

# Philippines

## Power report

**March 2014**



**ENERGYBOARDROOM**  
Local Conversations, Global Connections



*Mindanao has been in the shadows for too long, and only recently has it emerged as the golden ticket for the future growth of the Philippines. It is the eighth most populated island in the world and the second largest island in the Philippines, representing approximately 25% of the country's population.*

*Eight of the top 10 agri-commodities exported from the Philippines come from Mindanao, making it the agricultural heart of the country. However, despite its many resources, it remains the least developed of the country's three regions and the most in need of power, as it has the lowest electricity rate.*

*As the country's economy continues to grow, so will the demand for power. The government has promised the island a capacity of roughly 800 additional MW in the next few years to meet its power needs. Investments have been picking up, particularly in this sector as the industry is recognizing the huge potential, which is why local newspapers call it the "mad scramble for Mindanao".*

*More power will stimulate economic growth and improve the quality of life in the area because with electricity, more investments will be attracted to the island. Out of the 19.354 PHP (USD 426 million) of investments that were registered with the Board of Investments (BOI) in 2012, only 2% came from Foreign Direct Investment, which for the development of the region is far too low, particularly for developing renewable energy.*

*It is time for Mindanao to no longer be marred by its past, but rather to look at the proper way of capitalizing on all of the present opportunities. As an environmentalist and staunch supporter of renewable energy, I believe the future is bright— so let's make Mindanao, MindaNOW.*

*If you are interested in renewable energy investments in the Philippines, I invite you to review the opportunities made available through this communication platform, which is also why I chose to personally introduce the report that Focus Reports has prepared.*

**Hon. Emmanuel D. Pacquiao**  
**Representative**  
**Lone District, Sarangani Province**

## *Acknowledgements*

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*Special thanks go to:*

**Sergio de la Rama Osmeña, III** *Senator & head of the Senate's Energy Committee and* **Emmanuel D. Pacquiao**, *Congressman & Representative Lone District, Sarangani Province*  
*for their continued support and assistance throughout our project.*

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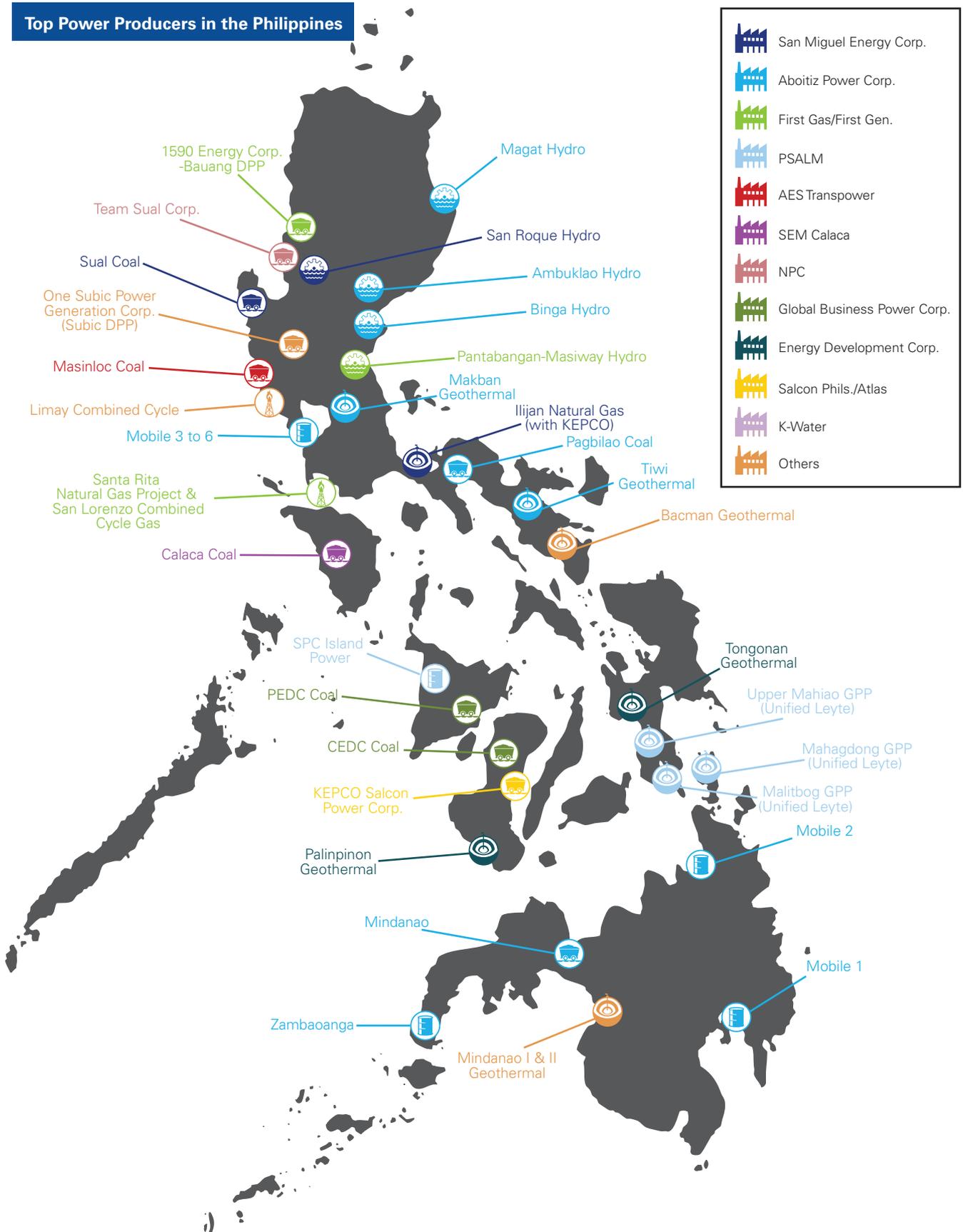
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Top Power Producers in the Philippines





# ADDRESSING THE POWER SURGE

**R**acing past massive steel buildings, gleaming malls and boutique cafes, downtown Manila today is more reminiscent of Singapore or Hong Kong than of the white sandy beaches and sparkling crystal waters of other parts of the Philippines. This rapid metropolitan development is a testament to the country's unprecedented growth: the country posted 7.2 per cent GDP growth for 2013, significantly beating government targets, and in some quarters even surpassing the growth rate of China.

The current administration is feverishly trying to shed any remnants of its 'Sick Man of Asia' image and forge ahead, and to some extent, this is working: last year the country received three upgrades to its credit rating and beat India to win the title of the world's leading call centre destination, according to investment advisory firm Tholons' 2013 survey.

The power sector, too, is eager to reach the same levels of growth as other Philippine industries. While access to electricity is increasing, problems still remain due partly to staggering electricity prices - among the world's highest. Poor infrastructure and relatively low purchasing power have led to rotating brownouts in some regions, and massive unpaid bills.

The government aims to attract PHP3.2 trillion (\$71 billion) of energy investments by 2030 in order to address some of these problems, but the question is whether investment in the energy sector is all that is needed for it to reach a level of efficiency and profitability that is seen in other countries.

## Government alphabet soup

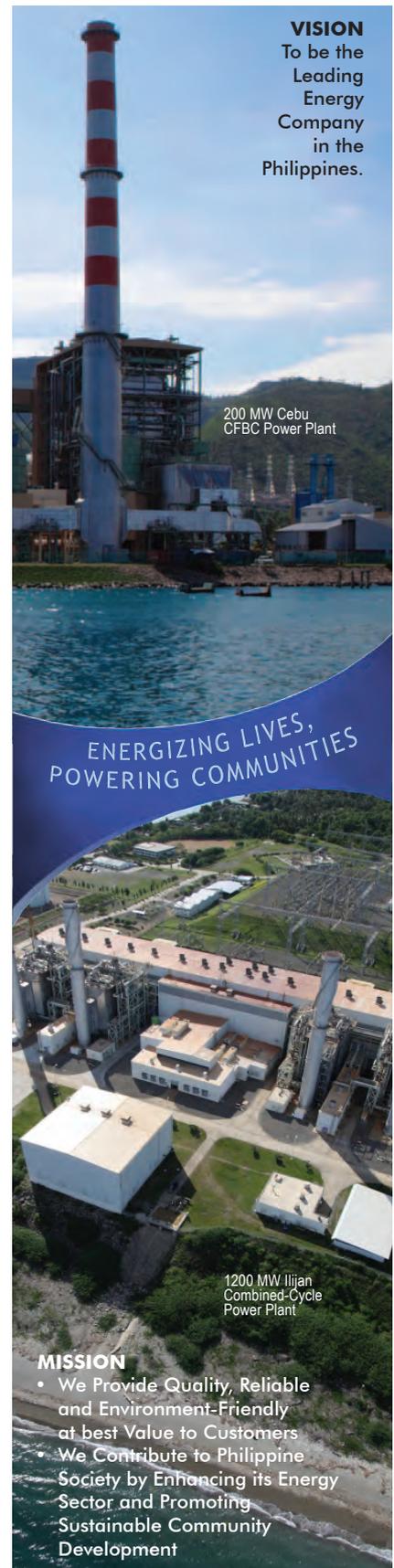
"The Philippines has one of the most sustainable energy models in the world, because we do not rely on the government to build our power plants, but instead rely on the free market," claims Senator Sergio de la

Rama Osmeña III, head of the Senate's Energy Committee. However, he also notes that the country's energy sector "has been stumbling along for decades."

In 2001, the power sector underwent a radical transformation from public to private when The Electric Power Industry Reform Act (EPIRA), considered the most progressive energy legislation to come out of Southeast Asia, was first drafted. EPIRA's raison d'être was to build a sustainable and reliable power supply in order to lower electricity rates in the long term.

However, actual implementation of EPIRA only occurred in 2008, and with the last mandates related to open access to the sector only being met in 2013, prices have remained exuberantly high. In January 2014, the cost of a unit of electricity from the Luzon grid cost 12.45PHP/kWh (\$0.28/kWh).

The Philippines consists of three main geographical divisions and therefore three grid systems: Luzon, Visayas and Mindanao.



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**Maria Gladys Cruz-Santa Rita**  
President & CEO,  
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**Mario C. Marasigan**  
Director, DOE's  
Renewable Energy  
Management Bureau

Luzon is the wealthiest of the three.

"EPIRA promised energy at a reasonable rate, but the definition of reasonable is still unclear," states Congressman Reynaldo V. Umali, Oriental Mindoro representative and head of the House's Energy Committee.

Under EPIRA, subsidies were eliminated and there was a mass unbundling of generation, transmission and distribution, with over 80 per cent of assets privatized today.

EPIRA mandated the creation of The Power Sector Assets and Liabilities Management Corporation (PSALM), a new state agency tasked with overseeing the privatization and sale of power assets in order to liquidate the National Power Corporation's (NPC) financial obligations. NPC's transmission assets were reassigned to the National Transmission Corporation (TransCo). Subsequently, the privately owned National Grid Corporation (NGCP) won a 50-year franchise to become the operator of the country's electricity network. However, TransCo kept ownership of all transmission assets.

The Energy Regulatory Commission (ERC), an independent regulatory body that ensures consumer education and protection, and promotes competition in the electricity market, was another part of the EPIRA package. It is currently tweaking the remaining guidelines for the highly contested feed-in-tariff (FIT) rules, which it issued in July 2012. In addition, the commission is prioritizing transition issues in



Alsons Power's Sarangani  
Watershed Protection Project

the implementation of Retail Competition and Open Access (RCOA), the scheme that allows power users of at least 1 MW in Luzon and Visayas to choose their own power supplier.

"With the RCOA regime slowly unfolding, the impetus for foreign and local investors to invest in the electric power industry will only get stronger," explains Zenaida Cruz-Ducut, ERC's chair. As more power plants are built, the supply of power will increase and "eventually, a stronger supply and demand equilibrium position will be reached, enabling electricity prices to become truly competitive."

**Conglomerate kaleidoscope**

Local conglomerates have thrived in the Philippine power sector thanks to the high visibility of upcoming opportunities, and a smaller exposure to risk than multinational companies face on the ground in the Philippines. It comes as no surprise then that families run the majority of conglomerates and have also taken advantage of the EPIRA law, such as the Aboitiz Group, which is planning to invest PHP190 billion (\$4.4 billion) over the next five years.

"The bulk of our investment capital will be channeled into our coal plants," says Luis Miguel Aboitiz, first vice-president of Aboitiz Equity Ventures. Although the group has a 50:50 split between renewable and coal plants, "renewable plants are smaller, so in terms of megawatts produced, they are dwarfed by coal," he says.

The government's energy agenda is aligned in much the same way - 17 coal plants are coming on line within the next few years as a more immediate solution to doubling power capacity by 2030, one of the Department of Energy's (DOE) major thrusts in its Power Energy Plan 2030.

Coal currently reigns, but according to the International Energy Agency, prices for coal

## The Philippines

have more than doubled since 2010 and are expected to rise, so the pressure on companies using coal technology will increase, resulting in a greater diversification of energy sources used in this market.

### Delayed sunrise for foreign players

Between 2011 and 2012, foreign direct investment in the Philippines more than doubled, reaching a record of \$2.8 billion in 2012, according to the United Nations Conference on Trade and Development. Despite the increase, the country still lagged significantly behind Vietnam (\$8.4 billion), Thailand (\$8.6 billion), Malaysia (\$10.07 billion), Indonesia (\$19.85 billion) and Singapore (\$56.65 billion).

Although foreign ownership restrictions can severely impede foreign investment in many industries in the Philippines, including oil and gas, EPIRA has eradicated any barriers for power generators (not including renewables).

Even before EPIRA formally opened the door, the Korea Electric Power Corporation (KEPCO) stood out as the country's largest foreign power investor to date. The Philippines was the host to its very first overseas venture in the 1990s and since its entry, KEPCO has built what is considered one of the top 12 power plants in its class operating globally—

the 1200 MW Ilijan natural gas combined-cycle power station in Batangas, three hours drive from Manila. Ilijan has symbolic status as the Philippine's largest natural gas-fired facility and the company's biggest project undertaken outside of South Korea.

"The quality and reliability of electricity supply has improved since KEPCO has arrived and there are now fewer blackouts," explains Kyu-Byeng Hwang, president and CEO of KEPCO Philippines.

During last year's visit to the archipelago, Hwan-eik Cho, KEPCO's global president and CEO, confirmed that the company is planning to invest at least \$700 million in the coming years. "The Philippines remains a significant portion of our global operation, providing much of the demand for KEPCO services globally," affirms Hwang.

### MindaNOW

Some local conglomerates were more cautious with the gold rush than others, and instead chose to enter the power market later. "What sparked the decision to invest in Mindanao was the perception that the reward will justify the level of risk in this venture," explains Jesus N. Alcorido, president of FDC Utilities Inc, which has started construction on 405 MW of plants, and also won a bid for 40 MW of geothermal power.

Mindanao is the second largest island in the Philippines, representing a quarter of the country's 99 million population. It is the least energized region and has been plagued for decades with long-standing, low-intensity conflict between various warring religious factions. Mindanao also has some



**Luis Miguel Aboitiz**  
Vice President,  
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**Kyu-Byeng Hwang**  
President & CEO,  
KEPCO Philippines

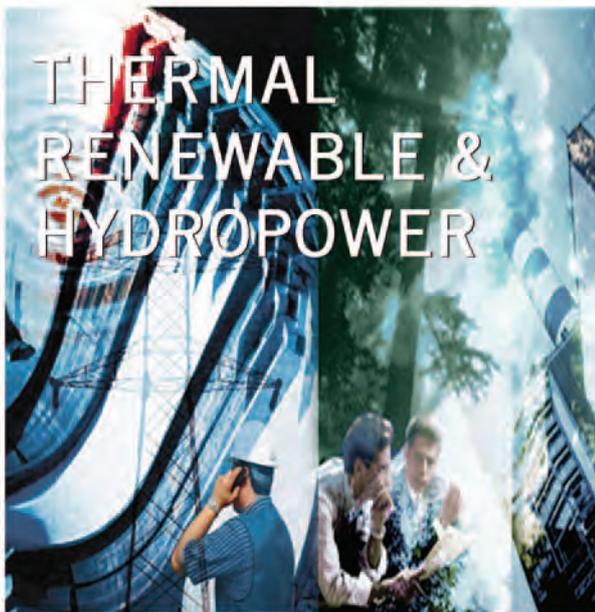
of the worst performing electric cooperatives in the country, which have racked up billions of pesos of debt.

"After I took over the position at the NPC, I discovered that 70 per cent of the unpaid bills were coming from...the Autonomous Region in Muslim Mindanao (ARMM)," says Maria Gladys Cruz-Santa Rita, president of NPC. Disconnection of non-paying accounts is taking place, but Rita argues that in addition to a change in mindset in these communities, "the solution is to find investors in these regions that are interested not only in profit, but helping to develop these provinces."

Development has also been Congressman Emmanuel D. Pacquiao's cornerstone agenda, initially prompting him to join politics. Better known as a boxing superstar, renewable energy investment in Mindanao is today one of the congressman's main priorities, and when asked what Mindanao needs for development, his first answer is "investors."

According to the DOE's 2013 Supply-Demand Outlook, of the three grids, Mindanao has the largest growth rate projection. At 4.57 per cent AAGR, projected peak demand is seen to increase to 2068 MW in 2020 and then to 3250 MW in 2030. Mindanao requires about 2000 MW of additional generation capacity by 2030. It is also the only grid not connected by submarine cables to the two others, presenting further opportunities when the connection is established.

The Alcantara Group has focused



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The 98 MW Mapalad Power Corporation diesel plant in Iligan City – one of three Alsons Power diesel plants operating in Mindanao.

## SPEARHEADING BIOMASS: PÖYRY ENERGY

As one of the leading engineering and consulting companies in the energy sector worldwide, Pöyry entered the Philippines back in 1992 under Swiss owners, and in 1997 became a Finnish company.

Nicky Gemperle, president of Pöyry Energy Philippines speaks about the relationship with Bronzeoak, and Pöyry's evolution in the Philippine market.

### Where does the San Carlos BioEnergy project stand today?

The San Carlos BioEnergy project served as a catalyst for new renewable energy contracts in the Philippines. We were the first company to build a bioethanol plant in the Philippines, with the Zabaleta family of Bronzeoak. It was our platform and communication base.

From that project, everybody came to us,



**Nicky Gemperle**

President, Pöyry Energy Philippines

which is both good and bad. The difficulty with the EPC projects is that they take a long time to bring to fruition. We took the role of contractor.

In the years that followed, I had six biomass projects on my desk, at least: rice, coconut husk, sugar 'bagas,' and so on. But most of them weren't going anywhere. Biomass projects have been really hard to finance and this is why, as I mentioned before, I come back to my respect for

the Zabaletas, since they were able to consistently find solutions.

### Where would you like to see Pöyry Energy Philippines in five years?

Most of the work we are doing now in the Philippines is owner's engineer and lender's engineer, working for the banks on many coal-fired power plants. However, we are developing another project with Bronzeoak and at the same time, we are working on three wind projects and two solar projects. We do also work for a Singaporean company that is building a bioethanol plant in Cavite.

In the next few years, I would like to see Pöyry Philippines more as a contractor than as a consultant. Today our business is 20 per cent contractor versus 80 per cent consultant. To turn this over is my dream and my objective because it would quintuple our revenues.



**Emmanuel D. Pacquiao**

Congressman & Representative Lone District, Sarangani Province



**Tirso G. Santillan**

Executive Vice-President, Alsons Consolidated Resources

on Mindanao since the 1950s. Alsons Consolidated Resources Inc (ACR), the conglomerate's power generation business, is the largest independent power producer in Mindanao, with approximately 255 MW of diesel capacity. ACR's prospective investments amount to around \$900 million and include coal-fired plants of up to 210 MW in Sarangani and 105 MW in Zamboanga.

Tirso Santillan, ACR's executive vice-president, believes a major hurdle to larger-scale development is the small size of the country's power networks, which creates grid restrictions limiting the size of any one generating unit to 20 per cent of the grid's total capacity. "In Mindanao in particular, the grid is small and so far the largest generating unit that NGCP has permitted to be connected to the grid is 150 MW," he adds.

"One useful means to fund grid improvements would be through transmission charges," recommends Santillan, "currently, regardless of the distance that electricity is carried, from generator to consumer, the

consumer pays a set charge."

He also adds that "losses of power through the transmission and distribution networks in Mindanao can be as high as 18 per cent; South Korea sees losses nearer to 6 per cent."

In an effort to evade these issues, ACR has sought to locate generating plants close to large consumers and in doing so it has created what it calls an embedded plant, hence enabling it to avoid transmission costs.

"When our projects are realized, ACR will be growing phenomenally fast, perhaps doubling current revenues." As EPIRA puts a limit on the proportion of power supplied to the grid (one company can only contribute about one third), "ACR is looking to fill nearly

all this capacity and expects to supply around 600 MW of power to Mindanao shortly," Santillan concludes.

### Renewables' seat at the table

"The Philippines is already the biggest consumer of renewable energy (RE) in Southeast Asia," says Mario Marasigan, director of the DOE's Renewable Energy Management Bureau. However, he admits that all of the 300 projects within the Renewable Energy Bureau's schedule remain in pre-development.

"The Philippines is looking for a lead entity to pioneer the rush to renewables...we are confident that private players will emerge without prompting," Marasigan continues. "Government support is not the complete answer to the problems facing renewable energy here: What is required is for private companies to take up the opportunities that



Alsons Power's 210 MW Sarangani Energy Corporation coal-fired plant, currently being built in Sarangani Province, will produce a steady stream of reliable baseload power for key areas of Mindanao.

## The Philippines



### ENERGIZING COMMUNITIES NATURALLY

**E Power Technologies Corporation and Hydrocore Corporation are established to answer the call and challenge of the government for environmental stewardship on generating power using renewable energy.**



#### Plants' Profile:

- **Ibulao Hydro Power Project** – a 4.5 MW Mini Hydro Power Project located along Ibulao River in the municipality of Lagawe, Province of Ifugao. The project is a run off the river design and consists of 3 X 1.5 MW turbine generator units.
- **Matuno Hydro Power Project** – an 8 MW Hydro Power Project (3 X 2.7 MW turbine generator units) located along Matuno River in the Municipality of Bambang, Province of Nueva Vizcaya.
- **Cagayan De Oro Hydro Power Project** – an 8 MW Hydro Power Project located along Cagayan de Oro River in the Municipality of Baungon, Province of Bukidnon in the Mindanao Area.



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exist," he adds.

However, the government might be acting more as a hindrance than anything else. "Where there is a law, we will implement it, but there are many policies and procedures that are not yet being implemented or worse that are conflicting with each other," says Jose Silvestre Natividad, the president of Sunwest Water and Electric Co. Inc. (Suweco), a local, mini-hydro company with 59 projects in different stages of development. "The government needs to stay focused on prioritizing the development for renewable energy," he adds.

In February 2013, the DOE announced one of the most crushing rules for entrepreneurs in the renewable space: 'first come, first served.' The FIT allocation will be given to the developers who first commence commercial operation. To compound matters further, the DOE approved installation caps for run-of-the-river hydro, biomass, wind, solar photovoltaics and for ocean technology in 2011: those that finish completion after the target capacity is reached are simply out of luck.

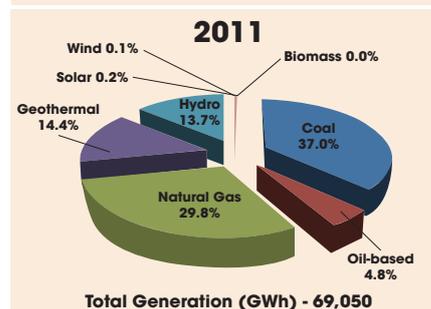
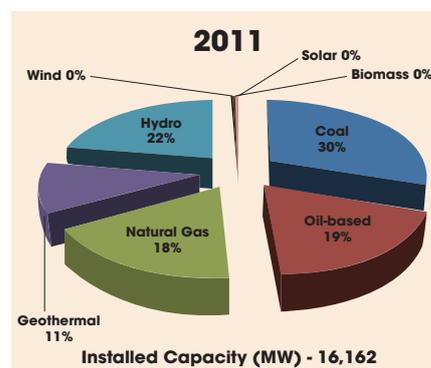
The clauses were so poorly received that even Pete Maniego, the director of the National Renewable Energy Board has made it his personal mandate to repeal them.

Facing such a curveball, most RE developers, especially those with small pockets, have been forced to seek additional capital investment, many with the country's largest bank – Banco De Oro (BDO).

While BDO Capital, its wholly-owned investment bank and the financier of over 90 per cent of the country's energy projects, is considered most attuned to RE developers' needs, coal is still its "bread and butter," says Eduardo Francisco, president of BDO Capital. "Renewable energy is sexy but frankly speaking, the majority of our energy exposure book will still be going to coal," he admits.

"The key issue is not really us: rather, the issue has really been because of the change in the DOE rules about when FITs are awarded. It is the classic case of what comes first, the chicken or the egg. They want us to finance the project and then they will decide, only after, if they are giving the FIT," he says. "It is difficult to give companies financing if we're not sure that they will be awarded a FIT," Francisco concludes.

However, RE developers such as E Power Technologies and Hydrocore Corporation (both founded and owned by Edwin Gardiola since 2007) have taken advantage of the FIT. Focused on energizing communities naturally through



The Philippines' installed capacity and total generation by fuel source.

Credit: Power Energy Plan 2030, DOE



**Eduardo V. Francisco**  
President, BDO Capital

mini-hydro, their total portfolio of projects in various stages of development amount to 20.5 MW. The Ibulao Hydro (run-of-the river) power project is the first to be commercialized and will be connected to the grid in Q3 of 2015.

#### Ring of fire

Although located on the 'Ring of Fire,' the Philippines does not have the world's largest geothermal reserves, but it has become the second largest producer of geothermal energy, after only the US.

According to the International Geothermal Association, the Philippines boasts 1904 MW installed capacity as of 2010, accounting for approximately 17 per cent of its power generation mix. Recent studies indicate that the country has 2047 MW of proven capacity and 4790 MW of potential capacity.

Despite the hype, however, the past two decades have been more cloudy than steamy. Apart from EDC's 1149 MW installed capacity (accounting for 60 per cent of the country's

## The Philippines

### ENERGY FROM THE DEEP

The Philippines is certainly not recognized for its oil and gas reserves, but given that it critically needs to reduce its dependency on imported fossil fuels (approximately 60 per cent is imported), the government has prioritized exploration and production. In 2012, the DOE tendered 15 areas under the petroleum sector of the Fourth Philippine Energy Contracting Round (PECR4).

Today, aside from a few small oil fields still producing, Cadlao is the only production imminent field in the Philippines, with its first oil expected by the end of this year.

Abandoned due to economic issues in 1991, "the Cadlao field is expected to hold 3.1 million barrels in P1 reserves, and to produce first oil flows of between 10,000 and 15,000 barrels a day," says Francis Abad, CEO and owner of VenturOil. In the joint-venture partnership, VenturOil is the minority partner with a 20 per cent stake in Cadlao, while Cadlao



**Edgar O. Chua**

Chairman, Shell Companies, Philippines

Development Corp serves as the operator.

However, in terms of energy self-sufficiency, the Malampaya natural gas development project has been by far the largest mascot, entirely transforming the country's energy landscape when it began operating in 2001.

"Natural gas from Malampaya is currently used to provide approximately 30 per cent of the country's power needs," says Edgar O. Chua, chairman of Shell companies in the Philippines. "What once was a dream of energy independence

has been turning into reality," he adds.

Celebrating 100 years in the Philippines, Shell is not only the biggest multinational, but has been part of arguably the most successful public-private partnership to date, and also represents the largest foreign business investment in Philippine history – \$2 billion.

Malampaya project operator Shell Philippines Exploration BV is joined by joint ventures partners Chevron Malampaya LLC (45 per cent) and the PNOC Exploration Corporation, the upstream oil and gas subsidiary of the state-owned Philippine National Oil Company, which has a 10 per cent stake in the gas field.

With untapped hydrocarbon deposits estimated at an impressive \$26.3 trillion, and Malampaya reserves set to largely deplete by 2024, exploration and production companies are scurrying to hit the jackpot by finding the next, and perhaps even bigger, Malampaya.

total geothermal capacity) and Chevron, the initial pioneers that are still developing and producing geothermal power in southern

Luzon (637 MW), little else has emerged. Since the Renewable Energy Act of 2008, only the 20 MW Maibarara geothermal plant has come on line.

Antonie de Wilde, CEO of Emerging Power, the only company to recently win a contract for developing greenfield geothermal reserves, expresses optimism for harnessing geothermal to help mitigate the country's problem of escalating energy prices.

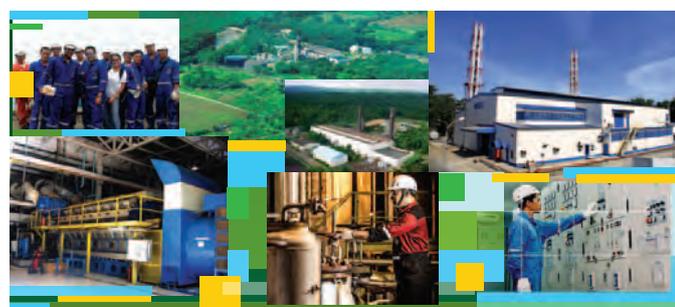
He postulates that EDC's decline (25 per cent plant load operation in October 2013) due to "competing interests in providing electricity from fossil fuels that are comparatively much more lucrative in the Philippines" should lead to market space for new entrants.

"But the simple fact remains that investors will only come once EPIRA is changed and the attitude of the government shifts from protecting the generators to protecting the consumers," he adds.

In essence, de Wilde believes the stability or reliability investors seek can be supplied by geothermal power, but the lack of long-term debt financing, EPIRA not facilitating enough competition and consumers having to shoulder these risk themselves are grave deterrents.

De Wilde recently approached Meralco, the country's largest electricity distributor, with a proposal to set up a price stabilization fund. "Geothermal may cost more than coal today per kilowatt-hour, but in four to five years the fossil fuel price will be above the geothermal price, so the idea would be to establish a mechanism that would help finance geothermal development, and other renewables, in the meantime," he explains.

Despite the lag in geothermal development, the DOE's targets remain high: adding 930 MW in the next six years and 155 MW from 2020 to 2030; effectively a 75 per cent capacity increase by 2030.



## THE ALSONS POWER GROUP



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## THE SUN WILL KEEP SHINING



One Renewable Energy Enterprise, Inc.



maintenance and promises substantial long-term energy savings to promote environmental sustainability," explains Narida. "There are many people today who are still sceptical of renewable energy products as viable sources of energy because these systems are perceived to be very expensive and to have limited economic use. However, when they drive through the commercial district of Makati and see the Zuellig building and realize that the PHP 7 billion (USD 156 million) building uses solar power, they suddenly take on a different view of the product.

Nothing is certain but death and taxes, but most of us are confident that the sun will keep shining. Solar panels have been around for a long time now and have proven their reliability; solar is no longer seen as a passing fad. "Solar power may be expensive in the initial investment but it assures a level and predictable cost for the next 20 years, since it is not dependent on distribution utility companies whose power rates are subject to fluctuation," says Erel B. Narida, President of One Renewable Energy Enterprise Inc (OREEi). "This is valuable to any business that has a high cost of power as it directly impacts the bottom line."



The Zuellig building is a living testament and a very convincing concrete statement that indeed solar power is here," Narida concludes.

With an increase in the domestic market for photovoltaics, opportunities are arising for small and large companies alike in the marketplace. Net metering, value-added tax exemptions, and tax credits are also expected to stimulate investment, research and development. Jim Ayala, former President of Ayala Land, founded Hybrid Social Solutions Inc. (HSSI), a social enterprise that provides rural, off-grid communities in the Philippines



OREEi is an offshoot of Shell Solar Philippines. "When Shell decided to de-prioritize their renewable energy business and scale it down, some veterans of the company's renewable energy division and I realized it was imperative for us to take on the challenge," Narida explains.

Sunlight is free and abundant, so there are no fuel costs and very low maintenance costs. "Solar power will not be subject to the fluctuations of power rates of distribution utility companies that supply residential and commercial establishments," Narida says. He emphasises that the use of the alternative and renewable source of energy would lessen the Philippines' dependence on imported fossil fuel, which has been escalating in recent years.

There are already several solar projects in the Philippines, both off- and on-grid. "The Zuellig building invested in an on-grid solar power system that requires minimal



with sustainable access to high-quality, affordable solar technologies aimed at spurring basic development. "I would encourage individuals who want to see this new paradigm with business delivering social benefits to come to the Philippines," says Ayala. "We are on the cusp of taking huge steps forward in improving our economy and the livelihoods of our populace. The dynamism is hugely exciting and people are already visiting from around the world to see this change."



The Philippines has 7,107 islands, many of which are not connected to the grid, so a myriad of innovative solar applications exists for off-grid areas. For example, the country relies heavily on cell phones for communication, so a backup solar system when there is a natural disaster or blackout is a key need. Problems may crop up in applications such as net metering, or tracking the position of the sun, which can result in local innovations to solve those problems. According to Nicolas Bivero, Director of Transnational Uyeno Solar Corporation (TUSC), a Filipino/Japanese joint venture, says: "There is huge potential in the Philippines for using distributed solar energy to provide power in places where existing electricity infrastructure does not extend."

## INTERVIEW WITH:

# Acela Nikki C. Quibrantar, President - CEO of YWA Human Resources Corp.



**EnergyBoardroom:** *What has been the winning formula for the Philippines to become the most popular location for the business process outsourcing (BPO) industry?*

**ACELA NIKKI C. QUIBRANTAR:** The market for Filipino BPOs is definitely growing. We have done well at branding the BPO industry. The government has given much support to the industry, working with independent organizations focused on overseeing the movement and development of the BPO industry of the country. At the outset, the BPO industry of the Philippines focused on voice-based, call center services. It has today migrated to higher value and knowledge-based services that cater to multinational clients. Call center agents whose jobs were restricted to taking calls or delivering voice-based services are now trained to be capable of BPO experts. This has changed the BPO industry of the Philippines from giving stopgap options to providing fully-fledged career choices for the nation's professionals.

**EB:** *What are your perspectives on the evolution of labor migration, and how it has affected the Philippines?*

**ACELA NIKKI C. QUIBRANTAR:** Labor migration is not a new phenomenon among Filipinos. During the first half of the last century, a large number of Filipino workers were present in US, and later the Middle East. Today, with the inception of the overseas employment program under the 1974 Labor Code of the Philippines, Filipino labor migration serves as a temporary measure to ease the tight domestic labor market, stabilizes the country's balance-of-payments position, and serves as an alternative employment strategy for Filipinos. Nevertheless, overseas employment provides work to job-seeking Filipinos

as well as a major generator of foreign exchange.

Overseas Filipino Workers remittances have been instrumental in helping the Philippine economy offset foreign exchange outflows, especially as a saving grace during periods of negative GDP growth, thus, maintaining a positive GNP (gross national product).

**EB:** *What is unique in the Filipino employees that makes them so attractive to companies looking for low-cost labor?*

**ACELA NIKKI C. QUIBRANTAR:** Oil and gas has been a key sector for the Philippines since the 1970s in terms of outsourced labor, and compared to other countries in the world that have large guest worker populations, such as Bangladesh, Pakistan, China and India, the Philippines has a lot of experience in this sector, and Filipinos are well adjusted to the life of an overseas contract worker. On top of that, Filipino workers are kind, loving, self-sacrificing and loyal people, especially to their superiors. Loyalty is definitely our country's competitive edge. Thus, the big demand for Filipinos to work in developed countries.

**EB:** *You have been managing the YWA since you founded the company back in 1994. Which sectors have primarily driven the company's growth in this time? How would you describe the strategy of the company today?*

**ACELA NIKKI C. QUIBRANTAR:** YWA's core competence is in the Oil and Gas sector. 90 percent of our deployed workers are assigned in projects of this industry.

In terms of strategy, on average, we currently deploy in between 4,500 to 5,000 workers annually. How? With a strong com-





mitment in people empowerment; sharpened recruitment strategies; developed global marketing capabilities; securing recruitment leadership and fostering transparent governance.

**EB:** *There are a number of outsourcing companies that have made their way successfully in the Philippines, What is YWA's competitive edge?*

**AGELA NIKKI C. QUIBRANTAR:** We are known for our expertise in efficiency and for our previous and abundant experience. Since 1994, we have dealt with projects in 56 different countries, on all five continents. We have deployed over 45,000 Filipinos, both skilled and professional, to various projects worldwide, mainly for the oil and gas industry with a significant percentage catering to the petrochemical, civil and construction, shipbuilding and dry dock, medical and hospitality industries.

YWA is comprised of 72 dedicated professionals that work diligently and relentlessly to support the needs and demands of our industry

leading employers. Our main office is located in Manila and we have four global offices that are strategically located in Australia, Canada, New Zealand and the US. In addition, we have our own trade test and training Centre, equipped with training modules and TESDA accredited trainers, and the equipment to cater to technical skills testing of candidates.

**EB:** *Where do you see the biggest opportunities in five years from today?*

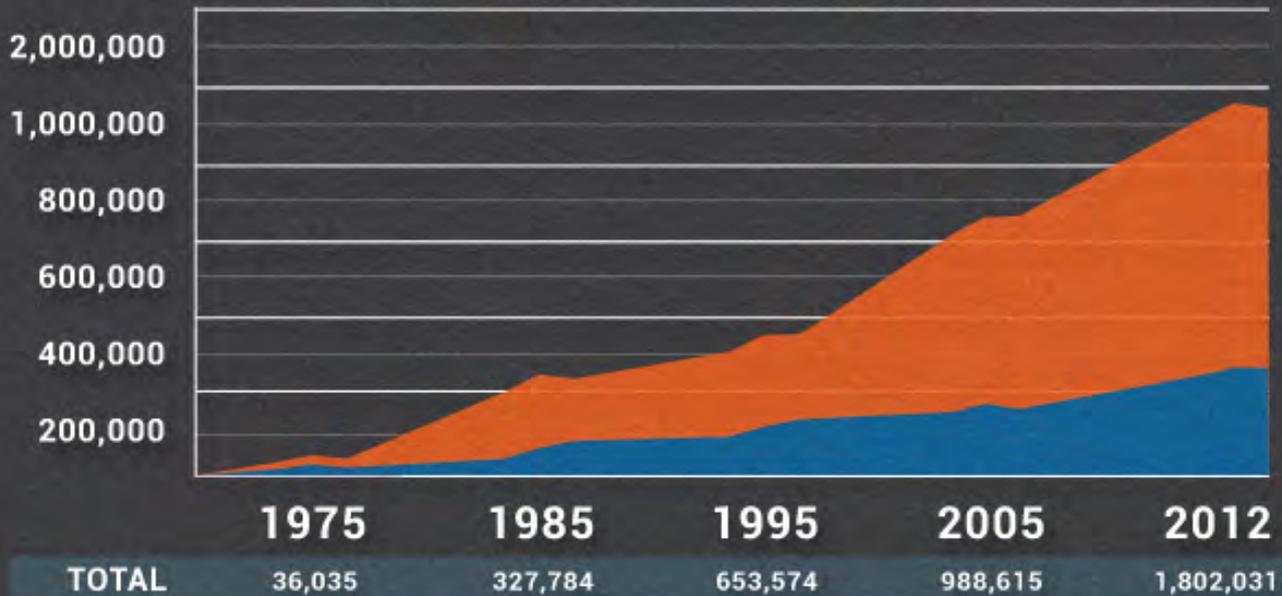
**AGELA NIKKI C. QUIBRANTAR:** Today we have secured a leading position in the South Korean market, which we reached after working with the giant Samsung. In the future we want to do the same with the Japanese market. We have already closed one deal with a large Japanese company; now it is time to deliver more than ever, as our sector will continue its upward trajectory, with annual revenues reaching \$25 billion by 2016, while providing direct employment to 1.3 million Filipinos, and supporting 3.2 million indirect jobs.

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## INTERVIEW WITH:

# Sergio de la Rama Osmeña III, Senator - Energy Committee

*EnergyBoardroom: Business interests don't always match with the immediate needs of a country. Do you believe that Aquino's administration is doing a good job at balancing these priorities?*

**SERGIO DE LA RAMA OSMEÑA III:** Yes, I think so, although the problem is not in the balancing, but rather in the management of all the processes. In July 2001, we passed the EPIRA law, but since then, things have moved very slowly. The privatization of the National Power Corporation was supposed to happen in three years, but most of the privatizations only started around 2007 and today, 25% of the assets still need to be privatized, which shows that something has been going wrong. One of our biggest challenges is that the Philippines does not have the expertise needed to run the energy sector efficiently.

*EB: In his recent speech, "EPIRA: Where are we headed?" Congressman Umali claimed that the EPIRA law has fallen short of its promise to provide a stable and reliable supply of electricity at a reasonable price. Would you recommend any amendments to the EPIRA law?*

**SERGIO DE LA RAMA OSMEÑA III:** I have always been trying to encourage the government to develop human resources and assets for the energy industry, but this is not happening yet: we are not offering scholarships for electrical engineers, civil engineers and so on. It doesn't make sense at all, for example, that the Energy Regulatory Commission is composed mainly of lawyers; during the last administration, we had a Secretary of Energy that was a military general. Today we have to rectify these anomalies.

*EB: The Philippines have the highest power rates in ASEAN. How do you explain that?*

**SERGIO DE LA RAMA OSMEÑA III:** Firstly, the Philippines is one of the most difficult countries in the world when it comes to the geographic arrangements. The archipelago has more than 7000 islands. Power is variable because we have several small plants rather than one or two big plants powering the country. This is a big minus. Secondly, we have taken a very long time to modernize and catch up with best practices from around the world.

*EB: When it comes to distribution, conflicts have arisen between National Electrification Administration (NEA) and Cooperative Development Authority (CDA) over the management and operations of some electric cooperatives. Where should the power lie? Do you believe that the ECs should be taken over by conglomerates?*

**SERGIO DE LA RAMA OSMEÑA III:** Originally, cooperatives were denominated as self-regulating. This was a formula for disaster! The local politicians took control of the cooperatives. Outside the main urban areas, distribution utilities cannot operate profitably, so no one wants to go there. Today Aleco, an electric cooperative, is about to be taken over by San Miguel Corporation, because they have no electricity.

*EB: What are your thoughts about the progression of the liberalization of the power sector and the dominating conglomerates?*

**SERGIO DE LA RAMA OSMEÑA III:** We have no choice. When you have a developing country like ours, there are always 'good and bad shoes.' Our task is to take the risk and go ahead with the development of the economy. The Koreans have done it, the Japanese have done it; we must do it too. We have regulatory bodies that supervise and control the various groups involved in the energy sector, such as the Aboitiz Group



Sergio de la Rama Osmeña III, SENATOR - ENERGY COMMITTEE

and the Lopez Group. Of course, it would be great if we could democratize ownership, but unfortunately we don't have that type of situation yet. It will happen with time. Over the past 50 years there has been a wider dispersal of wealth in the country.

**EB: Achieving a 90% electrification rate by 2017 will largely depend on the reforms implemented in order to solve the power crisis in the rural areas, primarily Mindanao. Do you think this is feasible and when will the Philippines be able to provide electricity to everyone?**

**SERGIO DE LA RAMA OSMEÑA III:** Unfortunately, full electrification in the Philippines will probably not be possible, due to the logistics and costs involved in providing power to every island in the country. In the barangays, 30-40% of the people live in that section, but the rest are all scattered. Hence, it can cost as much as PHP 30,000 (USD 689) to bring electricity to each house: such expense is currently impossible for us. However, we must try to find a way to improve coverage: it really is a concern that as many as 25% of the homes in this country have no electricity.

**EB: Although the Philippines is considered a renewable energy leader, as the second largest producer of geothermal power in the world, the country is currently powered by 60% of imported fossil fuels. What do you believe is the future of RE in this country?**

**SERGIO DE LA RAMA OSMEÑA III:** We must focus on green technologies, but always bearing in mind the business perspective. Solar is too expensive, the whole word is still waiting for more development and increased R&D spending from rich countries such as the US. Another disadvantage is that solar requires flat areas and our flat areas are used for planting rice, which is already in short supply in the Philippines. From all the renewable energies, I like biomass technology the most because it gives an extra value to something that is wasted by the farmer. You can pick up his rice and corn trash and sell it to the owner of the biomass plant.

*The most expensive power is having no power at all, and we must address this in the years to come, making sure that blackouts no longer occur.*

**EB: Could you please share with our readers your final thoughts on the future of the Philippine's energy sector?**

**SERGIO DE LA RAMA OSMEÑA III:** The Philippines has been stumbling along for decades, but now it is time to take big steps towards efficiency so that the rates will come down. One of the keys to achieving this is to find the necessary expertise and in the meantime we must bring it in from abroad. But, there is some resistance; for example it was always the congress' intention that a foreign Independent Market Operator (IMO) that already had experience in running a grid of a similar size would come into the Philippines and then after time enable knowledge transfer to the Philippine Electricity Market Corporation (PEMC), which would work much better. In general, there are many areas where we can cut down on costs and then in five to 10 years we should see a marked improvement in transmission, distribution and open access to the market. The most expensive power is having no power at all, and we must address this in the years to come, making sure that blackouts no longer occur. Hopefully, the private sector will help us achieve this aim soon.

## INTERVIEW WITH:

# Kyu-Byeng Hwang, President - KEPCO Philippines



*EnergyBoardroom: Kepco—a centenarian company, has a strong legacy in the Philippines, having arrived in the country in 1995. What has been Kepco's winning formula over the years?*

**KYU-BYENG HWANG:** The question of success in the Philippines has always depended on Kepco's commitment to the Philippines and the company is very proud of all its projects and achievements in the country. The quality and reliability of electricity supply has improved since Kepco has arrived – there are now fewer blackouts. Kepco's first initiatives included the rehabilitation of the 650 MW Malaya power plant complex where Kepco dramatically increased output and efficiency. The 1,200 MW Ilijan natural gas combined-cycle power station in Batangas is so far the biggest project Kepco has undertaken out of Korea. In this respect, it has quite a symbolic status. A third major asset is the 200MW Cebu coal plant which produces electricity at the cheapest rate in the Visayas. The plant additionally has technology which lowers emissions of both sulphur oxides and nitrogen oxides into the atmosphere.

Our commitment to the Philippines is underlined not only by our construction of robust, long lasting and efficient power plants, but also the manner in which we conduct our business. In 2009, Kepco was awarded a Gold Medal by a notable publication covering the power industry, commending the quality of Kepco's coal fired stations. More recently, Kepco was deemed to have the most environmentally friendly power plant in the Philippines—an achievement the company is particularly proud of.

*EB: The President of the Korean Chamber of Commerce in the Philippines, was*

*recently quoted as saying that Korean investors are investing in ASEAN markets to reduce risk associated with a potential downturn in China. Having arrived here in the 1990's, what were the competitive advantages that Kepco recognized in the Philippines for it to be the first overseas venture?*

**KYU-BYENG HWANG:** Kepco considers the Korean market to be mature and the company is now looking for other opportunities where it can deploy the experience and skills of its engineers and as early as 1990, Kepco's CEO, Mr. Lee, started to seek openings for Kepco's project experience to be utilized outside of Korea. Early on, the Philippines emerged as a promising opening for Kepco. The Ilijan project was bid out under a Power Purchase Agreement from the Philippine government, which made the company's participation in auctions easier and we won the project.

One threat that could not have been previously predicted in Kepco's operations was the Asian Financial crisis which threatened Kepco's access to finance. Despite the chaos this financial turmoil caused in wider markets, Kepco managed to ride out this storm satisfactorily. The whole process of entering the Philippine market has been a substantial and useful learning experience for Kepco. Chiefly, Kepco's understanding that ensuring plants are highly reliable was reinforced. As a power utility company, Kepco has built its reputation by providing the most efficient plants in the Philippines.

The Philippines set the precedent in giving Kepco the confidence to expand into other countries, and the Philippines remains a significant portion of our global operation, providing much of the demand for Kepco services globally.



Kyu-Byeng Hwang, PRESIDENT - KEPCO PHILIPPINES

**EB:** Which were some of the challenges you faced in building the largest natural gas facility in the country, the Ilijan power plant?

**KYU-BYENG HWANG:** The 1,200-MW Ilijan combined-cycle plant, located on a 60-acre site at Arenas Point in Batangas City faced initial challenges such as the lack of an existing transmission grid and a natural gas pipeline nearby, so those infrastructures had to be built from scratch. Kepco constructed and owns the plant, via a 20-year ECA with the National Power Corporation under a Build-Operate-Transfer scheme. NPC supplies gas to the Ilijan power plant from the Malampaya gas field in Palawan

**EB:** The 200MW Cebu plant utilizes state of the art Circulating Fluidised Bed Combustion (CFBC) technology. How would you rate the operational efficiency of this technology?

**KYU-BYENG HWANG:** CFBC was adopted to reduce Kepco's environmental impact particularly to address concerns over SOX and NOX gases. CFBC technology is used to reduce emissions of these two pollutants and Kepco eagerly embraced the opportunity to reduce output of these gases.

It is clear that Kepco needs to supply base load electricity from reliable operating plants- demand necessitates this. Gas and coal are principally used in this role, but there are numerous groups opposed to the use of coal and that is one key dilemma for the Philippines. For the meantime, coal plants must be constructed because society badly needs this power and the use of CFBC technology will, at least, reduce the environmental impact.

**EB:** Kepco has recently passed 3.16 billion worth of power generation equipment to 17 different power cooperatives. Why is this this sort of measure important to Kepco?

**KYU-BYENG HWANG:** Kepco strives for good relations with the cooperatives in the Philippines. Aside from directly providing these cooperatives with equipment, Kepco has also been significantly involved in the

*Our commitment to the Philippines is underlined not only by our construction of robust, long lasting and efficient power plants, but also the manner in which we conduct our business.*

electrification of many rural communities in Luzon and the Visayas. CSR is irrefutably important and Kepco considers it essential to ensure that a wide array of stakeholders benefit from access to electricity. Empowering local communities is a global strategy for Kepco.

**EB:** Where would you like to see Kepco in ten years?

**KYU-BYENG HWANG:** Kepco is likely to expand further in the Middle East and China. However, the Philippines will remain a priority investment as Kepco is continuously seeking to grow here— our vision is to be a leading power supplier here in the Philippines. Our priority is the supply of stable power to the grid here in the Philippines, and to ensure that good relations with local communities are maintained, developed and expanded.

## INTERVIEW WITH:

# Luis Miguel Aboitiz, Senior VP of Aboitiz Power Marketing and Trading, President, CEO of Aboitiz Energy Solutions and First VP of Aboitiz Equity Ventures



**EnergyBoardroom:** *Why has the Aboitiz Group become increasingly involved in the power market?*

**LUIS MIGUEL ABOITIZ:** The timing was right. The Filipino power market was reformed dramatically during the privatization of the industry. We went from a system where only the government could build power plants and you could only buy power from the government, to basically a privatized generation sector that was still selling through the government. From there the Philippines moved to Open Access and now we are going to lower the limit to 0.75 MW in June 2015, from the current 1MW limit. Numerous government assets were suddenly made available and fortunately for us, we were well positioned to capitalize on that market shift.

**EB:** *Specifically for the power sector, what operations are your priorities today?*

**LUIS MIGUEL ABOITIZ:** The power industry is very much a priority for the Aboitiz Group. Today, power contributes around 60 percent of the revenues of the group. Currently, throughout the Philippines, we are building our portfolio of base load generation plants. We have also turned our attention to renewable power generation. We are interested in any kind of power source that is commercially viable.

**EB:** *How is your generating power capacity distributed across different power sources?*

**LUIS MIGUEL ABOITIZ:** The coal plants take the biggest share, contributing much to our current growth. Numerically, in relation to the incoming stream of power plants being developed, there is a 50:50 split between renewable and coal plants. Yet it is important to consider that renewable plants are smaller, so in terms of MW produced, they are dwarfed by coal.

**EB:** *With the President's two-track program, the Philippines aims to triple renewable energy capacity by 2030. Considering the renewed commercial interest in upstream exploration, is this ambition attainable?*

**LUIS MIGUEL ABOITIZ:** I do not think these goals necessarily collide. The renewable energy directives advocated by the President are primarily driven by subsidies. Considering the gas price, I am not too worried about competing against it as a power source. Looking at the gas price in Asia, the Japan Korea marker stands at around 16.5 USD per MMBtu. This means if you produce gas in the Philippines, and you can produce it at 11 or 12 USD per MMBtu, it is profitable to export it to Japan. Ultimately if that is the local price, any coal or renewable plant can directly compete against that.

The 'big unknown' is what the impact of a large gas exploration discovery would be and, where that gas is found. If gas is too far to bring to Manila, locals will want a stake in that gas. The upstream company will also



need to invest in liquefaction facilities to export abroad. The government also – after costs - receives 60 percent of revenue through tax, after discovery. Ultimately in terms of what prices we set, it would be a game-changer. Furthermore for the economy, if the tax revenue is spent wisely, it would contribute significantly to the ascendancy of the country.

**EB:** *Given these energy shifts, what do you believe is the optimal energy mix for the Philippines?*

**LUIS MIGUEL ABOITIZ:** The optimal energy mix in the Philippines is a finely balanced challenge. If we want to provide a cheap source of power, coal is the foremost source. Yet, coal has its vices. Firstly, it is imported, which leaves us vulnerable to supply and foreign exchange risk, which leads to fluctuation in the price of electricity. As a result, we want to ideally integrate a local supply of renewable energy into our power supply matrix. Yet, this comes at a higher cost. Ultimately, a core question is how much more are you willing to pay for energy security .

Secondly, there are a number of places in the Philippines where you cannot avoid having diesel power plants. As a result, diesel will always contribute a certain proportion to our energy mix.

Thirdly, in line with global trends and to combat global warming, there has been a shift towards clean, renewable energy. This is a challenge that everyone is eager to confront but not everybody can agree how far we should go. On a per-capita basis, we have a large percentage of our energy from gas, hydro and geothermal sources. As such, from a reduced carbon footprint perspective, we are at the front of the pack, including countries in the western world.

**EB:** *Certain names in the Philippines are synonymous with particular power source – the Lopez Group are leaders in geothermal and Alcantara is the Mindanao champion. How does the Aboitiz Group attempt to position itself?*

**LUIS MIGUEL ABOITIZ:** There is no one area that we have attached ourselves to. We have diver-

sified beyond hydro and today operate across different energy sources. We are also in Mindanao and producing geothermal, and like everyone we run Independent Power Producers (IPPs). There is no marketing push to try and shape one, cohesive image. We will provide power where and when it makes sense to do so.

**EB:** *The Aboitiz Group is consistently recognized in international surveys as one of the best conglomerates in the Philippines. What is the secret behind your success?*

**LUIS MIGUEL ABOITIZ:** Our business model is unique because our operations are diversified. For instance in power, we have not limited ourselves to a specific geographical location or a particular energy technology. This enables us to be adaptable and flexible, whilst also spreading out our risk. Our competitive advantage can be found in this broad strategy. We strive to be low key; we do not want to brand ourselves in one way. As long as our customers are satisfied, we are happy.

**EB:** *What do you see as the future for power generation in the Philippines?*

**LUIS MIGUEL ABOITIZ:** It is conceivable that in five years' time, the Philippines will be the most competitive power market in Asia. Over the next few years, we are likely to have eight or nine large major players in power, namely SMC, Lopez, ourselves, Alcantara, Ayala, Filinvest, Trans-Asia Energy, Meralco and DMCI. There are also five different groups trying to put up LNG, which if successful will easily advance them to top two. All of this activity will facilitate competition and thereby lower prices.

Nevertheless, for foreign investors, the market will be difficult to enter because of the market muscle of the existing players: we essentially already have a surplus. There is a gap right now, but capacity construction is already in motion to fill that temporary market hole. Potentially, the gap could be closed as soon as 2017 or 2018.

## INTERVIEW WITH:

# Eduardo V. Francisco, President - BDO Capital



*EnergyBoardroom: Despite the buzz, clean tech funds worldwide have not yielded the expected results yet, and some say that the global dash for gas will affect Renewable Energy investment. What is your perspective?*

**EDUARDO V. FRANCISCO:** I believe that the impact in the Philippines should not be significant. Foreign investors continue to look at the renewable space in our country and have committed capital for it. There is of course significant need for renewable energy: the Philippines is tweaking the feed-in tariff (FIT) awarding process and some other small issues. In any case, in the medium term, as the percentage of the renewable energy is quite small, five percent, there will always be enough demand. That is one of the luxuries that we enjoy in the Philippines: there will always be enough demand as the big local conglomerates are so flush with capital that they can finance projects by themselves. But of course, foreign investors have a lot of interest here, especially clean tech and renewable energy funds.

In fact, when local conglomerates are bidding for these projects, they are able to bid more aggressively and justify lower returns because they are comfortable with the country risk where they don't have to put a premium. In those cases, everyone ends up winning and projects get awarded by built.

*EB: Considering that there is so much liquidity in the system today, which kind of renewable energy projects would BDO capital like to finance? Where do you see the biggest opportunities?*

**EDUARDO V. FRANCISCO:** In terms of renewable energy the total financing amount can be easily be funded solely by the local banks. It is really the allocation of FIT that com-

plicates the funding structure as it only gets awarded when the project is complete. Some sponsors have done it on a corporate finance basis where we lend based on the sponsor's balance sheet.

To do it on a project finance basis becomes complicated as lenders have no assurance yet on the revenues. There have to be credit enhancements or some guarantees if sponsors want us to finance their projects even without a FIT.

The key issue is not really us: rather, the issue has really been because of the change in the DOE rules about when FIT is awarded. It is the classic case of what comes first—the chicken or the egg. They want us to finance the project and then they will decide, only after, if they are giving the FIT.

*EB: Most of the renewable energy developers have been saying that there is a bit of a gap in terms of short-term loans versus understanding that renewable energy requires long-term investment. What do you have to say to those that complain about the short loan conditions offered?*

**EDUARDO V. FRANCISCO:** Local banks are now able to provide long term financing. The decision is not whether to give short or term finance. Our clients need term financing as these are major capital expenditures and need time to repay the debt. But what is really happening in the renewable energy space is that the companies who don't have the sponsors with deep pockets are the ones having difficulties in getting their finance. It is difficult to give companies financing if we're not sure that they will be awarded a FIT. Here is where we have to do structure deals: we have to have some credit enhancement in place. In other words, if you are a sponsor and you want the money today without the FIT, you



Eduardo V. Francisco, PRESIDENT - BDO CAPITAL

have to mitigate the risk of not getting FIT and having the cash flows to repay the project debt.

Of course, collaborating with local partners is one of the most important factors for successful operations in Asia and is the area where many foreign investors fail. Why is BDO capital the best choice in order to finance energy projects in the Philippines?

Being focused in the Philippines, our added value is that we know all the energy players. We have lent to almost all the energy companies to date. We have close ties with the generation, transmission and distribution players. Also, our portfolio has become even more extensive. BDO has been involved in majority of the large power projects in the country in the last decade.

BDO keeps its ears close to the ground on what is happening in the power industry. We also know what is happening in the provinces. We have branches all over the country, which give us as much exposure as possible, and help us validate demand and supply.

The other aspect of BDO that is unique is that generally, while we are the financial adviser and arranger, we always invite our corporate bank to be a lead lender. We try to take 51 percent of the deal. We aim for majority so that throughout the life of the loan we have something at that stage and we are very involved in updates, discussions if there are any changes.

***EB: Where would you like to see BDO Capital in the coming years?***

**EDUARDO V. FRANCISCO:** The challenge is to anticipate where we are heading. The country's growth has been faster than even we expected. Despite all these power plants that have been built, we do realize that we still need more. The challenge for us is to know how to be able to give support to all the new players that will come in and how to work with them. We do not want brown-outs in the next few years. We are ready to support the sponsors. The money is there. We are just waiting for the right projects.

In terms of priorities, renewable energy



is sexy but frankly speaking, majority of our energy exposure book will still be going to coal. That is our bread and butter. That is effectively the cheapest in terms of dollars per megawatt. That is the one where we can mitigate a lot of the risk, except for the environment, although now we are promoting clean coal. Coal companies are willing to spend more and use new technology. We are definitely comfortable with that and on top of that their financing is there. If it can be done and if the local communities accept it we want and we are ready to bring the Philippines to the next stage. With that, at least our growth will not be impeded by the lack of power. I recognize that power is relatively expensive but I would rather have expensive power than not have power at all. It is unfair to say that our power prices are not competitive or very expensive. We are not subsidised: it is as simple as that.

## INTERVIEW WITH:

# Antonie de Wilde, CEO - Emerging Power Inc.



*EnergyBoardroom: Renewable energy advocate Al Gore recently declared that “geothermal energy is potentially the largest – and presently the most misunderstood – source of energy in the world.” Can you put this into the Filipino context – what is the state of play for geothermal today?*

**ANTONIE DE WILDE:** Geothermal is without doubt one of the most reliable sources of energy and one that brings significant additional benefits. You don't know when the wind will blow and you don't know when the sun will shine, but geothermal can always be relied upon to be there. Geothermal is also a secure resource in the sense that it does not suffer from exposure to climate change or from fossil fuel price volatility.

Geothermal energy's strongest characteristic, however, is the price for consumers and it is this that makes it especially pertinent to the Filipino context. The Philippines is notorious for having the fourth highest electricity rates in the world and, as a result, average unit electricity consumption per Filipino household is half that of Indonesia.

Here in the Philippines, the maximum price increase for geothermal generated electricity will only be one to two percent because steam is not part of international fuel markets, there is no price volatility. You cannot sell or buy steam. You have to use it locally and as a result it is protected from the fluctuating cost of other fuels. In our power purchasing agreement, therefore, only minor price increases are included mostly related to changes in the cost of living.

*EB: What are the challenges to investing in the energy sector, and more specifically geothermal?*

**ANTONIE DE WILDE:** The problem is that there is no long term debt financing available in the Philippines. Secondly the EPIRA system does not facilitate competition. The market is dom-

inated by 3 main players, who do not have to be efficient, and who do not have to plan strategically in purchasing their fuel requirements, as the system has passed on all the inefficiencies of the operators to the consumers. The consumers pay for their losses.

Meanwhile the Filipino government is failing in its duty to protect consumers. The Wholesale Electricity Spot Market (WESM) is essentially a monopoly where there is only one buyer and not enough supply. The government is supposed to adhere to an industry standard for reserves, but the reality is that the National Grid and Power Corporation has 30 percent too little power throughout the whole of the WESM so there's always a shortage and electricity prices therefore can easily be manipulated. As a result, private capital aspiring to invest in geothermal faces almost insurmountable problems.

The Renewable Energy law was passed with a feed-in tariff for wind and geothermal, but you are only entitled to it if you have a power purchase agreement and are actually already operating. This is absurd because it is precisely in the pre-operation phase when developers need to show the bankers at the time of construction, that they have a cash-flow through their PPA and the approved feed-in-tariff, to repay the debt they need to construct the plants.

In the Philippines, investors have to shoulder both a geothermal risk and a market risk. In most other emerging countries that market risk is covered. This represents a significant deterrence.

*EB: With all of these challenges, why is Emerging Power still here today?*

**ANTONIE DE WILDE:** Well, first of all, the geothermal facility we are building in Mindoro is not connected to the grid: we sell directly to an electric cooperative on a take-or-pay basis. Because Mindoro is still dependent on diesel, their cur-



Mr Antonie de Wilde, CEO - EMERGING POWER INC.

rent electricity prices are very high and total some 12 to 16 pesos per KW hour. However the Mindorans only pay the socially accepted power tariff that is set by the Energy Regulatory Commission, which currently stands at 5.64 pesos. The rest is subsidized by the rest of the Philippines. With our facility, we are able to offer a price of 5.64, which eradicates the need for a Mindoro subsidy and contrasts starkly with the four peso price hike that Meralco recently announced.

In terms of geothermal risk, we have had to look at innovative financial arrangements. Ordinarily it is very difficult to secure commercial risk insurance for a geothermal plant. We have responded to this situation in the same way that a shopper opts for a sachet of shampoo instead of buying the whole bottle. We possess a duplet production well and a reinjection well and I am currently negotiating a commercial risk insurance for that well to produce a minimum of 3.6 MW based on temperature and flow. Once I have drilled my first two wells I will close the first insurance and take out coverage at the same rate for my next two wells. This way it becomes much more affordable for all parties concerned.

**EB: What should be the ideal public/private investment split?**

**ANTONIE DE WILDE:** The ideal public private split

*The Filipino government is failing in its duty to protect consumers. The Wholesale Electricity Spot Market (WESM) is essentially a monopoly where there is only one buyer and not enough supply.*

for geothermal investment is exploration. If you go back to traditional financing, commercial banks normally start to provide debt finance to a geothermal field if 50 percent of the resources are proven. The government therefore really needs to take care of that first few wells to prove the geothermal resource.

Meanwhile the World Bank and International Finance Corporation (IFC) have now provided early financing via instruments such as the Clean Technology Fund (CTF). The CTF program in Indonesia makes long term finance available for private investors at subsidized interest rates of 1 to 3%. Here in the Philippines, however, the CTF money has been directed towards establishing an electric car assembly plant which means not for generating sustainable energy, but for using energy that is not available, thus further increasing the cost of electricity for the customers.

### Proposed and approved feed-in tariff rates

(in Php/kWh)

Technology	Proposed by RE Developers			NREB	ERC	Degression Rates	
	Jun-10	Oct-10	Nov-10	Apr-10	Apr-11		Jul-12
Biomass 1/	9.84	11.48	9.94	8.22	7	6.63	0.5% after 2nd Yr.
Run-of-river Hydro 2/	7.8	7.44	7.4	6.56	6.15	5.9	0.5% after 2nd Yr.
Solar 3/	22.64	23.81	20.55	19.11	17.95	9.68	6% after 1st Yr.
Wind	11.23	11.92	11.85	11.29	10.37	8.53	0.5% after 2nd Yr.
Ocean	18.52	18.52	18.52	18.52	17.65	Deferred	None

1/ for a solid biomass project

2/ for a project with capacity between 1MW and 10 MW

3/ for a ground-mounted project with more than 500kW capacity

Source: Department of Energy - Philippines

## INTERVIEW WITH:

# Edgar O. Chua, Chairman - Shell companies in the Philippines



*EnergyBoardroom: Given that the Philippines critically needs to reduce its dependency on imported fossil fuels, do you believe the current energy roadmap is geared towards exploring the country's indigenous resources in order to assure energy stability/ security?*

**EDGAR O. CHUA, CHAIRMAN:** We have seen improvements in how the Philippine government addresses the issue of energy security. Given the expanding population in the country and its corresponding energy needs, the government has tried hard and continues to address the issue of resource constraints and dependency on imported fossil fuels through energy mix planning. Unfortunately, efforts to address these issues are frequently stalled by different policy regimes. Hence, it has become imperative for the new administration to articulate a firmer and stronger energy mix policy - one that incentivizes the use of cleaner energy.

Shell is considered a pioneer in the Philippine oil exploration industry as your legacy can be traced back to 1897. What has been the winning formula for Shell Philippines' success over the decades?

The key to our success is the company's long-term view in every investment we place. We look at how our investments can impact local communities - how we can generate employment and business growth in the areas where we work. In every project we do, we always keep our values and business principles anchored on the core values of honesty, integrity and care for people. We don't exist for profit alone. Shell Philippines is a trusted brand. Long-term commitment to our stakeholders is the key to our success.

And all these you can see through our 100 years of legacy in the Philippines. From a small trading firm formed in 1914 selling kerosene for Filipino household use, Shell Philippines has grown to be a leader in the power, energy, and gas technology sectors worldwide

and is today a part of Philippine national life.

*EB: Could you please expand a bit more about the impact on the local community that you just mentioned?*

**EDGAR O. CHUA, CHAIRMAN:** Shell Philippines has always worked hand in hand with our communities. We also make sure that they are all engaged in our investments, projects and activities. Through our local content policy, we have used local materials and employed local talent in all our projects throughout the country. In 1982, we even put up the Pilipinas Shell Foundation Inc. to manage and implement all the social projects of Shell.

On top of our impact to the communities, Shell has also made huge economic contribution to the Philippines through its multi-billion investments in retail network expansion, oil and gas refinery management and operations and by employing employees in downstream, upstream and business process outsourcing companies. From six employees in 1914, it now employs more than 4,000 Filipinos. The company has also started reaching more provinces and more consumers by diversifying its products and installing depots in strategic areas.

*EB: Where do we find the growth of Shell Philippines today? Where do you see the biggest opportunities for the coming years?*

**EDGAR O. CHUA, CHAIRMAN:**

The growth of Shell Philippines is in our Shell Business Service Center (SBSC-Manila). SBSC provides processing services related to finance, human resources, procurement, customer services and other business needs of Shell companies around the world. SBSC-Manila has grown from less than 50 staff in 2004 to more than 4,000 employees in 2014, making it the biggest of six Shell Business Services Centers across the globe. Its expansion is testimony to the Filipino professionals' world-class ser-





vice and a significant contribution to the Shell Group's operational excellence.

**EB: What is the current status of the Malampaya Natural Gas project, the “golden boy” of Shell Philippines?**

**EDGAR O. CHUA, CHAIRMAN:** Since it began operations in 2001, the Malampaya project has produced cleaner-burning natural gas that supplies three power plants in Batangas, with a combined capacity of 2,700 MW. Natural gas from Malampaya is currently used to provide approximately 30 percent of the country's power needs.

The project is now in its next stages of development, Malampaya Phases two and three, which aim to maintain current levels of natural gas production. Phase two recently drilled two more production wells using the ENSCO 8504 drill rig's innovative drilling technology. The Shell team worked hard to safely maintain gas production from the current production wells while drilling was ongoing. Phase three is the addition of a second gas platform beside the existing one. This will house two additional gas compressors to sustain the flow gas from the Malampaya gas reservoir. This platform, by design, is being fabricated in the country which will enable technology transfer to the country to allow the country to position itself as a credible supplier of services, construction of platforms and other fabrication requirements for the oil and gas industry.

On top of that, we are building our first ever oil platform, which will enable us to position the country as a credible supplier of services, construction of platforms and high tech requirements for the oil and gas industry.

**EB: You have worked in Shell for 35 years around the world. What has been one of the most rewarding projects you've been part of?**

**EDGAR O. CHUA, CHAIRMAN:** Definitely one of our CSR programs: “Movement against Malaria”. Malaria remains to be one of the world's deadliest diseases to this day, and controlling this disease in the Philippines has proven to be very difficult, especially in remote areas where access to basic healthcare facilities is limited. Fortunately, we at Shell have found a way to help make Filipinos more equipped to battle this dreaded disease.

In 1999, we established our anti-malaria program called “Kilusan Ligtas Malaria in Palawan” at the site of the Malampaya Deep Water Gas-to-Power Project. Since then, our program has expanded to 40 other Malaria-endemic provinces in the country. This program, in partnership with the Department of Health and the local government units, and with the support from The Global Fund, has been instrumental in reducing Malaria mortality rate by 90 percent across the country. It has touched the lives of over 8.5 million Filipinos in the process, uplifting their states of health along the way.

## INTERVIEW WITH:

# Mike Wootton, CEO - Langogan Power Corporation (LPC)

LPC

Langogan Power Corp.

*EnergyBoardroom: In your weekly column with the Manila Times you write extensively about the 2001 EPIRA privatization process and advocate renationalization as the only way to sort out the 'infinite barriers to commercializing renewables'. Could you please give us a brief summary of your thoughts on this?*

**MIKE WOOTTON:** My view is that the EPIRA was thoroughly inappropriate to the Filipino context. Basically the privatizations were completed too fast, too soon and the IMF is partly responsible because they were pushing for wholesale deregulation. The result of EPIRA has been to transform the local power sector into a national family business by concentrating 80 percent of the main power generation in the hands of a handful of private entities that had no prior experience of the power process. San Miguel's expertise, for example, was in beer and sausages. The energy business is highly complex and no place for amateurs. Underdeveloped economies, like the one we have here in the Philippines, need some sort of glue to stick the power sector together and make it function in a coordinated fashion.

*EB: How then do you evaluate the prospects for hydropower development here in the Philippines?*

**MIKE WOOTTON:** The Philippines, with its mountains, rivers and more than 7,000 islands, would on the face of it appear to be a great prospect for small scale hydropower development. Nevertheless there remain significant impediments to realizing this potential. On the one hand, large multinational energy companies are never likely to invest in run-of-river hydro because of the small margins of return on investment. Meanwhile many local developers don't make the grade because they

simply don't have the financial muscle to be able to persevere for the length of time it takes a project to reach fruition. The delay experienced by our Langogan project is a case in point of just how long projects can take before construction can begin; 7 years from start of pre-development work to now. Most local entrepreneurs, in spite of their genuine enthusiasm, just don't have the staying power to remain in the game that long.

Financing often represents a formidable barrier to entry. The Feed in Tarrif (FiT) is simply not fit for purpose. The rates are too low to be attractive. Even the concept of project financing is little understood in the Philippines, which is why the recently announced World Bank initiatives to guarantee debt for small hydro projects are so welcome to young entrepreneurs. These are all messages that need to be conveyed to the government and the best way to do that may well be to establish a developer's lobby group strong enough to make its voice heard.

The regulatory environment for renewables is a big challenge. Coal is a main focus for on grid areas and this enthusiasm even trickles into the off grid areas where coal is going to be a much more obvious blot on the environment. The regulations are not stable, new ideas and interpretations of the RE Law are continually being introduced which lessen the attractiveness for investment in the sector.

*EB: The idea for your 6.8 MW flagship Langogan hydro project in Palawan was originally conceived back in 2007. The project was then awarded official approval by the Department of Energy in 2010. What is the status of your project portfolio today?*

**MIKE WOOTTON:** We are now at the stage where we possess two service contracts.



Mr Mike Wootton, CEO - LANGOGAN POWER CORPORATION (LPC)

One is for that 6.8 MW project near Puerto Princesa City. The other is for a five MW facility in Narra which will be rolled out in two phases with the second phase adding a further five MW. We have the financing, permits and contractor bidding in place and are ready to start construction as soon as an appropriate party can be found to sign an electricity sales contract.

Our original intent was, of course, to sign the electricity sales agreement with the local electric cooperative, but sadly that body has shown not only little interest but have also actively resisted buying renewable power. We have therefore decided to instead approach the NPC who are enthusiastic about hydropower and have a presence in Palawan.

**EB:** *Why are the electric cooperatives so resistant to renewable energy when that could offer a much more affordable option to the end consumer?*

**MIKE WOOTTON:** One main reason is that they don't understand how to integrate renewables into the existing power base. Palawan is primarily diesel fueled at the moment and there is a high degree of wariness on the part of the electric cooperative about how to introduce renewables into that mix, especially as unconventional energy sources tend to be seasonally variable. They don't have the expertise, know-how or the awareness and for that reason LPC much prefers to work with the NPC who have both an established track record and the requisite understanding.

There is actually a regulatory move at the moment striving to empower the electric cooperatives in the SPUG areas. I feel this would be a massive step backwards because the electric cooperatives are simply not capable of taking on that level of responsibility. Their experience is in distribution and the alleviation of brownouts. To suddenly put them in charge of the main transmission systems, generation and dispatch would be disastrous. The push to dissolve the NPC has been remorseless and misguided.

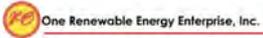
*The regulations are not stable, new ideas and interpretations of the RE Law are continually being introduced which lessen the attractiveness for investment in the sector.*

**EB:** *What is in store for LPC over the next five years?*

**MIKE WOOTTON:** Getting the sales agreement signed is absolutely critical. Once we've done that we can get 20 MW in the pipeline up and running. The next step would be to look towards expanding to 50 MW over a period of a few years. We also have some interest in Indonesia small hydro. The investment environment for renewables is a bit clearer there than it is here.

## INTERVIEW WITH:

# Erel B. Narida, President - One Renewable Energy Enterprise, Inc



**EnergyBoardroom:** *What opportunities did you see in renewable energy, when Shell decided to de-prioritize its renewable business in the Philippines?*

**EREL B. NARIDA:** One Renewable Energy Enterprise, Inc (OREEI) was born out of my commitment to continue the work that I started as Operations Manager for Shell Solar Philippines Corp. This gave me the opportunity to see first-hand the positive impact of bringing solar energy to remote rural communities where it is most needed. When Shell decided to de-prioritize their renewable energy business and scale it down, some veterans of the company's renewable energy division realized it was imperative for us to take on the challenge.

Whilst a start-up business requires initial capital, the bigger investment which is the network partners and market development was already in place, hence, what we really invested was sweat capital and the tenacity to evolve and take care of the market. Our biggest adjustment was to scale down our operating expenditures and move with agility and imagination to address our customers' needs.

**EB:** *How did you manage to find the necessary financial resources to move forward with One Renewable?*

**EREL B. NARIDA:** The package that I received from Shell allowed me to move ahead with my project. Our first contract was to complete the after sales service that formed part of the three year warranty of the systems that were previously installed by Shell. The strategy of OREEi was to re-engage the SSPCs network business partners of SSPC who were either pursuing other businesses or continued small scale solar projects. If I may say it is in sync with the popular green mantra reuse, reduce and recycle.

One major difference in the approach of OREEi, however, was that we did not hire them as employees but encouraged them to expand and build their own businesses. OREEi supplied them with equipment, project design, costing and installation. This strategy is double edged and benefits both parties: it does not burden OREEi with huge overheads and at the same time creates sustainable sources of livelihood that helps our economy.

**EB:** *OREE's approach is to build a network of partners who are incentivized to keep people using the solar-powered systems. What types of partners are you targeting?*

**EREL B. NARIDA:** OREEi's approach is to develop a region, rather than a particular partner, this means entire communities benefit instead of a few individuals. Our focus for the next three years is the Autonomous Region of Muslim Mindanao where the rural electrification ratio per household is one of the lowest.

In a recently signed partnership with one of our local social impact investors, we committed to delivering 26,000 solar systems to these homes by 2016. This is an exciting new market for OREEi and in preparation we went to Indonesia to study the Shariya compliant financing.

**EB:** *As an integrator specializing in fitting renewable energy systems for rural electrification areas, what have been the major challenges that you faced in some of your projects?*

**EREL B. NARIDA:** For our operations, our biggest challenge is logistics since the Philippines is made up of 7,100 islands. From the business side, however, the biggest challenge is financing as many of our customers do not have regular incomes or do not have access to banks. The most effec-



Erel B. Narida, PRESIDENT - ONE RENEWABLE ENERGY ENTERPRISE, INC

tive way of bridging this gap is to develop a partnership with a micro-finance institution.

**EB:** *Which are your main priorities today as a company?*

**EREL B. NARIDA:** We recognize that in order to expand the business we need to create market awareness and demand for solar systems as a viable alternative to electrify homes not only for off grid areas but also to generate savings for electrified areas with a high cost of power. However, we also have the capability to build large solar systems for commercial use. A major milestone for the company was the work we did for the Zuellig building.

The Zuellig Building invested in an On-Grid Solar Power system that requires minimal maintenance and promises substantial long-term energy savings to promote environmental sustainability. OREE was responsible for the integration of the solar PV system.

There are many people today who are still skeptical of renewable energy products as a viable sources of energy because these systems are perceived to be very expensive and have limited economic use. However, when they drive through the commercial district of Makati and see the Zuellig building and realize that the PHP 7 billion (USD 160 million) building uses solar power, they suddenly take on a different view of the product. The Zuellig building is a living testament and a very convincing concrete statement that indeed solar power is here.

What is amazing about this technology is its ability to be scalable, meaning the panels we installed in Zuellig are exactly the same as those used for small households.

**EB:** *Massive investment in renewable energy is necessary for the development of energy security. Who do you foresee will be taking on the bill?*

**EREL B. NARIDA:** I believe that the more sustainable market is in rural retail. It is a Need Market. For this segment, Micro

*The biggest challenge is financing as many of our customers do not have regular incomes or do not have access to banks.*

Finance Institutions (MFIs) are the most efficient and effective means of financing. Meanwhile, the big commercial or urban development projects give us the financial muscle to continue our rural retail operations.

For small businesses to be encouraged to use solar systems for commercial use, the most viable terms of payment is a Power Purchase Agreement (PPA). Under this arrangement, an investor who owns the solar grid can offer a long-term contract that offers solar power at a discount from the current cost of electricity from utility companies. The PPA will allow businesses to benefit long term without the burden of debt for acquisition of expensive capital expenditure so they can carry on business as usual.

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