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Philippines Moratorium on Greenfield Coal Projects Will Attract USD 30 Billion in Renewable Energy Investment

Policymakers and Industry Leaders Ready To Embrace More Cost-Effective Clean Energy Options

The Department of Energy (DOE) has called for a moratorium on greenfield coal power plants. The DOE decision marks a clear break with past policies and comes as the Philippines prioritizes the need for more flexible and lower cost alternatives to thermal power baseload.

The Department of Finance's leadership continues to make clear the aim to shift investors to clean energy resources and green technologies. They have also indicated their determination to make economic development more inclusive and communities more resilient.

This announcement is the end-result of an urgent policy review which began at the start of the year and addresses power market problems that were exacerbated by the pandemic. It also comes as Super Typhoon Rolly delivers a firm reminder about the importance of flexible grids and decentralized modular renewable energy generation for both lower prices and improved power sector resilience.

At a meeting of the Committee on Energy in the House of Representatives on 13 May 2020, the Department of Energy announced it was studying a moratorium on inflexible plants because the inflexibility of key power grids has led to regular outages and increased disruption due to more volatile demand patterns.

In May 2020 alone, coal-fired power units were responsible for 60% of these outages. Coal plants are unable to operate below a minimum stable value due to their inherent inflexibility. As a result, they are forced to shut off. Moreover, to be able to take advantage of low-cost renewable energy, the grid will need to be upgraded to support more variability and integrate new smart grid technologies.

The moratorium on greenfield coal power plants means that new planned coal projects will no longer receive permits from the Department of Energy. This is a welcome development because power sector stakeholders can now prioritize modern renewable energy and storage projects that can deliver lower costs and price stability while delivering domestic energy security.

Compared with its Asian peers, the Philippines has uncompetitively high electricity prices. That means the new generation of deflationary renewables provide an immediate opportunity to improve the power system's cost-competitiveness.

In contrast with more developed global power markets, Southeast Asia and South Asia have been the last bastions of coal growth. The DOE's new policy stance makes it clear that Philippine policymakers and industry leaders are now ready to embrace more cost-effective clean energy options.

By modernizing the power system and pivoting away from over-reliance on baseload coal, there will be a meaningful market opportunity for those companies that can master new technology options and deliver lower costs for consumers and industry, as well as domestic energy security through renewable energy.

The coal moratorium reflects DOE's efforts to save investors from unprofitable coal projects.

The coal moratorium reflects the importance that the DOE places on efforts to take stranded asset risk out of the system and save investors from unprofitable coal projects.

The Department of Energy is also sending a clear message to power sector investors: Those looking to sell expensive, outdated coal technology to developing countries overseas are no longer welcome while those domestic and foreign investors looking to invest in modern renewable energy technologies can expect more supportive policies that will prepare the market for a more diverse generation mix.

Which Projects Will Be Impacted by the Moratorium on New Coal Plants?

The impact of the coal moratorium will fall most heavily on the Luzon grid and the project development aspirations of San Miguel and Meralco.

Table 1 below highlights that over 10 gigawatts (GW) of greenfield coal plants are affected by the moratorium, 82.1% of which was planned for Luzon and Meralco's distribution system.

Table 1: Coal Capacity Affected by the Moratorium

Committed			
Luzon	**Visayas**	**Mindanao**	**Total**
1800 MW	135 MW	270 MW	2205 MW
Indicative			
Luzon	**Visayas**	**Mindanao**	**Total**
7075 MW	600 MW	928 MW	8603 MW

Table 2 highlights the potential projects that will be impacted and that will lose out in the technological disruption set to benefit households and industry.

Tables 1 and 2 indicate that San Miguel and Meralco have over 3GW and 2.5GW respectively exposed to the policy change.

Table 2: Potential Projects Impacted

Plant Name	Capacity (MW)	Location	Owner	Key Player
AOE Coal-Fired Power Plant	1200	Atimonan, Quezon	Atimonan One Energy	Meralco
RPEI Coal-Fired Power Plant	600	Sitio Naglatore, Cawag, Subic Bay Freeport Zone	Redondo Peninsula Energy, Inc.	Meralco
H & WB PCB Supercritical Coal-Fired Power Plant	700	Jose Panganiban, Camarines Norte	H&WB Asia Pacific (Pte Ltd) Corporation	SME
2x500 MW KEPCO Pangasinan Coal-Fired Power Plant	1000	Sual, Pangasinan	KEPCO Philippines Corporation	KEPCO (Korea)
Quezon Coal Fired Thermal Plant Project	1200	Tagkawayan, Quezon	Orion Pacific Prime Energy, Inc.	SME
SRPGC 2x350MW Coal-Fired Power Plant Project	700	Brgy. San Rafael, Calaca, Batangas	MGEN and Semirara (50-50)	Meralco
SMC Circulating Fluidized Bed Coal-Fired Power Plant	600	Brgy. Ibabang Polo, Pagbilao, Quezon	San Miguel Corporation	San Miguel
Global Luzon Coal-Fired Power Plant	670	Brgys. Carisquis and Nalvo Sur, Luna, La Union	Global Business Power Corporation	JG Summit/ Meralco
Merbau Coal Fired Thermal Power Plant	600	Brgy. Pinamukan Ibaba, Batangas City	JG Summit Holdings, Inc.	JG Summit
SMC Circulating Fluidized Bed Coal-Fired Power Plant	600	Sariaya, Quezon	San Miguel Corporation	San Miguel
SMC Supercritical Pulverized Coal Thermal	1005	Masinloc, Zambales	San Miguel Corporation	San Miguel
Palm Concepcion Coal-Fired Power Plant	135	Brgy. Nipa, Concepcion, Iloilo	A Brown Company Incorporated	SME
SMC Loboc Malabuyoc Coal-Fired Power Plant Project	300	Mactan, Cebu	San Miguel Corporation	San Miguel
SMC Global Negros Coal-Fired Power Plant Project	300	San Carlos, Negros Occidental	San Miguel Corporation	San Miguel
FDC-MPC CFB Coal-Fired Power Plant	270	Misamis Oriental	Filinvest Development Corporation	Filinvest
Ozamiz Coal Fired Power Plant	300	Brgy. Pulot, Ozamiz City, Misamis Occidental	Avesco Marketing Corporation	SME
Plant Name	**Capacity (MW)**	**Location**	**Owner**	**Key Player**
SMC Malita Coal Power Project Phase II	300	Brgy. Culaman, Malita, Davao Occidental	San Miguel Corporation	San Miguel
SMC Global PowerCoal-Fired Power Plant	328	Brgy. Darong, Santa Cruz, Davao del Sur	San Miguel Corporation	San Miguel

Source: DOE (2020): Luzon Committed *and* Indicative*; Visayas* Committed *and* Indicative*; Mindanao* Committed.

Note: SME is Small and Medium-Sized Enterprise.

Philippines power industry leaders should be well positioned to shed these high cost projects. While San Miguel and Meralco both have outdated technology in their pipeline, they have also positioned themselves to be part of the energy modernization.

San Miguel is actively seeking to invest in 10GW of renewable energy as well as storage over the next 10 years, indicating that it intends to capture one-third of the existing renewable energy pipeline in the Philippines.

Meralco's generation subsidiary has also made strides in renewable energy, developing floating solar and plans to deploy 1GW of renewable energy over the next 4 to 6 years.

San Miguel and Meralco have positioned themselves to be part of the energy modernization.

Other players will have a significant impact on the tone of the market as well. Ayala Corporation should emerge as a winner with 1.8GW of renewables in operation and under construction. This reflects its decision to offload fossil fuel assets in 2019 and to expand into renewable energy infrastructure across Southeast Asia, India and Australia.

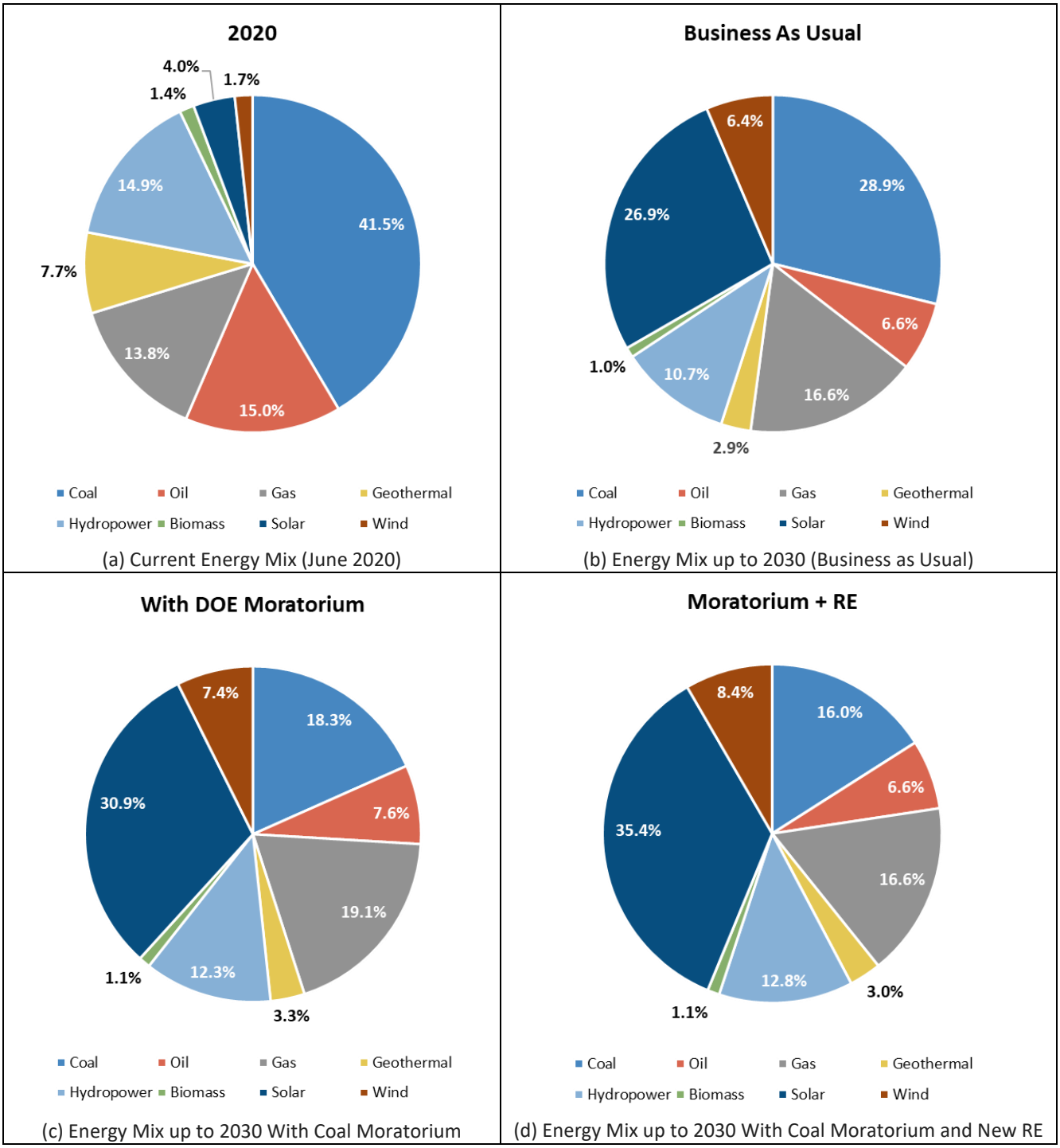
Other players that can benefit from this shift include China's state-owned enterprises, Chinese solar and storage manufacturers and on-shore and off-shore wind developers across the region.

The DOE and the Energy Regulatory Commission (ERC) have not yet released updated plans on market development that reflect the coal moratorium. That leaves questions unanswered about the target generation mix and the planned structure of a more diverse power market. The DOE in coordination with the National Renewable Energy Board should immediately update the National Renewable Energy Program (NREP) to reflect the policy shift from centralized baseload plants to distributed generation and the preference for indigenous and clean energy. The NREP should also be incorporated into the Philippine Energy Plan as well as the Power Development Plan.

IEEFA estimates indicate that the deflationary price trajectory of domestic renewable electricity generation and storage triumphs over the cost of generating power by large fossil fuelled power plants.

Figure 1 illustrates potential supply mix impacts of the moratorium where coal generation is cut from its current 41.5% share in the supply mix to 16.0%. Solar and wind energy could then increase from 5.4% to 43.8%, presenting a conservatively valued investment opportunity for both domestic and international investors and developers of over USD 30 billion over the next decade.

Figure 1: Supply Mix Impacts



Source: DOE (2020): Luzon Committed *and* Indicative*; Visayas* Committed *and* Indicative*; Mindanao* Committed *and* Indicative*;* Dependable Capacity.

The market's ability to benefit fully from the coal moratorium and a shift to improved power sector resilience through decentralized and modular renewable energy will rest in part on new policy measures implemented by the ERC. Two steps could prove crucial to giving the coal moratorium real teeth in the context of market operations.

The first would be to remove fuel cost pass-throughs for end users. This would redirect market incentives and bring an end to the scenario where independent power producer (IPP) developers can pass on fuel price risks to consumers who have no ability to hedge the risk. Fixed cost procurement by grid operators like Meralco would enforce more market discipline and improve market transparency for consumers and developers.

A second step that could prepare the market for a higher mix of variable power—and create new incentives for storage and system balancing—would be a carve out clause that would permit the market operator to curtail inflexible baseload coal IPPs. Unless the system operator can freely dispatch the lowest cost power, developers will lack confidence about whether the market structure will be responsive to new low-cost projects. Without a clear regulatory signal on this issue, investors may channel their capital to other regional markets offering a clearer risk-reward signal for renewables.

About IEEFA

The Institute for Energy Economics and Financial Analysis (IEEFA) examines issues related to energy markets, trends and policies. The Institute's mission is to accelerate the transition to a diverse, sustainable and profitable energy economy. www.ieefa.org

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