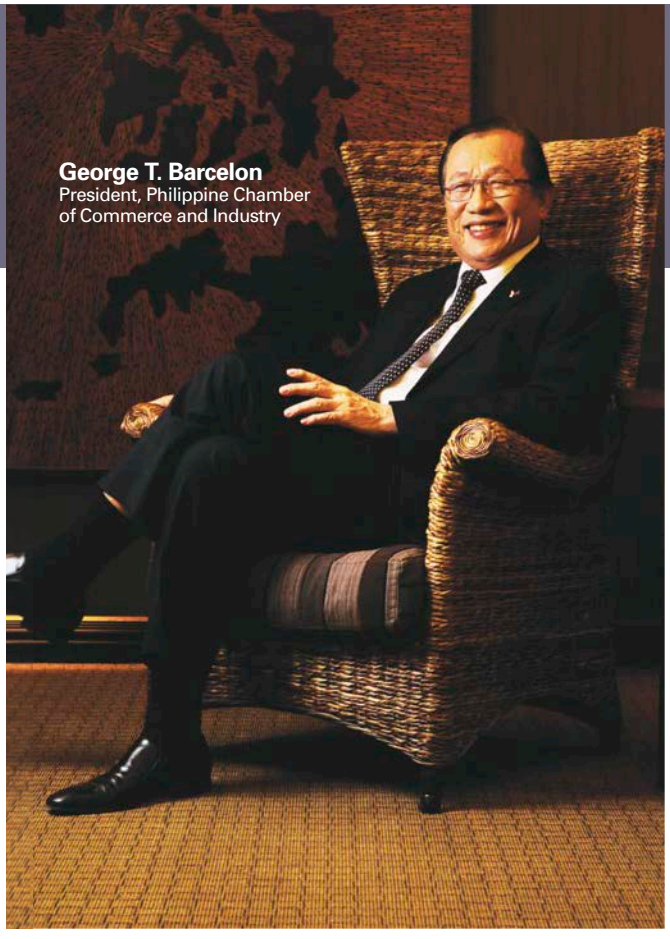
He singles out industries that call in additional staff: construction firms under time pressure; export businesses which need to meet large orders; hotels, resorts, and restaurants during peak seasons or special occasions.

There is also the complex, ever-changing nature of competition to consider. "Companies now want to spin off their non-core operations," Barcelon explains, "or hire contractors to provide those non-core services" to keep its regular workforce focused on their main operations.

For example, food manufacturers job out cleaning and payroll services to keep their focus on research and development, marketing, and manufacturing.

Retaining the extra labor as regular employees – and

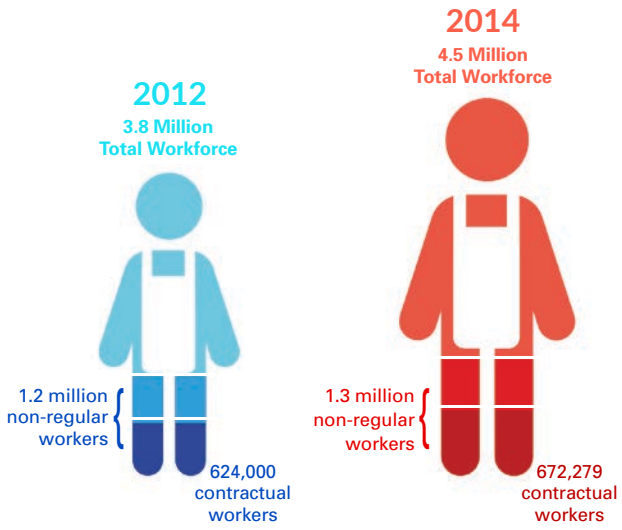
'The private sector must have the leeway to engage in contractual arrangements when the need arises.'



George T. Barcelon
President, Philippine Chamber of Commerce and Industry

Regular vs Non-Regular Workers

(Survey of Employment in establishments with at least 20 workers)
source: Philippine Statistics Authority



Silvestre H. Bello III
Secretary
Department of Labor
and Employment

Department Order No. 174 stops the direct contracting of regular jobs from manpower agencies, and prohibits the continuous hiring of a worker under repeated short contracts.

providing benefits such as vacation leaves, health benefits, and retirement pay – could render less lucrative businesses non-viable, and force them to fold up.

Flexibility and abuse

"We have been very consistent in our stand that the workers' rights must be considered," declares Barcelon, "but we also hope to be given some flexibility."

In previous administrations, this need for flexibility and healthy revenues justified the employment practice of contractual arrangements. When the system became prone to abuse, it prompted the DoLE, during the Aquino administration, to issue Department Order (DO) 18-A in November 2011, to provide guidelines regarding labor-only contracting schemes.

DO 18-A clarifies that contracting and subcontracting, "expressly allowed by law," permits a company to farm out to a contractor "the performance or completion of a specific job, work or service within a definite or predetermined period." It compels contractors supplying such services to "provide employees [with] rights and privileges under the Labor Code, including security of tenure, retirement pay, leaves and safe working conditions."

In keeping with President Duterte's order to end endo, Labor Secretary Silvestre H. Bello III signed Department Order No. 174 (series of 2017), to supersede DO 18-A, on March 16. The new DO stops the direct contracting of regular jobs from manpower agencies, and prohibits the continuous hiring of a worker under repeated short contracts. It also entitles contracted or subcontracted employees to overtime pay, 13th-month pay, social security and retirement benefits, as well as the right to organize for collective bargaining agreements and the right to strike.

The new DO requires manpower agencies, which contract or subcontract employees for clients, to have a minimum capital of P5 million, a substantial increase from the previous requirement of P300,000.

Anti-endo labor groups such as Kilusang Mayo Uno

As of August last year, 5,150 registered contractors employed at least **416,000** contractual workers.

complain that the order sides against the workers. DO 174 still considers seasonal and project-based contractual work legal, and does not cover contracting or subcontracting in the construction industry.

Enforcement and compliance

Labor Undersecretary Ciriaco Lagunzad III earlier explained it was impossible to simply repeal Department Order 18/18-A. Contractual work, although widespread, remains unregulated, so the DoLE is instead looking at roughly half a million business establishments to determine exactly how many contractual workers they employ.

At a Senate hearing, Labor Undersecretary Ma. Joji Aragon revealed that as of August last year, 5,150 registered contractors employed at least 416,000 contractual workers. These labor contractors are involved in manpower, security, janitorial, engineering and information-technology services, tracking and holding transport, and wholesale retail sales.

Speaking to the Employees Confederation of the Philippines, Bello reiterated that the abuse of contractualization erodes workers' rights when companies resort to short-term contracts to circumvent their legal obligations. Such schemes, declared illegal by the Supreme Court, continue to persist due to a lack of inspection and compliance.

Bello assured his audience that inspections will be "the main program in enforcing workers' rights and ensuring full respect of labor standards, extending to contractual arrangements and the right of workers to security of tenure." After signing DO 174, the DoLE chief said he intends to hire 200 more labor inspectors to add to the present crop of 535.

Time to work

Barcelon has some reservations about some of the provisions in the new DO, particularly the lack of clarity on what constitutes the core and non-core operations that can be covered under a contractual arrangement. He is also concerned about companies being subject to harassment or extortion.

He concedes, however, that the department order must be given time to work, and welcomes DoLE's plan to hire more labor inspectors to enforce the rules.

"We will just have to give this a chance and then do some adjustments down the road, if we need to," Barcelon stresses. The PCCI, he says, does its part by reaching out to contractors, reminding them to provide mandated benefits to their workers, and police their ranks to prevent violations.

"What is important for us in the PCCI," he reiterates, "is making sure that jobs are created."

DTI Secretary Ramon M. Lopez, on the other hand, says that under the "win-win" proposal, contractualization can become a path to permanent employment *(see "Encouraging Entrepreneurship" on page 18)*.

He refers to a proposal in discussion, where contracting agencies will be required to consider its workers as regular and permanent, with guaranteed tenure and benefits, even if a project with a principal is terminated. The DTI chief notes that this modifies the previous practice where employees of contracting agencies lose their jobs once the contract ends between their agency and the principal.

The political will to enforce the provisions of the existing laws and regulations already bears fruit, with the numbers to show it.

After consultations and meetings with corporations, by the fourth quarter of 2016, DoLE figures show about 32,437 workers were granted job security when their employers and contractors made them regular employees; more companies are expected to follow suit.

Whether driven by self-interest or good intentions, business and government are keenly aware that the realities of maintaining competitiveness and viability will keep contractualization necessary and legal. For low-skill workers like Delos Santos, the prospect of full, long-term employment will, for now, remain an elusive goal.

SPECIAL FEATURE

Coming in Third as a Point of Pride

BY ESMI BARRERA

Meralco's power rates rank favorably in a survey of several countries

It's healthy to examine one's neighbors now and then to see how everyone measures up, and this is particularly true for the Manila Electric Co. (Meralco), the Philippines's biggest power distributor.

The company commissioned a Perth-based consulting firm to prepare an independent report comparing Meralco's regulated retail electricity tariffs with those in selected markets from the Asia-Pacific region and worldwide.

The findings show Meralco's 2016 rates dropped from being the second highest in Asia in 2012 to third highest in the region, fourth in Asia Pacific and 16th worldwide, due mainly to reduced power-generation costs over the past four years.

A welcome decline

A 2012 survey by the International Energy Consultants (IEC) showed Meralco rates were only lower than that of Japan and the ninth highest worldwide. Today, Meralco's rates are "fourth highest in the region (if we include Australia), and the third highest in the region," notes IEC Managing Director Dr. John Morris. He further qualifies that "the other Asian countries we looked at are subsidized."

These countries include Indonesia, Malaysia, South Korea, Taiwan, and Thailand, which enjoy subsidies of up to 45 percent.

Estimated at US$50 billion in 2015 alone, government subsidies keep power rates artificially low in the aforementioned markets. IEC views subsidies through lower tariffs as a faulty economic policy that will ultimately prove unsustainable. If

'Electricity rates have come down. You're paying about the average around the world.'

Dr. John Morris
Managing Director
International Energy
Consultants

subsidies are added back to retail tariffs, the true cost of electricity in subsidized countries will rise to a level much closer to that of Meralco.

The IEC report focuses on cost drivers, and the reasonableness and affordability of Meralco's tariffs. It updates a similar study by the IEC in 2012 and examines tariff changes over the course of four years.

IEC provides market-, development- and acquisition-related advisory services since 1999 to companies associated with the power industry in the Asia Pacific region. Morris has seven years of experience in the upstream oil and gas industry worldwide, and spent more than 10 years developing and managing projects among independent power producers.

Closer at parity

To ensure fair and reasonable rates for consumers, Meralco continuously negotiates for competitively priced Power Supply Agreements with its suppliers. Its sourcing strategy, along with reduced distribution charge and system loss, contributed significantly to the lower tariff rate in 2016 versus 2012; from these three factors alone, the IEC report finds, Meralco customers saved a staggering estimated P30 billion in power costs over four years, in contrast to marked increases among some neighboring countries.

Given the 2016 figures, Morris notes that the country's electricity rates are now closer at parity with the surveyed markets. "Rates have come down," he stresses. Although "most will say it's still too high, you're paying about the average around the world."

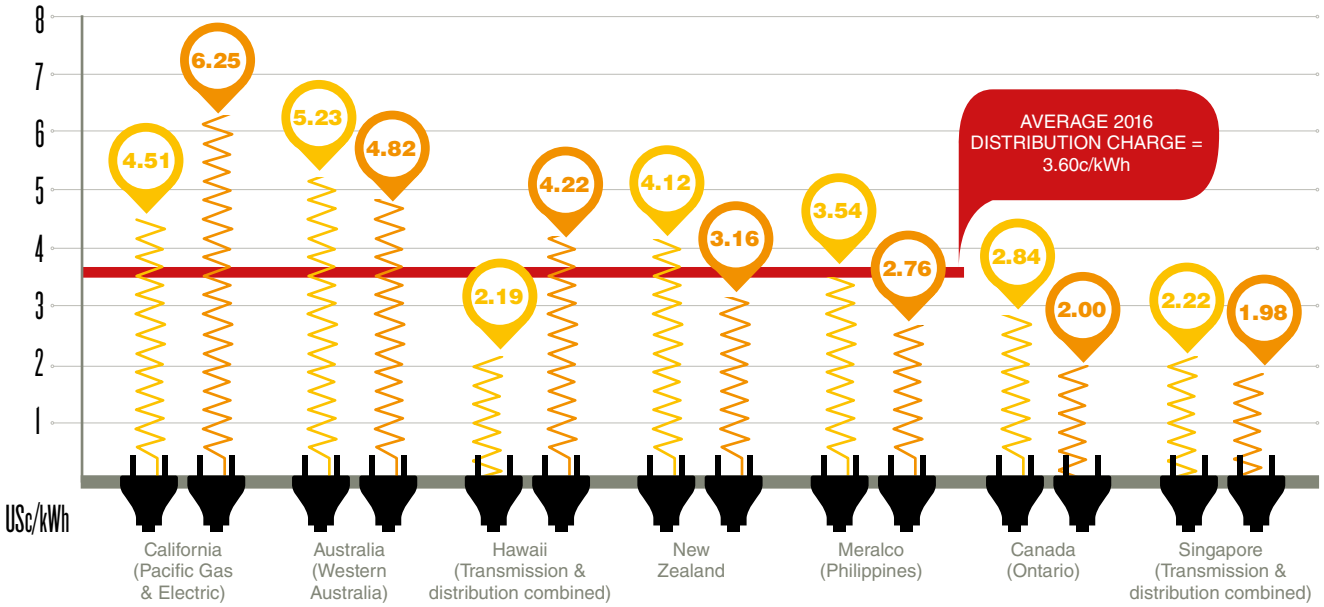
He sees this as "an excellent outcome for consumers, considering that the Luzon power market is unsubsidized and the majority of electricity is produced using imported fuel."

Meralco retail rates have gone down much faster than the world average; -28 percent for Meralco versus -19 percent for 44 markets. For Luzon, the main reason for lower power prices in 2016 is the lower cost of fuel. Luzon's average electricity tariff is only 11 percent above the survey's average rate, a massive drop from the 2012 IEC results that pegged it at 24 percent.

The survey also shows that in 2012, Meralco's distribution charge was equal to the average for those markets. It concludes that the individual components of the regulated tariff are "fair and reasonable," and suggests there is a critical need for the Philippines to allow additional investments in power generation. This will enable Meralco to maintain lower tariff rates and become a catalyst for increased competition.

Comparison of Distribution Charges

2016 Global / Regional Comparison of Retail Electricity Tariffs



In comparison with the six other markets in the survey, for which unbundled network costs were available, Meralco's Distribution Charge is 23% below the average (vs equal to the average in 2012)

source: International Energy Consultants' Regional/Global Comparison of Retail Electricity Tariffs, May 2016

Photography by **Jun Pinzon** Grooming by **Arlene Adto**

CEO CORNER

It's Not All About Aperture

The vivid world, as viewed through the lens of Century Properties Group Chairman Jose E.B. Antonio

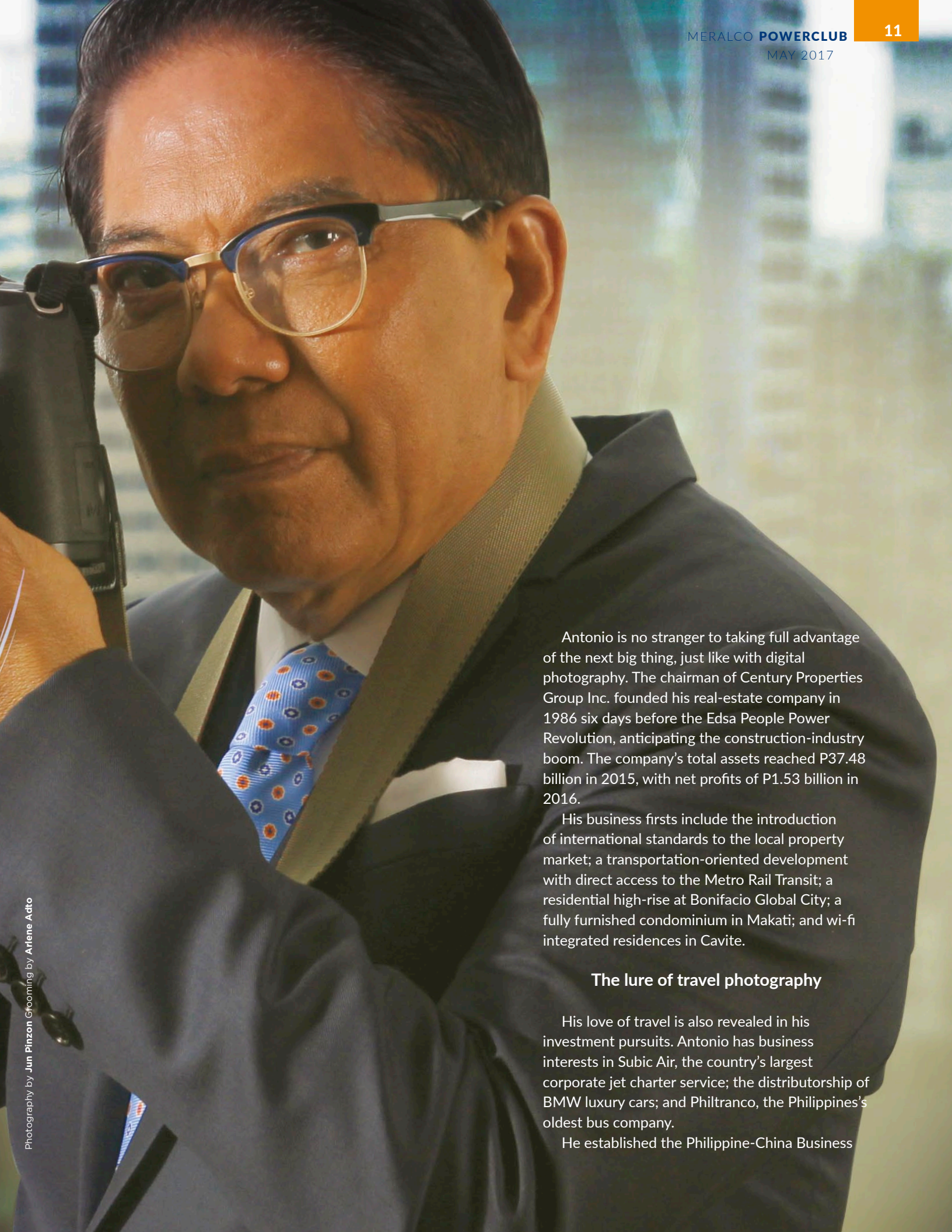
BY JING LEJANO

Success often begins by eyeing and seizing an opportunity. This impulse makes real-estate magnate Jose E.B. Antonio, quite unlike other septuagenarians, turn to digital photography.

"Purists like film," he concedes, "but I was impatient with it, because I would shoot pictures but I was never sure if the shot was any good." He finds it extra frustrating when he takes pictures well away from city centers.

"When you travel far into the boondocks, film photography forces you to wait until you're back in civilization, to know whether or not the pictures you took were good," he muses. "Digital cameras are more efficient and effective; you can check the settings, and you can improve the shot."

Jose E.B. Antonio
Chairman
Century Properties Group Inc.
Special Envoy to the US



Photography by **Jun Pinzon** Grooming by **Arlene Adto**

Antonio is no stranger to taking full advantage of the next big thing, just like with digital photography. The chairman of Century Properties Group Inc. founded his real-estate company in 1986 six days before the Edsa People Power Revolution, anticipating the construction-industry boom. The company's total assets reached P37.48 billion in 2015, with net profits of P1.53 billion in 2016.

His business firsts include the introduction of international standards to the local property market; a transportation-oriented development with direct access to the Metro Rail Transit; a residential high-rise at Bonifacio Global City; a fully furnished condominium in Makati; and wi-fi integrated residences in Cavite.

The lure of travel photography

His love of travel is also revealed in his investment pursuits. Antonio has business interests in Subic Air, the country's largest corporate jet charter service; the distributorship of BMW luxury cars; and Philtranco, the Philippines's oldest bus company.

He established the Philippine-China Business

Reflection of the Louvre
Paris, France

The Fisherman
Taiwan

Colorful rock formation, Antelope Canyon
Arizona

Council when he served as a special envoy for trade and economics to the People's Republic of China in 2005. Months before his franchise partner Donald Trump became the 45th president of the United States, Antonio accepted an appointment as special envoy for trade, investment and economic affairs to the United States.

To this inveterate traveler, "The combination of travel and photography is terrific," he gushes. "It lets me record experiences, and look back at these places, people, and events whenever I want."

He is a member of the Camera Club of the Philippines, and of the Leica Club. In 2012 he began to join the National Geographic Expeditions. These expeditions provide hands-on experience for amateurs to explore picturesque locales, under the guidance of a professional *National Geographic* photographer.

Antonio marveled at the majesty of the Himalayas in Bhutan, gained a greater appreciation for living simply in Mongolia, and reveled in the charm of New York's diversity. Going off the beaten path thrills him. "There are still a few more places I'd like to see," he admits, "that are included in my bucket list."

Composition and business acumen

He draws inspiration from Xyza Cruz Bacani, a former Hong Kong-based Filipino domestic-service worker, who won a Magnum Foundation scholarship and now exhibits her photography in New York.

Antonio is no amateur, either, not by a long shot. Working with film gave him his introduction, but "there's so much talent to be found in digital photography,"

The chieftain of Aetas, catching fish
Zambales

'Photography starts with composition; in business, you start with a vision.'

Sand dunes
Inner Mongolia

he declares. “People do excel, and anyone can be good at anything they’re passionate about.”

He hopes to experiment with cinema, “for my own consumption,” he qualifies. He will not abandon digital photography anytime soon.

Good photographs are the end result, but enjoying the process is a pay-off, too. “Photography keeps my mind relaxed as I record different places,” muses Antonio. “There are elements captured in photographs that can escape the naked eye.”

Photography is more than a hobby to him. There is something transcendent in its pursuit, he believes, as it lets him see the world in a different light, and explore probabilities and possibilities.

“I particularly love and appreciate beautiful things and people,” he elaborates. “Photography primes me to appreciate different kinds of people, and what different places are known for. It requires me to review and research the places I visit. The world is a big basket of cultures, experiences, and people, and its commingling makes travel photography very exciting.”

The property mogul is also currently the director of the US-Philippines Society, a group of business leaders, and Antonio inevitably draws parallels between taking great shots and running a successful business.

“Photography starts with composition; what you want to put into the picture and how you will treat a certain situation. It’s the same principle in business,” he adds. “You start with a vision. You need to be mindful of technical issues, have all the right elements and, in both cases, implement them well.”

Seasoned photographers like to say that it’s not all about aperture. In life, in business and in art, that which illuminates must work with interesting shadows, and foreground subjects offset background details. To pull off any complex enterprise, all sorts of factors come into play.

As Antonio likes to quote American inventor and businessman Thomas Edison: “Vision without execution is hallucination.”

INDUSTRY TRENDS

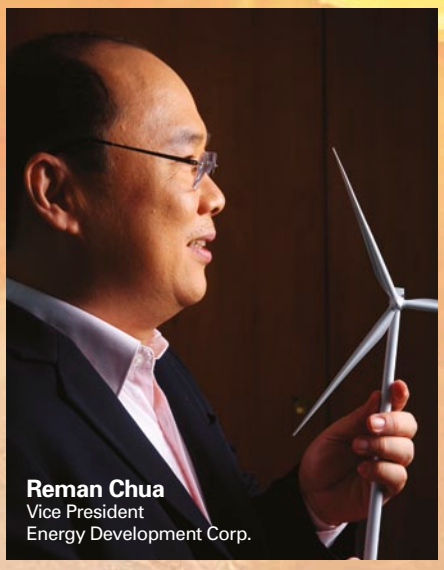
A FUTURE

Even with the restrictions of red tape, there's a

Free energy is all around us: sunlight, wind, water. The irony, of course, is that harnessing such energy sources has always been fairly expensive.

On the other hand, the use of "cheap" fossil-fuel energy sources such as coal, diesel, and bunker oil carries longer-term, environmentally damaging costs. The growing awareness for this parallels an increasing clamor for cleaner and greener energy worldwide, observes Reman Chua, vice president of Energy Development Corp. (EDC), one of the Philippines's largest producers of geothermal energy.

"Renewable energy is the future," he declares. "It's a trend that is coming to the Philippines." And this gradual shift now gets the nod of the government: President Rodrigo R. Duterte signed the Paris Agreement on Climate Change on March 1; the Senate ratified it with a unanimous vote.



Reman Chua
Vice President
Energy Development Corp.

'Our Ilocos Norte wind farms yielded P4 billion in savings, displacing diesel and bunker-fuel plants.'

Degrees of improvement

The driving forces behind the Conference of Parties (COP) will certainly approve. The COP is a union of countries that signed the United Nations Framework Convention on Climate Change, also referred to as the Paris Agreement, to mitigate rising atmospheric temperatures. The participants agreed in December 2015 to slash greenhouse gases and keep the global average temperature increase well below two degrees Celsius above pre-industrial levels.

This agreement compels countries represented by nearly 200 world leaders to shift from coal and diesel power to renewable energy (RE). Wealthy countries were asked to earmark at least US$100 billion annually for its financial assistance to developing countries, ideally to enable even the latter to actualize RE sources starting 2020.

Although the Philippines is not a major greenhouse-gas producer, President Benigno S. Aquino III pledged that by the year 2030, the country will cut its carbon emissions by 70 percent.

In signing the pact, Duterte overrode misgivings he

Photography by **Jun Pinzon** Grooming by **Arlene Adto**

RENEWED

bright outlook for green energy

BY CHERRIE REGALADO

expressed early in his presidency, saying the historic agreement favors industrialized nations. But Climate Change Commissioner Emmanuel de Guzman is gratified that "the Philippine delegation's hard work, to lobby the 1.5-degree climate goal during the Paris negotiations, has finally paid off."

While treaties and government support provide some impetus to adopt RE resources, the real game-changers are the improvements in technology and manufacturing that make the cost of RE more competitive.

A century of hydropower

Renewable energy is not a new concept, with the first hydroelectric power plant built in the United States in 1882. It's a tried-and-tested technology undergoing refinement over the decades.

Victor Lee, chief financial officer of Pure Energy Holdings Corp., announces that his company's subsidiary, Repower Energy Development Corp., is developing 15 river hydropower plants with a combined total capacity of 52 megawatts (MW).

Hydropower facilities, Lee points out, last longer than the 25-year asset life of coal or diesel-fueled plants. "These hydropower plants last for decades and decades," he adds. "We have the oldest operating hydropower plant in the country built by the Americans 90 years ago. It's still operating its antiquated equipment; that's how long these assets work!"

RE is predicted to overtake coal production in the next two decades. The Bloomberg New Energy Finance report forecasts around two-thirds of total investments in the global energy sector, roughly US$7.8 trillion, will likely be invested in renewables from 2016 to 2040. This far exceeds the expected US$1.2-trillion investments in coal plants for the same period.

Industry insiders believe the Philippines has the potential to lead the world in RE production, with the country's abundant natural resources estimated to yield 246,000 MW of untapped RE capacity.

For now, the country remains largely dependent on coal-powered plants for its energy needs. Data from the Department of Energy (DOE) shows that in 2016, 48 percent of energy came from fossil-fuel plants, with only 24 percent from renewables.

EDC's Chua highlights the RE sector's major milestones in recent years, such as surpassing DOE targets for solar- and wind-power installation, but agrees there is much room for improvement. "We've achieved a lot as a young industry," he admits, "but it's a drop in the ocean compared to that of other countries in terms of capacity."

> Drawing on the country's estimated 246,000 MW of untapped RE capacity dovetails with the goals of the Paris Agreement on Climate Change.

A push for faster approvals

The government passed Republic Act No. 9513, the Renewable Energy Act of 2008, to accelerate the growth of the RE sector and reduce the country's heavy reliance on fossil fuels. Working with this national policy framework in mind, the government launched the National Renewable Energy Program in 2011, setting a target to increase the RE installed capacity threefold from 5,439 MW in 2010 to 15,234 MW by 2030.

RE developers concur that more government support is needed. Bureaucratic red tape only increases the cost of building new power plants and adds to the financial stress of undertaking such large investments.

Chua recounts EDC's hardships in building the 150-MW Burgos wind farm. He confides, "We had to apply for some 200

'Solar energy today costs P4 per kilowatt-hour. That makes it cleaner and cheaper than the average cost of coal.'

Harvesting sunlight at Solar Philippines's solar farm in Batangas

Leandro Leviste
President
Solar Philippines

permits, and I had to sign some 10,000 documents in a span of 14 years! And that's just for the right-of-way for the 43-kilometer transmission line."

Lee calls on the government to streamline its processes, and possibly open a one-stop shop that will facilitate the quick and efficient release of licenses and permits required by RE companies. Aside from right-of-way issues to be settled with local government units, there are dealings with agencies such as the Department of Environment and Natural Resources (DENR), the Energy Regulatory Commission (ERC), and the National Grid Corp. of the Philippines (NGCP).

At present, developers are forced to hop from one government office to another, through "what I'd call an alphabet soup," Lee continues. "There's the DENR, DOE, ERC, NGCP and so on. If we can get through the development process in two years, we'd already consider that very, very speedy. That calls for a company to have a lot of stamina and financial capacity to bring the project to fruition."

This is not news over at Solar Philippines, a developer of solar-rooftop power plants. Its president, Leandro Leviste, likewise advocates the simplification of the government's approval processes. He believes this will do more to advance the growth of the RE industry than the incentives provided by law.

The government offers a seven-year income-tax holiday, reduced corporate taxes, and duty-free importation of machinery. This may entice the private sector to venture into the RE sector.

However, it remains debatable if these can offset the investors' soft costs. These include professional fees for architects, surveyors, engineers, lawyers, and accountants, as well as government fees and permits, utility hookup fees, and construction period interest and loan fees.

"All power is more expensive," discloses Leviste, "because of the level of bureaucracy and red tape that is priced into our electricity. Twenty percent of a solar farm is soft cost. Instead of subsidies, government should just eliminate these barriers."

He also urges the government to stop its planned additional feed-in-tariff (FIT) for qualified developers. The FIT is a mechanism that guarantees payment to RE suppliers for power supplied at a fixed price.

Leviste is convinced the scheme has done more harm than good to RE developers. "The FIT was counterproductive within the Philippine RE industry," he explains, "because it created the perception that RE is expensive."

Power-Generation Mix

source: Department of Energy, 2016

One of REDC's 15 hydropower plants

'The country's oldest operating hydropower plant, built by the Americans 90 years ago, still operates using its original equipment.'

Victor Lee
Chief Financial Officer
Pure Energy Holdings Corp.

Competitiveness buoys optimism

According to Chua, "Delays in any regulatory response to support renewable energy create problems, even if a law mandates the government to promote RE development in the country."

He insists that, given the right conditions, RE can be produced at a competitive price, despite the higher capital outlay for the power plants.

"EDC's three wind farms in Ilocos Norte contributed to a savings of P4 billion in the spot market," he discloses, "because it displaced more diesel and bunker-fueled plants from the grid."

Leviste, meanwhile, reveals that the drop in solar energy-generation prices globally defies naysayers. Solar energy today costs P4 per kilowatt-hour; he says this makes it less expensive than the average cost of coal in the country. "Solar power is now proven to be not only cleaner, but cheaper," he stresses. "The challenge is in making the switch to solar, and we hope to do that this year."

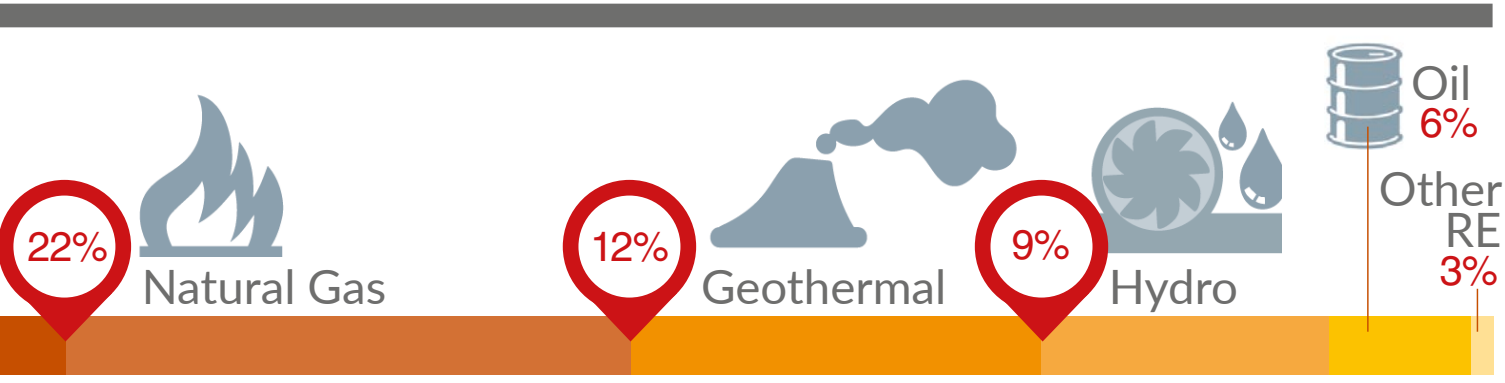
Shortly after the government's launch of the National Renewable Energy Program, the Manila Electric Co. (Meralco) incorporated a solar-energy subsidiary. (*See "The Sun Rises on Solar Power" on page 30.*)

This subsidiary, Spectrum, heeds the demand for RE in what its president, Jose Rainier A. Reyes, calls a golden age for the solar-power industry. It aims to assist Meralco customers in self-generating power with solar-energy installations guaranteed to work with the existing power infrastructure.

Spectrum also teamed up with a local and a Singaporean company for a joint venture scheduled to open a 50-MW solar-power plant by 2018.

Despite bureaucratic restraints, the economy's continued upward trajectory gives the RE industry cause for optimism. There is even consensus that the sector can meet the government's target of tripling RE capacity by 2030. "As long as there is a stable and supportive regulatory environment," declares Chua of EDC, "it is achievable."

Given all the beneficial economic and social implications of lower RE power costs, may that day be not too far into the future, when so-called free energy can be permanently generated competitively. *(With Ma. Melin C. Y. Doria)*



COVER STORY

BY IRIS C. GONZALES

Encouraging Entrepreneurship

Entrepreneurship advocate and now DTI chief Ramon Lopez touts big opportunities in small - and medium- enterprises

Ramon Lopez
Secretary
Department of Trade and Industry

An intricately handcrafted wood conference table occupies the office of Department of Trade and Industry (DTI) Secretary Ramon Lopez. This furniture piece holds together many of the other furnishings: rattan chairs, mother-of-pearl frames, and an antique wall cabinet, all clearly and proudly Philippine-made.

The conference room is a showcase to the workmanship and ingenuity of which Filipino workers and entrepreneurs are capable. Lopez hopes these very qualities will drive more growth here and overseas for local businesses, growth that he believes will help address the persistent income inequality in the Philippines.

Hand-holding more startups

Data from the World Bank shows 16,143 new registered in the Philippines in 2012, compared to 11,714 in 2010 and 12,591 in 2011. New businesses are defined as firms registered in the current year of reporting.

The total number of establishments across the country reached 219,184 in 2012, according to the latest Census of Philippine Business and Industry conducted by the Philippine Statistics Authority. That's 57.3 percent higher than the 2006 count of 139,318 establishments.

Yet both the World Bank and its unit, the International Finance Corp., note that doing business in the Philippines remains challenging, due to hurdles that range from difficult credit access to pervasive red tape. Starting up a business requires a staggering 16 procedures that take an average 36 days to complete.

President Rodrigo R. Duterte's administration aims to resolve these issues and increase the number of new businesses registered in the country every year. Last January 17, he met with some of the country's wealthiest business leaders to hear their concerns and solicit their support for the government's projects.

Lopez, meanwhile, meets regularly with foreign investors and assures them that the country's fundamentals remain sound and its investment environment continues to be attractive.

The non-stock, nonprofit PCE promotes a culture of enterprise among Filipinos, helps entrepreneurs succeed, and seeks to address poverty through its advocacy, Go Negosyo. This in turn was founded by businessman Jose "Joey" Concepcion III, the president and chief executive officer of food and beverage giant RFM Corp. *(see "Christmas with the Concepcions" in the Power Club Q4 2014 issue).*

One of the major corporations helping promote Go Negosyo is the Manila Electric Co. (Meralco), which has sought to empower entrepreneurs to engage in B2B (business-to-business) and B2B2C (business-to-business-to-customer) transactions. It is also working on a program to secure Philippine Contractors Accreditation Board licensing for accredited Meralco contractors.

Empowering the other 99 percent

In the course of his work in Go Negosyo, Lopez met then-Mayor Duterte of Davao City. "We invited him to one of our seminars in Davao," he explains. "That's how he knew I have this MSME (micro-, small-, and medium-enterprises) advocacy."

'The broadened coverage of the IPP aims to encourage and attract new capital in sectors and regions that can help address the inequality of growth and the jobs gap.'

Rooting for the small players

At the World Economic Forum held in Davos, Switzerland in January, Lopez was the lone Philippine government official. To advance the Philippines's trade interests and highlight the country's growth story, he met with his counterparts such as Indonesian Trade Minister Enggartiasto Lukita, Canadian Trade Minister François-Philippe Champagne, and European Union (EU) Trade Commissioner Cecilia Malmström.

He brought with him a list of qualifications and a lifetime of experience. He holds a master's degree in Development Economics from Williams College in Massachusetts, worked as a top executive at RFM Corp. for 22 years, and held down an earlier post at the DTI.

"I was with the group of (businessman and former Trade Minister Roberto) Ongpin, involved in industry development," he recounts. Ongpin was trade minister during the Marcos administration, and held the post for six years starting in 1979. "We started the liberalization process, against all odds," Lopez recalls, "and we're now seeing the fruits of that. Now, I am back in government and happy to see that many things have moved forward."

His intimate familiarity with the ebb and flow of local enterprise stems from 11 years, prior to joining the current cabinet, as executive director of the Philippine Center for Entrepreneurship (PCE)-Go Negosyo.

When President Gloria Macapagal-Arroyo appointed Concepcion in 2005 as the Presidential Consultant for Entrepreneurship, Go Negosyo was set up to promote a positive and enterprising mindset among Filipinos and help them move up in life.

The advocacy neither endorses nor promotes particular businesses or franchises, as it brings together entrepreneurs and provides access to funding sources and training programs.

Lopez insists this kind of support is crucial in the face of government statistics that reveal MSMEs remarkably account for 99 percent of all businesses in the Philippines, and for at least 60 percent of employment.

"We tell MSMEs that they must always try to innovate," he adds, "to have a competitive product. This is the best way to invite investments that would create jobs."

Aiming high

While encouraging small enterprises, the DTI under Lopez's leadership remains committed to developing larger industries that play a significant role in creating much-needed jobs.

To support the capital-intensive automotive industry, in May 2015, President Benigno S. Aquino III signed Executive Order No. 182, the Comprehensive Automotive Resurgence Strategy Program. It offers incentives to car-industry players that commit

Photography by **Jun Pinzon** Grooming by **Arlene Adto**

to locally produce 200,000 units in five years, and fuel much-needed growth in electric vehicles and mass transport.

As he vouches for the government's continued support for the automotive industry, Lopez also urges local manufacturing to, literally, spread its wings: "Do you know that we have an aerospace industry in the country?" he reveals.

The DTI estimates that the domestic aerospace manufacturing industry contributed a marginal 0.15-percent share to the economy's output in 2013, but projects this modest figure to climb to 0.57 percent by 2022.

The domestic aerospace industry is just one of the sectors on which the DTI wants to shine a spotlight.

Priorities in place

As such, a new Investment Priorities Plan (IPP) launched by the administration offers a shot in the arm to large industrial businesses. The 2017 to 2019 plan earmarks industries that qualify for tax incentives. IPP projects are classified as pioneer, for a six- to eight-year income tax holiday, and non-pioneer, for a four- to six-year equivalent.

The IPP aligns with the goals, priorities and strategies of the government's 10-point socioeconomic agenda, Lopez points out. Approved by Malacañang last February 28 and issued under Memorandum No. 12, the IPP provides a list of "preferred investments areas" concerned with manufacturing, including agro-processing; agriculture, fishery, and forestry; strategic services such as the design of integrated circuits; infrastructure and logistics, including local government unit public-private partnerships; healthcare services, including drug rehabilitation; mass housing; inclusive business models; environment and climate change; innovation drivers; and energy.

Other priority investment areas are: export activities including services exports and activities in support of exporters; activities based on special laws granting incentives (such as tourism); and wide-ranging activities and enterprises that will support the economic development of the Autonomous Region of Muslim Development.

"The broadened coverage of the IPP aims to encourage and attract new capital in sectors and regions that can help address the inequality of growth and the jobs gap," said Lopez in his foreword to the investment plan. "Using experience from developing industry roadmaps and implementing the new industrial policy, the IPP seeks to transform both the manufacturing and agricultural sectors by expanding their forward and backward linkages, particularly with MSMEs."

Struggling with 'endo'

One important linchpin in the Duterte administration's pro-poor policies concerns the abolition of labor contractualization, colloquially referred to as "endo" to stand for "end of contract."

Viewed from a labor-rights perspective, endo ensures workers are contracted for five months to circumvent labor laws that provide job security and benefits *(see "Seeking an End to Endo" on page 4)*.

It's a contentious subject among some employers, since many companies, including foreign manufacturers in special economic zones, depend on contractual labor to keep costs down and remain competitive.

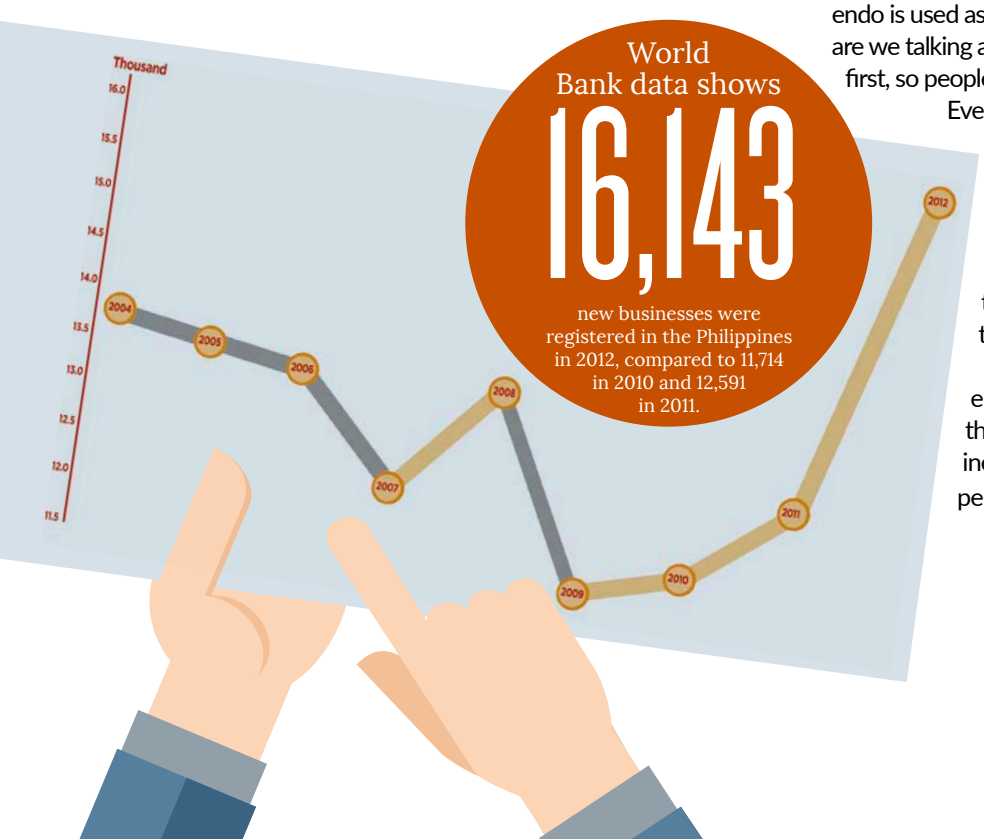
Lopez admits that forcing companies to regularize their employment practices may create industrial disruption and factory closures, and lead to job losses.

The DTI is working out what it calls a win-win solution, where endo is used as an incentive. "If you remove that now, what jobs are we talking about?" Lopez asks. "Let the investments come in first, so people will have jobs."

Eventually, he wants workers to be hired as regulars and to receive full benefits.

With each move of the Duterte administration subject to the keen scrutiny of the business community, the DTI certainly has its work cut out. Lopez is up for it, confident that the time has come for Filipino industries of every size to become as big as they can possibly be.

"You really have to create employment and entrepreneurship opportunities," he declares. "If these are available for all Filipinos, you address inequality and create prosperity for all. That is my personal mission here at the DTI."



World Bank data shows

16,143

new businesses were registered in the Philippines in 2012, compared to 11,714 in 2010 and 12,591 in 2011.

POWER IDEAS
By MERALCO
Expert Energy Solutions and Services for Businesses

AN INSTITUTION Unlearns A FEW THINGS

BY ESMI BARRERA

San Beda College Alabang turns energy-saving know-how into action

Many locals saw Muntinlupa as the edge of where "the provinces" began, but the venerable San Beda College broke ground there and opened its satellite campus in 1972.

Benedictine Abbey School accepted pre-schoolers, then its first batch of high school freshmen within five years. It became a college in 1990, and 14 years later renamed itself the San Beda College Alabang (SBCA).

The 9.6-hectare campus with 7,000 enrollees is earning its place among the country's respected learning institutions, with a College of Arts and Sciences, a School of Law, and a Master of Business Administration program.

Along with continuous efforts to elevate the college's academic standing, Rector-President Dom Clement Roque, OSB, aims to keep SBCA's facilities up-to-date. "My vision is for San Beda to be a front-runner as an energy-efficient school," he declares. That is no idle boast: the college is set to unveil the low-carbon-future jewel of the campus.

Discarding bad habits

The college launched its energy-efficiency campaign for schoolyear 2013-2014. The savings, explains Fr. Aelred Nilo, OSB, SBCA's director for Finance, Administration and General Services, can go to "upgrade school facilities and stave off tuition-fee increases."

SBCA consulted the Manila Electric Co. (Meralco) and asked it to conduct a campus-wide audit of the school's electricity usage. Patrick Henry T. Panlilio, Relationship Manager for Meralco Corporate Partners, set up a meeting with the school administrators, MServ Energy Specialist Philip Anthony Caranto and Energy Solutions Engineer Boyam Calderon.

Meralco presented its report before the end of 2013, and the multiple-phase

'My vision is for San Beda to be a front-runner as an energy-efficient school.'

Dom Clement Roque, OSB
Rector-President
San Beda College Alabang

Photography by **Ocs Alvarez** Grooming by **Arlene Adto**

An energy-conscious SBCA community teaches students to practice power-usage management beyond the campus.

executions began in 2014. One of the chief drains on SBCA's energy expenses stood out: air conditioning. With air conditioners in the classrooms, offices, chapel, museum and library, the power consumption simply added up.

"We were using air conditioners old enough for the junk heap!" exclaims Art Solomon, SBCA's General Services supervisor. Using serviceable old appliances seems to make frugal sense, but not for long-term efficiency.

Much of the energy loss was also traced to bad habits and slack administrative policies. Doors were often left ajar at classrooms and offices, as air conditioners hummed and classes went on.

The audit team also found unoccupied rooms with the air conditioning on, and teachers were habitually staying in fully lit, air-conditioned classrooms after classes were over, to prep lesson plans, grade papers, or lounge.

Switch to inverters and LEDs

SBCA gradually replaced its conventional air conditioners with inverter models. Compressors in inverter air conditioning operate at a high speed to cool the room quickly. As the room approaches the set temperature, the compressor slows down and maintains a constant temperature to save energy.

Inverter air conditioners currently account for 50 percent of the units in the grade-school building, and 90 percent of those in the high-school and college buildings.

Structural changes were made to keep air-conditioned rooms airtight and optimize room cooling, Solomon says. Roman blinds, window tints, insulation, and natural-light options were put in, as were automatic door closers.

Policy changes were also made, says college Comptroller Amy de Leon; teachers must now acquire permission with a justifiable reason to extend air-conditioning hours. "We've also set aside classrooms for tutoring," she adds.

Across the campus, lighting fixtures were upgraded to LED lights, and LCD computer monitors were replaced with LED screens.

Measurable successes

Two years after the college implemented Meralco's recommendations, SBCA's energy intensity index (EII) improved by an average 5 percent, to 239.49 from 258.48 despite more school enrollees and hotter weather. A lower EII reflects a more efficient use of energy.

The reduction in electricity contributed to savings of half a million pesos for schoolyear 2014-2015, as the school's energy requirements fell by an average of 70,000 kilowatt-hours.

There is no straightforward energy-savings calculus for the succeeding schoolyears, with the construction of more classrooms in mid-2015, and of a new building. Nonetheless, for schoolyear 2015-2016, SBCA shaved nearly P2.8 million from its electric bill, thanks to reduced power rates.

Hefty savings aside, Nilo considers it more important that "our students will also inculcate the values of energy management, in society, at school, and at home."

De Leon claims the campus community is "already very energy-conscious," but the most potent proof is the new Our Lady of Montserrat building. The master plan for this "smart

building" is by internationally respected architect, urban planner and environmentalist Felino A. Palafox, Jr., but Nilo cheerfully ascribes the impetus to Meralco's Panlilio.

Conceptualized last year, the six-floor structure will incorporate the Building Management System (BMS), using information technology to link subsystems – lights, hand dryers, automatic faucets and flushers, air conditioners – otherwise autonomous in conventional structures.

Power-savvy from the ground up

This smart building is the first in the campus installed with inverter air conditioners that use variable refrigerant flow (VRF). VRF technology lets individual units cool rooms at speeds that deliver energy savings at partial-load conditions. Sources place the energy savings from VRF use at up to 55 percent.

BMS centralizes the controls. No longer can students or teachers crank the thermostat down to 18°C, much colder than the prescribed 25°C.

The system also matches occupancy patterns to energy use. Lights and appliances can automatically switch off when bathrooms, offices and classrooms are unoccupied.

"With BMS," Nilo explains, "you can connect a tablet to the wi-fi, check the room occupancy remotely, and switch off the power using an app." The data access and analyses optimize cooling and ventilation, and make proactive equipment maintenance easier.

Nilo hopes the building will be ready for schoolyear 2017-2018, to accommodate the first batch of grade 12 students.

Next step: going solar

Meanwhile, he says "the greening of SBCA" compels them to explore solar energy. The college awarded Spectrum, Meralco's solar-energy solutions subsidiary, a contract to install an 82-kilowatt peak solar-panel system in the smart building. Spectrum's target date for the commission is by the end of June.

While all this goes on, Meralco conducts preventive-maintenance checkups for the school's electrical facilities, long after it hosted the Power Up forum on July 23, 2016 to brief non-teaching personnel about energy conservation.

"We are happy to be of service to a learning institution like San Beda College Alabang," remarks Panlilio. "It's our privilege to assist and contribute in every way to further knowledge and education."

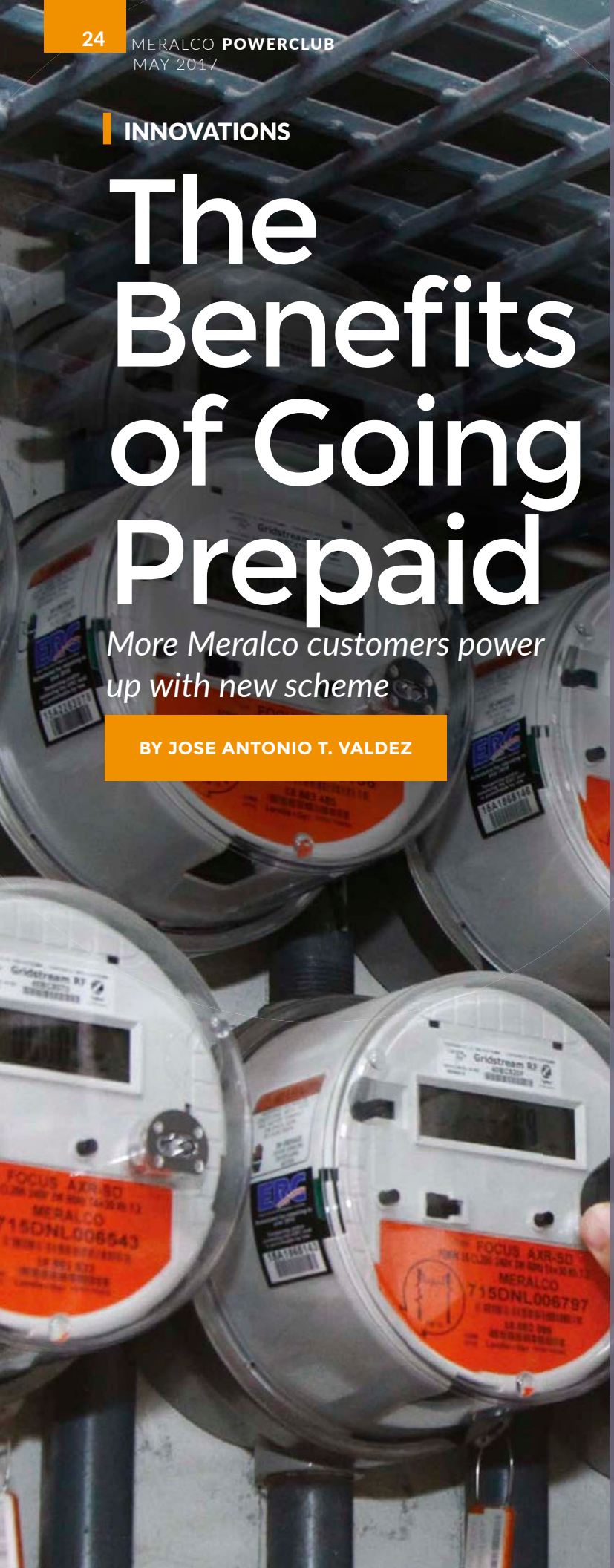
It's too soon for a return on SBCA's investments in energy-efficient equipment, but the partnership with Meralco is a welcome eye-opener. "The impact is good! The campus community became energy-conscious. We thought Meralco just sends you the electric bill," jokes Nilo, "but they came in and gave us all-out assistance, and we saw its wisdom and its effects." *(With Jing Lejano)*

INNOVATIONS

The Benefits of Going Prepaid

More Meralco customers power up with new scheme

BY JOSE ANTONIO T. VALDEZ



Imagine a service that lets a customer closely control the amount of electricity consumed on a daily, even an hourly, basis. No bill shock, no worrying about going over budget, no anxieties about getting disconnected for late payment.

These are some of the benefits of the Manila Electric Co.'s (Meralco) prepaid electricity service. It's a convenience similar to a host of prepaid services with which many consumers today are familiar, such as mobile phone services, cable TV, and expressway toll fees.

Advanced and automatic

Meralco prepaid electricity customers simply buy their load from licensed electronic load (e-load) retailers (such as convenience stores, *sari-sari* stores and LBC outlets), and Meralco Business and Bayad Centers. It is just like how they would load their prepaid mobile phones.

Prepaid electricity provides customers with daily updates on electricity consumption and on remaining load via SMS, and sends an alert when the load balance falls to a low level. These updates provide customers the impetus to reduce their power usage by up to 20 percent and save as much as P400 per month, thanks to improved monitoring.

"With prepaid electricity, our residents become aware of their consumption, how to budget their everyday needs," recounts Rudy Niu, president and co-owner of First Golden Achievers and Development Corp., developer of the Malate Adriatico Grand Residences, Edsa Grand Residences, and Grand Residences España. "They learn to spend less on other things to be able to pay their electric bills. In the past, we encountered difficulties every time we have a disconnection, and it cost time and money to get reconnected. Now, reconnection is just a matter of hours."

All this is possible thanks to the advanced metering infrastructure (AMI) that Meralco is gradually putting in place throughout its franchise areas. It's a technology that's been around for some time, with most of the power utilities in the United States and Europe in its final stages of rolling out the service.

AMI also makes Meralco's service more reliable. Once fully deployed, it can provide immediate alerts if a customer or an area has an outage, and reduce the restoration turnaround time. Customers will no longer need to call to report a brownout!

Meralco has installed **50,000** smart meters.

Recognition and approval

Meralco's AMI strategy and prepaid electricity have been recognized in the Asian and European Utility Weeks, an annual convention of utilities, as being both pioneering and ground-breaking. The service has notched 90 percent approval ratings from customers who find it convenient and life-changing; most of them find it easy to handle the most common payment scheme of a P100 top-up every two or three days.

"Meralco's vision is to make its service simple, fast, and convenient," declares Alfredo S. Panlilio, Meralco senior vice president and head, Customer Retail Services and Corporate Communications. "We aim to have all our customers connected via smart meter by the year 2024. Postpaid customers will also benefit from smart meters, as they can access their hourly consumption through a Meralco portal and app, similar to online banking services."

50K and counting

Thus far, Meralco has installed the 50,000 smart meters that make prepaid electricity possible. It's a significant milestone, as it completes the first tranche of smart-meter installations approved by the Energy Regulatory Commission (ERC). The ERC recently approved another, more ambitious batch of 100,000 smart meters.

Luis Miguel Gonzalez, vice president of Century Properties Management Construction Corp., believes in the service. "When the prepaid [meters were installed] in our Azure development, we already had three towers with the traditional meters," he recalls. "[These were placed] only in the fourth and fifth towers.

"Sixty to seventy percent of our clientele are people who do not reside in the Philippines for the entire year. With the old system, they would have to pay for their electricity every month; with prepaid electricity, the customers are happier."

He adds that their property management office reports fewer complaints about electricity bills and connections. "It's an invention that had us thinking: why didn't I think of that?"

More milestones ahead

In the same vein as prepaid electricity, the AMI is the backbone for new products and services. Meralco will soon develop Postpaid Plus for customers who wish to remain with this service option. An online dashboard, accessible from their mobile devices, lets customers monitor their household power consumption down to individual appliances in real time.

With ERC approval, the company looks to test a pilot postpaid plus service before the end of 2017. Other products in the pipeline are Home Area Network Assistance, and Demand Response Management for business and residential customers. It's clear prepaid electricity is just the beginning of what is in store for Meralco customers under the AMI strategy. *(With MC Santos)*

Meralco hosts an exclusive customer appreciation event for large-scale prepaid electricity adopters. President and CEO **Oscar S. Reyes** *(far left) and* **Al Panlilio** *of Meralco flank* **Luis Miguel Gonzalez** *of Century Properties, Mayor* **Johnielle Keith Nieto** *of Cainta City, and* **Rudy Niu** *of First Golden Achievers and Development Corp.*

COMPANY PROFILE

BY MA. MELIN C.Y. DORIA

WRAPPED UP IN INNOVATION

Shrinkpack has big plans to make things smaller

It's an item most people eagerly throw away: the snug film of thin plastic that covers most of the drinks, confections, cosmetics, and other consumer merchandise sold at malls, supermarkets, and *sari-sari* stores.

Shrink wrap can protect products during shipping, bind two or more products together, provide a tamper-proof seal, or display the branding label. As new products materialize on retail shelves, opportunities and challenges abound for companies that supply shrink wrap – companies like Shrinkpack Philippines Corp.

Tedison Liao
President
Shrinkpack
Philippines Corp.

Competition breeds innovation

A shrink-wrap packaging pioneer in the Philippines, the company has seen steady growth since it was founded in 1989. According to Shrinkpack President Tedison Liao, "It may not be a sunrise business anymore, but it isn't a sunset business, either."

Despite keen competition and an ever-shifting market, Shrinkpack stays ahead of the game by pursuing several progressive strategies. Constant innovation, emphasizes Liao,

is one of them: "Innovation is the name of the game, and we have to be ahead of our competitors." The purchase of sophisticated and state-of-the-art manufacturing equipment greatly increased the firm's productivity, improved the quality and reliability of its products, and further expanded business opportunities.

At a new factory in Meycauayan, Bulacan, Liao describes the range of products available, such as polyethylene terephthalate (PET) shrink labels. Its strength and excellent transparency makes PET the most-used type of plastic on the planet. It has the highest shrinking capability (up to 80 percent), highly ideal for labels and packaging.

The company also makes shrink films and film labels of polyvinyl chloride (PVC); its shrinking quality is generally between 40 and 65 percent but it costs less than PETs. Another wrap material, oriented polystyrene (OPS), is a low-density, easily compressed film often used for containers.

The Shrinkpack boss believes business is always an open market, admitting that some of their clients opted to purchase similar equipment to produce plastic labels in-house. Liao meets this challenge with a smile, and uses it as a further incentive to spur on innovation.

Improvements are not limited to equipment upgrades. Liao also pursues a policy of strengthening business partnerships and relations with both local and overseas multinational companies. He is confident that domestic firms will prefer to support fellow local counterparts, such as Shrinkpack.

"We treat them not only as customers but as partners," he explains. "That means having a give-and-take relationship that, in the long term, becomes more and more productive."

A sunny partnership

This same approach applies to the companies supplying Shrinkpack, such as the Manila Electric Co. (Meralco), which collaborates with the packaging company to find efficiencies wherever possible.

Like any part of a business supply chain, Shrinkpack must be able to keep its prices low or, at least, stable. With the weakening peso versus the US dollar, meeting that criterion has become increasingly difficult.

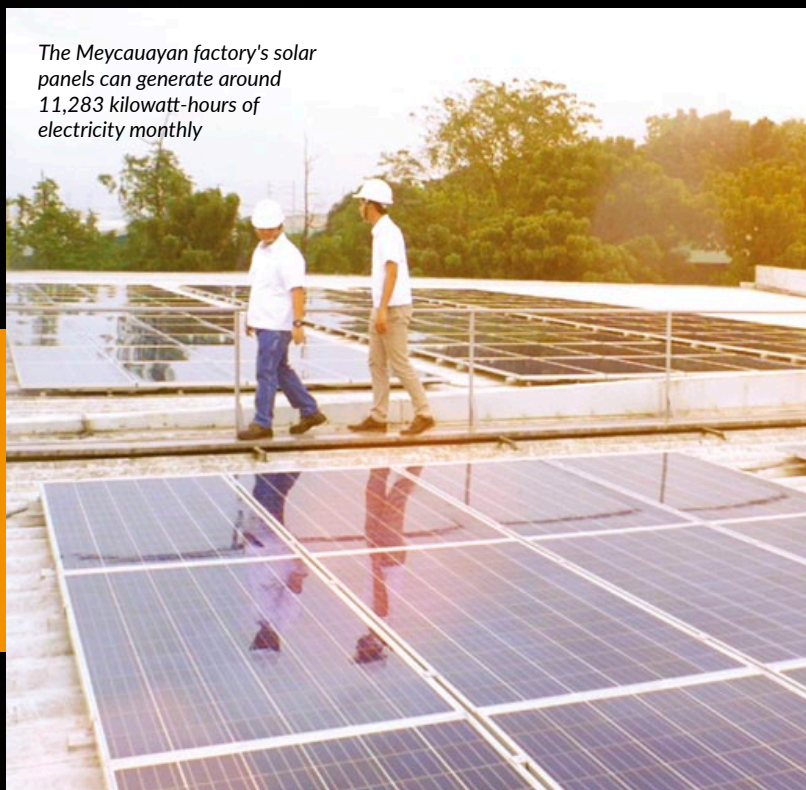
To keep costs down, the company uses equipment such as solar photovoltaic (PV) panels to tap alternative energy sources. "We are aggressive," Liao declares, "and we always try to be the first in everything."

Indeed, Shrinkpack is one of the first Meralco customers to have solar PV panels installed through the power distributor's subsidiary, Spectrum *(see "The Sun Rises on Solar Power" on page 30)*.

Its 324 polycrystalline solar PV panels (102.06 kilowatt peak), which cost around P7 million (VAT excluded) to install atop Shrinkpack's office and warehouse, are expected to generate around 11,283 kilowatt-hours of electricity monthly. This will save the company between P800,000 and P900,000 annually. This should earn Shrinkpack a full return on its investment by 2025, or in eight years with operations and maintenance support.

Aside from being a welcome source of supplementary power, the solar energy system, Liao announces, neatly dovetails with his company's other environmental practices such as plastics recycling. In the long run, the savings generated by the alternative power system will enable the company to invest in new, even more efficient equipment, better inks, and printers.

"Our advantage has always been about quality," concludes Liao, "and it still is. Quality will always be our driving edge."



The Meycauayan factory's solar panels can generate around 11,283 kilowatt-hours of electricity monthly

'We have plastics recycling and use solar energy. We try to be the first in everything.'

Photography by **Jun Pinzon** Grooming by **Arlene Adto**

ELECTRIC CAPITAL PROJECTS

Shifting to High Gear at Naia-3

BY ZENNAI SCHWARTZ

The usual scene in all four terminals of the Ninoy Aquino International Airport (Naia) is a constant hustle and bustle of operations that run 24/7. Naia is the Philippines's busiest airport and the country's primary gateway for passengers and cargo. Interruptions to airport operations would have severe knock-on effects across the economy.

This is why the "April 2016 Blackout" made history. The five-hour Naia power outage delayed four international flights, cancelled 82 domestic flights, and affected nearly 14,000 passengers.

Arriving quickly at the airport's electrical substation, crews from the Manila Electric Co. (Meralco) provided an assessment and a remedy in record time.

"The power outage created a domino effect," explains Manila International Airport Authority (MIAA) spokesperson David de Castro. "It made one generator malfunction, but it was not the main cause of the [prolonged] outage."

When the management allowed Meralco to conduct a thorough inspection, the team discovered that the airport's switchgear systems were obsolete; those installed at Naia Terminal 3 were still manually operated.

Critical to the reliability of the electricity supply, switchgears are used to control, protect and isolate electrical equipment.

Meralco has since replaced switchgears 2 and 3 with ring main units, also known as smart switchgears, which allow high power levels to be safely controlled automatically.

Installed in October 2016, these state-of-the-art smart switchgears provide control, measurement, monitoring, and alerts features to improve the efficiency and reliability of airport operations. Remote monitoring and control of equipment to greatly improve restoration time are also vital.

The team replaced underground cables used to supply power to ensure an efficient flow of energy. On Oct. 14, 2016, the Manila Sector team of Meralco conducted a seminar and demonstration for Naia personnel on the handling of circuit breakers and battery maintenance for an even quicker response time.

Airport Council International figures reflect steady increases in Naia passenger volume, from 34.1 million in 2014 to 39.5 million in 2016. As rising passenger numbers place greater demands on the airport's power systems, the switchgear upgrades couldn't have happened soon enough.

Photography by **Albert Labrador**

ONE MERALCO FOUNDATION

Kicking Out Conflict in Mindanao

BY DONDI LIMGENCO

OMF and Sparks bring 'Football for Peace' to Zamboanga

Peace rarely "just happens." It needs to be continuously pushed for, defended, nurtured and, occasionally, kicked.

The Manila Electric Co.'s (Meralco's) social development arm, One Meralco Foundation (OMF), joined a "Football for Peace" festival to foster peace in Mindanao. To do so, it partnered with the Loyola Meralco Sparks Football Club, the Philippine Marine Corps, and the Zamboanga City government.

"The primary goal of 'Football for Peace,'" says OMF President Jeffrey O. Tarayao, "is to cultivate a culture of peace in the minds and hearts of these children, using the sport to foster interaction with kids outside of their communities."

Held from September 30 to October 1, 2016, the festival is part of the Philippine Marines' "Football for Peace" program, which seeks to instill a sense of camaraderie and sportsmanship, as well as the values of teamwork and discipline, in the hope of cultivating a culture of peace among the children involved.

More than 200 children from Mindanao's conflict areas gathered at the Philippine Air Force Edwin Andrews Air Base in Zamboanga City for the two-day event, highlighted by an official United Football League (UFL) match between the Loyola Meralco Sparks Football Club and the Green Archers United Football Club. The game was intended to spark interest in the Football for Peace movement of the Philippine Marines, and was held in honor of slain Army colonel Tiny Perez, an advocate of the movement. He was killed a year ago in Zamboanga on Fathers' Day.

Other participants included the Armed Forces of the Philippines–Western Mindanao Command, the Philippine Air Force, and the Zamboanga Football Association.

As part of the festival, the Meralco Sparks conducted a half-day football clinic to bring together young athletes from various communities; football players from Zamboanga City, including those affected by the Zamboanga Siege in 2013, from Basilan, and Philippine Air Force dependents.

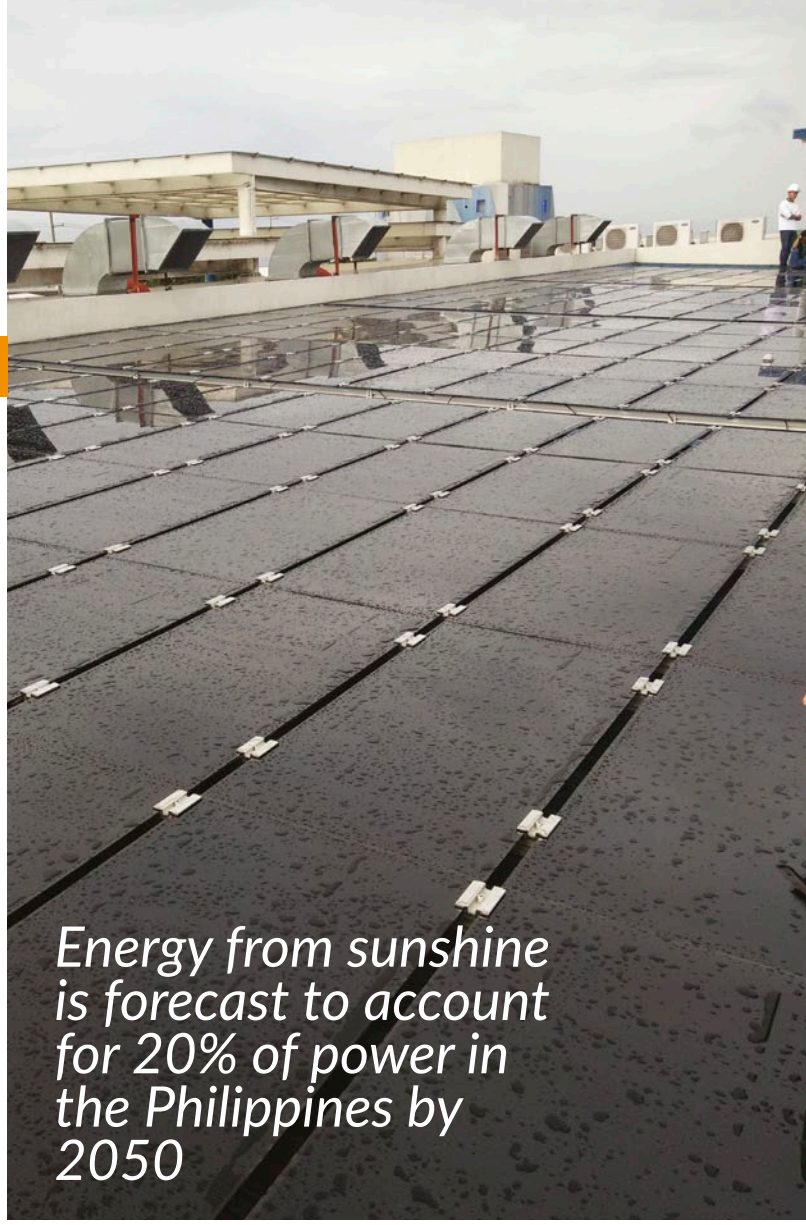
"We hope this activity will also help bring 'Football for Peace' to the consciousness of more Filipinos," declares Tarayao, "and help us grow the advocacy so that it will impact more children in these conflict areas."

SUBSIDIARY PROFILE

THE SUN RISES ON SOLAR POWER

BY JING LEJANO

Spectrum seeks to challenge and change the renewable-energy industry



Energy from sunshine is forecast to account for 20% of power in the Philippines by 2050

If the best things in life are free, it certainly applies to sunlight. But can the same ever be said for energy generated from the sun?

The technology to generate electricity from solar energy stretches back 178 years. The first photovoltaic (PV) cell was invented in 1839, but it wasn't until 1954 that Bell Laboratories developed commercially viable PV cells.

The technology remained expensive; solar-generated electricity cost around US$76 per watt in 1977. Advances in design and manufacturing finally slashed the price of PV cells, and by 2015, solar energy costs were down to less than US$1.50 per watt.

This fuelled a boom in the solar-power industry in countries such as the United States, whose industry currently enjoys record growth, according to the Solar Energy Industries Association, a US trade association of solar energy and related businesses. An impressive 4,143 megawatts (MW) of solar PV, installed in the third quarter of 2016, produces 35.8 gigawatts of power. This translates into 1 MW installed every 32 minutes, enough to power 6.5 million homes.

Decentralization further sustained the slide in solar-power electricity prices. Today's PV cells and storage systems, installed at the consumer's premises, eliminate the need for costly infrastructure such as electric poles and substations.

A new dawn arrives

Several Philippine companies that invested in solar technology got mixed results: their system didn't work well, or their contractors either provided insufficient support or went out of business.

Months of consultation with its customers prompted the Manila Electric Co. (Meralco) to join the renewable-energy (RE) business, incorporating a solar-energy subsidiary, Spectrum, in the first quarter of 2016.

"It's the beginning of the sweet spot for the Philippine solar industry, and we're about to enter the golden age," declares Spectrum President Jose Rainier "Rain" Reyes. "In the US, it's already approaching maturity.

"The third wave," he predicts, "will come from Asia, spearheaded by China and then Southeast Asia."

Photography by **Jun Pinzon** Grooming by **Arlene Adto**

The subsidiary aims to provide the market with consultation services, solar energy technology (solar panels and electrical connections), and technical services (installation and repair). Spectrum's materials and installations are customized to meet global industry standards and remain fully compatible with Meralco's present and future power infrastructure.

"Of all power sources, the most environment-friendly is the sun," Reyes explains, but the pivot to solar power was hampered by the "prohibitive" prices of solar panels.

"To encourage the market, we need the government to supply both providers and end-users with incentives, such as the carbon tax credits offered in other countries. In manufacturing, every time you double the production of anything, you reduce its cost by 25 percent."

By the end of 2016, solar energy generated 900 MW of electricity in the Philippines. Reyes believes that number will rise. "By 2020, we're looking at 2,500 MW of solar installation. That won't all come from Spectrum," he concedes, "but I am hoping we'll get the lion's share."

He adds, "By 2050, about 20 percent of power in the Philippines will come from solar. That's my optimistic forecast."

From company to community

Spectrum recently partnered with Sunseap Group Pte Ltd of Singapore and Powersource Phils. Inc. to form Power Source First Bulacan Solar Inc. The latter, in turn, signed a Power Supply Agreement with Meralco for a 50-MW solar PV power plant to come online in 2018.

Meanwhile, Reyes remains keen on building the business by helping Meralco customers become their own power producers.

"We are a renewable-energy solutions company," he underscores, "not solar-panel peddlers. We go to a customer, understand their requirements, and then provide a feasibility study. We will recommend and install the most beneficial solutions."

One such customer is Shrinkpack Philippines Corp., which expects to generate over 11,283 kilowatt-hours (kwh) of electricity monthly from its recently installed solar-panel system *(see "Wrapped Up in Innovation" on page 26).* This reduced the company's annual electricity bill by P800,000 to P900,000.

After a consultation, "If we see no benefit to the customer, we will advise against installing a solar-energy system," Reyes avows. "At least, for the time being, until economies of scale come into play."

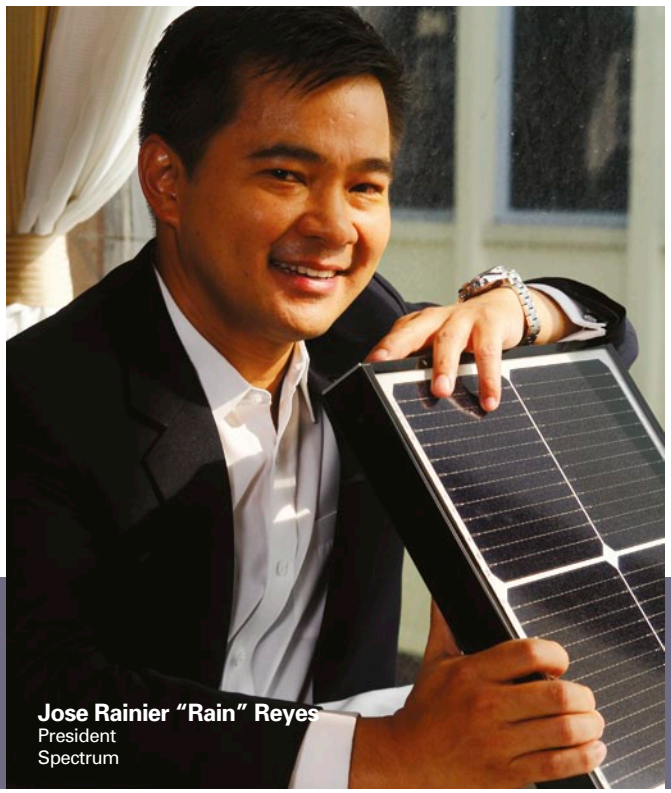
Meanwhile, Spectrum looks at microgrid projects to empower the countryside. "You have to make it sustainable; it has to be a business, not just a bleeding-heart project," Reyes insists. "We've seen dole-outs of solar installations that are discontinued after two years.

"We have to understand the community; what will make it grow, what its potential sources of income are. We want to electrify the ecosystem of the community, not just the households."

Being a trusted provider is one thing; getting trustworthy suppliers is another. To establish effective partnerships, Spectrum reaches out to manufacturers and suppliers of solar panels, inverters, mounting structures, and Balance of Systems units, which are photovoltaic system components other than the PV panels.

These partnerships are crucial given the rapid rates of change in RE technologies. Reyes foresees that "eventually, solar panels will move from the rooftops and appear directly on appliances and gadgets.

"Technology is going to challenge the industry, and Spectrum," he promises "will be at the forefront of these developments."



Jose Rainier "Rain" Reyes
President
Spectrum

'The government should give carbon tax credits to end-users and service providers.'

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