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## Getting Our Act Together

Creating an Enabling Environment to Support an Optimal Energy Mix for a Climate-Smart Philippines



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## The Philippines is in the midst of rapid change. **It's time to get our act together.**

With economic growth surging over the past six years, the Philippines is set to transition to a high-income economy with an average annual GDP growth rate of 7% and an average annual per capita income growth of 5.96%. Favorable demographics including a younger and more connected workforce alongside the emergence of a vibrant and aggressive private sector are altogether allowing the Philippines to compete with its neighbors in Southeast Asia in ways that are expanding the service and industry sectors. Indeed, it would appear the country is positioned to meet its ambitions of delivering an inclusive and secure Philippines by 2040. **And yet, will this inclusive and secure Philippines by 2040 have the right energy mix to power its growth into the long-term and the proper safeguards to protect its citizens most at risk from the impacts of climate change?**

### **Indeed, some key questions remain unanswered:**

- Why should government treat climate change as a priority policy agenda in the midst of its growth ambitions? How should the country's institutions work towards climate-proofing the economy in line with its global commitments?
- How do we ensure that secure, reliable, and sustainable energy is effectively and efficiently delivered, while providing enough flexibility for the country to take advantage of new disruptive technologies and business models in the global energy arena?
- How should government create the enabling environment to foster investment, innovation, and growth in the climate and energy sectors?



### **Climate-Proofing our Development Agenda**

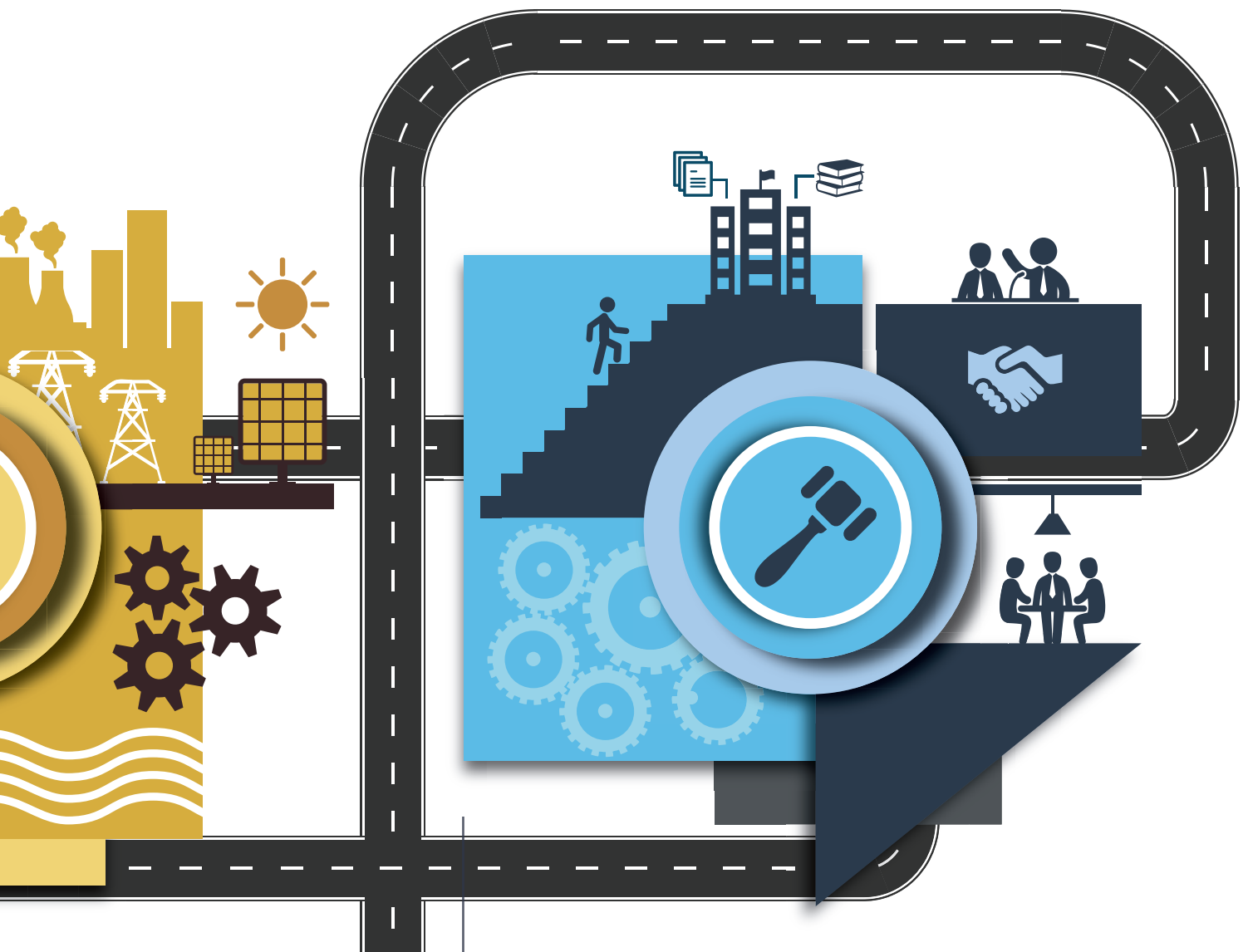
Ownership of climate change as a priority agenda enables the Philippines to climate-proof its growth

### **Optimizing our Energy Mix**

Diversification sets the stage for a secure, equitable, and sustainable energy mix

**The Ateneo School of Government** and **SSG Advisors** are proud to present the policy brief series entitled: **GETTING OUR ACT TOGETHER**. This policy brief series brings together insights and recommendations in the realms of climate and energy and crystallizes a clear policy direction for the Philippines to secure its growth ambitions. It draws from current thinking from the public, private and academic sectors and argues for a priority policy agenda that clearly sets the pathway for how climate and energy can and should drive inclusive development for the next decade.

We push for cooperation between the public and the private sector around an agenda to **GET OUR ACT TOGETHER**:



### **Creating an Enabling Environment to Support an Optimal Energy Mix for a Climate-Smart Philippines**

Prioritizing an enabling environment allows the government and the private sector to more efficiently meet the country's growth ambitions and energy requirements

# Getting Our Act Together:

## Creating an Enabling Environment to Support an Optimal Energy Mix for a Climate-Smart Philippines

Change is happening fast in power industries worldwide. With climate change awareness increasing and its impact already manifesting, there is a general consensus among nations to move towards a cleaner energy mix. Scaling-up the use of clean energy is seen to achieve potential benefits, among them: (i) enhanced access to energy for underprivileged populations by addressing deficient energy supply (energy poverty); (ii) increased energy security by lessening dependence on unreliable sources; and (iii) combating climate change through the mitigation of greenhouse gases (GHGs) in the most critical emitting sector of economic activity, alongside anticipated Nationally Determined Contributions (NDCs) under the UNFCCC.<sup>1</sup> Growing political interests led to the introduction and expansion of clean energy policies and have driven unprecedented levels of activity in the sector, in terms of investments in clean energy technologies.<sup>2</sup> The drive for a cleaner energy mix is accompanied by advances, not just in clean

energy technologies, but also in the electric power systems, particularly in the deployment of smart grid technologies that allow for the integration of more renewable energy and distributed generation into the system, and demand response and customer engagement.

Across several countries, many are anticipating that the power industry in the next ten years will already be characterized by the following: a) cleaner electricity generation mix, with lower carbon emissions; b) the power grid will increasingly integrate a mix of central and distributed resources; c) the power grid will become more digital, more controllable, and more interconnected; d) a mix of entities—both utilities and other companies—will provide distributed energy resources both on the supply side and the demand side; and e) suppliers—both utilities and others—will offer customers a wide range of individualized and customized services.<sup>3</sup>

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<sup>1</sup> Enabling the Energy Transition and Scale-Up of Clean Energy Technologies: Options for the Global Trade System Ricardo Meléndez-Ortiz on behalf of the E15 Expert Group on Clean Energy Technologies and the Trade System • [http://www3.weforum.org/docs/E15/WEF\\_Clean\\_Energy\\_Technologies\\_report\\_2015\\_1401.pdf](http://www3.weforum.org/docs/E15/WEF_Clean_Energy_Technologies_report_2015_1401.pdf)

<sup>2</sup> Ibid.

<sup>3</sup> Lisa Wood, Vice President, The Edison Foundation and Executive Director, Institute for Electric Innovation, Thought Leaders Speak Out: Key Trends Driving Change in the Electric Power Industry • [http://www.edisonfoundation.net/iei/Documents/IEI\\_ThoughtLeadersSpeakOut\\_Final.pdf](http://www.edisonfoundation.net/iei/Documents/IEI_ThoughtLeadersSpeakOut_Final.pdf)

Each country's pursuit for a cleaner energy mix is unique and the issues they face differ. For developing countries like the Philippines, strong economic growth is fueled by and results to higher energy demand. To sustain growth, such demand has to be met both in terms of additional generation capacity and grid infrastructure investments. With the Philippines owning the distinction of having one of the highest electricity rates in Asia, the challenge is to address security and reliability considerations in the context of achieving a cleaner energy mix at the least cost to electricity consumers. The task is intimidating and the sooner these seemingly divergent policies are untangled

and harmonized, the easier it will be for government to plan for how to transition to an optimal energy mix that supports a climate-smart economic development for the Philippines. With the new administration crafting the country's energy plan for 2016 through 2030,<sup>4</sup> there is a window of opportunity to create an enabling environment that will cater to and balance environmental, energy, and economic policy objectives, for the guidance of the private sector whose participation and cooperation are essential in ensuring its success.

The Philippines has a clear legal framework for engaging industry within the power sector. Beyond this framework, what is urgently needed is a comprehensive government roadmap that sets the policy direction and sends a clear signal to the private sector around key priorities that consider climate change and an optimal energy mix.



Even prior to the enactment of Republic Act No. 9136, otherwise known as the Electric Power Industry Reform Act (EPIRA), the private sector has already been allowed to participate and invest in the power industry. Under EPIRA, however, the power industry is transformed into one that is purely power-sector-driven, with government, through the National Power Corporation (NPC), being relegated to the provision of missionary electrification service. This addresses the private sector's concerns on discrimination and absence of a level-playing field if NPC were to remain their competitor in the market. At the same time, NPC's privatization ensures the entry of more private entities in the generation sector, each competing with the others for the supply to the market.

The EPIRA calls also for the carving out of transmission from NPC and the de-coupling of retail supply from the distribution mandate of distribution utilities, with the end in view of introducing competition, not just in generation, but in the retail supply as well, putting them beyond the rate-making powers of the industry regulator, the Energy Regulatory Commission (ERC). For this to be realized, it lays down several preconditions, most of which are geared towards engendering more private sector participation. In the transmission sector, although still regulated, private sector participation is also prescribed.

The Department of Energy (DOE) is tasked with the overall supervision of the power industry. It is vested with ample



powers and functions to steer the industry towards the outcomes envisaged in the law. Among other functions, it is charged with the formulation of “policies for the planning and implementation of a comprehensive program for the efficient supply and economical use of energy consistent with the approved national economic plan and with the policies on environmental protection and conservation and maintenance of ecological balance, and provide a mechanism for the integration, rationalization, and coordination of the various energy programs of the Government.”<sup>5</sup> It is bound to “develop and update annually the existing Philippine Energy Plan, which shall provide for an integrated and comprehensive exploration, development, utilization, distribution, and conservation of energy resources, with preferential bias for environment-friendly, indigenous, and low-cost sources of energy.”<sup>6</sup> The DOE is also mandated to “prepare and update annually a Power Development Program (PDP), which considers “the individual or joint development plans of the transmission, generation, and distribution sectors of the electric power industry,”<sup>7</sup> and integrate the same into the Philippine Energy Plan.”<sup>8</sup>

Recognizing the crucial role of the private sector in the restructured power industry, the EPIRA tasks the DOE to “encourage private sector investments in the electricity sector” and to “promote a system of incentives to encourage industry participants, including new generating companies and end-users to provide adequate and reliable electric supply.”<sup>10</sup>

The private sector’s critical role in seeing through the realization of EPIRA is reinforced under Republic Act No. 9513, otherwise known as the Renewable Energy (RE) Act of 2008. The RE Act reiterates and expands its objective “to promote the utilization of indigenous and new and renewable energy resources in power generation in order to reduce dependence on imported energy.”<sup>11</sup> To accomplish this objective, the set-up under EPIRA where DOE is lead agency in charge of policy and planning is maintained. The RE Act further tasks the DOE to develop the RE Policy Framework, which “identifies the goals and targets for the development and utilization of renewable energy in the country.”<sup>12</sup>

Fiscal and non-fiscal incentives that address concerns on costs, lack of market, and financing, among others, are also dangled to private sector to allow for more investment in renewable energy. Among these incentives are the Feed-in Tariff (FIT) Program and Net-Metering, both of which are already in place. In the few years that they have been in effect, they have been proven effective, notwithstanding all implementation challenges and design limitations, in ushering the private sector’s foray into RE. Other incentive mechanisms, such as the Renewable Portfolio Standards (RPS) and the RE market, and the Green Energy Option, have yet to be operationalized, but these are expected to reinforce the encouragement for the private sector to place their investment in RE and thus help achieve the DOE’s RE targets for the country’s generation mix.

For RE development, the state has not disengaged entirely from generation. As owner of “all forces of potential energy and other natural resource,”<sup>13</sup> it reiterates its prerogative to undertake by itself “the exploration, development, production, and utilization of natural resources” or “enter into co-production, joint venture or co-production sharing agreements with Filipino citizens or corporations or associations at least sixty percent (60%) of whose capital is owned by Filipinos.”<sup>14</sup> On this basis, unlike for energy projects that do not involve exploration, development, and utilization of natural resources, a private developer has to apply, qualify, and secure an RE service contract before proceeding with the development of the project. Through this requirement, government has retained a large degree of influence on the private sector in terms of what RE projects will be developed and where they will be located. As what the FIT Program design has provided, particularly the linking of FIT eligibility to installation targets set by the DOE and what initial consultations on the RPS have revealed, this influence is further heightened by the government’s ability to calibrate the pace at which RE development and deployment are to take place.

<sup>4</sup> Victor V. Saulon, New Energy Plan readied, *Business World*, S1, page 4.

<sup>5</sup> Section 37 (a), EPIRA

<sup>6</sup> Section 37 (b), EPIRA

<sup>7</sup> Section 37 (c), EPIRA

<sup>8</sup> Section 37 (c), EPIRA

<sup>9</sup> Section 37 (e), EPIRA

<sup>10</sup> Section 37 (e), EPIRA

<sup>9</sup> Section 37 (e), EPIRA

<sup>10</sup> Section 37 (e), EPIRA

<sup>11</sup> Section 2(h), EPIRA

<sup>12</sup> Section 4(rr), RA 9513

<sup>13</sup> Section 19(A), Rule 6, Rules and Regulations Implementing RA 9513

<sup>14</sup> Section 19(B), Rule 6, Rules and Regulations Implementing RA 9513



This roadmap should first and foremost establish the strategic intent of government across some fundamental issues that immediately need to be resolved and declared.



### Optimal energy mix and demand growth.

Generating adequate and reliable supply to meet continuous demand growth has been the main driver for the leadership of the power sector since the 1990's power crisis. The recent years of sustained economic growth combined with the deterioration of the aging power plants built during the crisis have made bridging the supply gap even more urgent. Large central stations operating on fossil fuel have been the default response to all shortages while quick build PV plants have been recently proposed as appropriate responses.

It is within that context that the question of the optimal energy mix has been raised. Absent a clear criterion for determining optimality, the question is at best vague. When considered against a supply gap wherein there are default supply options, the question only leads to greater divergence between what is aspired for and what is executed. When related to energy use, the question regains some of its original relevance. It would be paraphrased as follows, "what mix of energy resources can best supply the demand for a particular set of energy uses?" A meaningful search for an optimal mix may also require reference to the original goal and objectives of the energy industry in the Philippines but now with clearer operational definitions, as well as, metrics.



### Fewer GHG emissions

The supply of power has always lagged demand since the 1990's power crisis, except for a brief oversupply as a result of the entry of Independent Power Producers (IPP). Surprisingly, the percentage of renewable energy on an installed basis was as high as 67% as recently as 1998. This was a result of earlier policy preferring indigenous sources of energy over imported ones.

Meeting demand with supply primarily from fossil fuel was never a goal or objective of the power sector. That central power

stations using fossil fuel have become the default was the result of a policy approach "following the path of least resistance." Because fossil plants could be scaled up easily leading to lower unit costs, they were preferred over renewables that were site specific and limited in scale by the resource availability. More importantly, coal plants were preferred because they were baseload plants while RE, particularly wind and solar, generated intermittent and therefore non-dispatchable power. Policy overlooked the possibility of building flexibility in the generation mix, as well as in the demand and transport that would enable greater use of renewables, including the attendant GHG emissions that need to be addressed in line with the country's commitment under the UNFCCC.



### Cost, pollution and the RE Incentive mechanisms

That compliance with environment laws will always cost more than non-compliance is almost a truism. While that may be so on a project basis, it not true on a societal basis. Pollution is always costlier than any effort to avoid it. Environmental laws are meant to ensure that private profits are not built on public costs. In the area of climate change, public costs are more difficult to measure, not because they are so small but rather because they are so large. It does not behoove the energy leadership to ignore them for the parochial interests of the energy sector, only to have the country, indeed the world, pay the costs. Compliance then should be viewed as a way of limiting societal costs.

Surprising as it may sound, renewable energy incentives were never developed solely with the environment or climate change objectives in mind. They were meant to subsidize technologies that did not utilize fuel, primarily, fossil fuel, thereby removing a key element of cost from the provision of energy. Moreover, incentives were meant to be limited. It was foreseen that at some point conversion technologies would be able to generate power at costs similar to that of central power stations using fossil fuels. While it was also foreseen that most renewable energy sources would remain intermittent, increasing its availability was thought possible through increasing the flexibility of demand and transport, and lowering the cost of storage. RE incentives then are not meant to offset any inherent costliness in renewables relative to fossil fuels. Understanding that will be key in addressing questions of optimal energy mix.



## National security and local autonomy

The irony with viewing energy as a national security issue is that those who demand energy security as a necessity for their way of life often do not want to take responsibility for the power plants that enable that security. This is especially true of local governments. LGUs and power companies have often clashed with the siting of power plants despite the argument that these developments provide energy security needed for local economic development. Moreover, based on some feedback from many power plant owners and managers, there is a perception that LGUs sometimes charge extremely high business fees. The Local Government Code has indeed presented a dilemma for power companies when it comes to planning investments and implementing projects on the ground.

There is an opinion that if LGUs have strong discretion in allowing or disallowing the siting of nationally strategic power plants, then it should be within the power of the state to provide an LGU with power from plants located elsewhere. Add to that, there is the perspective that if LGUs have the discretion to charge a power business any fee and amount it wishes, then power businesses should also be able to charge that LGU and its citizens a commensurate amount to recover business costs.

Setting aside these mutually assured destruction scenarios, it is high time that a clear accommodation be made among state, business and LGU in respect of operating power businesses. Today, LGU prerogatives are a great unknown in power systems planning. Any move toward greater clarity will make for better power plans. Adding the uncertainty of the status quo to policy drift will only ensure the worst possible results.

**Secondly, the roadmap should establish a deliberate set of energy, environmental, and economic objectives, in contrast to the current tendency of merely describing incoming supply and demand.**

Planning should be able to determine not just supply and demand, but it should be able to link and put together the various energy, environmental, and economic policies, to provide for a clear pathway towards stated governmental objectives. This, for instance, includes the country's ambitions to become a high-income economy, that is fully able to adapt to the impacts of climate change and be flexible enough to capitalize on rapid technological changes for low-carbon growth. Additionally, this should go beyond just providing the investors with the government's demand projections, by being more definite in terms of what particular plants should be built, when they should be built, and where they should be built and connected, based on the load, the characteristics of the transmission and distribution networks, existing transmission and distribution plans, GHG emission reduction commitments, survey of potential sites, available resources, and other relevant factors. It should define and consider least cost options in generation planning and be able to utilize existing transmission assets and obviate the need for additional transmission investments. It should also consider

providing stimulus to managing, reducing and shifting demand to make more efficient use of existing capacities and avoid the need for investments in additional supply for peaking power.

Planning for transmission and distribution needs to be integrated to the overall planning for the power sector that DOE undertakes. These parts of the power system cannot be planned and decided upon separately by individual network operators, whose priorities and motivations are different from those in generation. Government should take the lead role in grid planning and provide the utilities with clear directions for their investments in smart grid technologies that add more flexibility to the power system, allow for higher RE penetrations, support development of distributed generation using RE, and promote energy efficiency activities. A consideration of all these is what will lead to an optimal energy mix, with the question of optimality being decided not just by low, medium, or high RE scenarios, but also by considering economic efficiency, security, and affordability.



Thirdly, the roadmap should be able to produce the balance among seemingly conflicting goals of energy security, equity, and sustainability.

**Taking cue from President Duterte’s priority to disperse development to areas outside Metro Manila and drive new growth hubs, regional planning based on a portfolio approach is critical.** Planning should go beyond simply listing the proposed energy projects relayed to it or indicated by the private sector to the DOE, under a non-binding and open-dated disclosure. Planning requires a lot more than just statistics and forecasts. The planning process, given the objectives of EPIRA and the RE Act, should be able to produce the balance among seemingly conflicting goals of energy security, affordability, and a clean energy mix.

Among these goals that have to be well-defined at the start of each planning exercise are the following:

**Security.** Security of supply is the first objective contained in the statement of policy in the law creating the Department of Energy. The Statement clarifies its intent by stating that the ultimate goal of the law is self-reliance later calling it self-sufficiency. This echoes back to the time when the first DOE was created. It was a time when the Philippines was almost completely dependent on foreign sources for its energy needs. Strangely enough, the country had not moved far from that dependence. Despite the discovery and use of indigenous sources of energy, most of oil and coal are still imported. The notion of self-sufficiency may have been deleterious to achieving the objective of practical security. Today, security is interpreted simply as adequacy of supply which, at least in the power sector, remains out of reach.

**Access and Cost.** These objectives are in the statement of policy in the term, “economic” which is often read as “available” and “affordable”. Although making energy available and affordable to all electricity consumers is indeed a stated goal, government actions have not always been consistent with that goal.

In the area of electrification, the government has continually supported electric distribution utilities

despite the overwhelming evidence that the same have not performed well on their mandate to provide power to all consumers. Absent continuing support, most of the electric cooperatives would likely be unable to carry out their electrification mandates.

In the area of power supply, government has been drifting between requiring that energy prices reflect true costs and adding taxes to them and subsidizing certain types of power such as those supplied in the isolated grids (so-called “missionary electrification” areas) and renewable energy (through the FIT Allowance) and passing the cost thereof to the consumer. All told, the goal of economic energy may be within view but nevertheless unattainable.

**Pollution and Carbon Emissions.** The statement of policy refers to pollution in the phrase, “without sacrificing ecological concerns.” Since the DOE Act was passed in 1992, adherence to this objective meant compliance with the law on environmental impact statements primarily focused on pollution. As the collective understanding of environmental impacts expanded to include carbon emissions, climate policy began to shape energy policy. Today, GHG mitigation potential is as much a driver of energy policy as the objectives stated in the law. However, it has remained extraneous to the institutions of energy and has led only to divergent energy development pathways. The Paris commitments are a case in point. The Philippines had committed to reduce its carbon emissions by 70% in the year 2030 from its baseline year. No one in the energy sector believes that can be done.

When the goals of planning are sometimes competing and where there is no effort to reconcile them in a coherent plan of action, confusion is added to ineffectiveness. The situation is at its worst when different planning imperatives such as climate change create completely divergent paths.



## In so doing, the government actively integrates all aspects of power development under an inclusive planning process.

Planning for the power sector was formally documented in the Power Development Plan (PDP) which before and shortly after EPIRA was crafted by the NPC. The plan had a 25-year horizon and was issued annually. It contained generation and transmission development plans which were well coordinated. Post-EPIRA, the responsibility for the Transmission Development Plan (TDP) was ceded to TransCo, spun off from NPC and thereafter to the grid concessionaire, the NGCP. Generation planning was assigned to the DOE. NGCP had the capacity to undertake TDPs having subsumed most of the personnel of TransCo. The DOE, on the other hand, despite training in power planning, never stepped beyond providing the sector with its demand forecasts and statistics, and maintaining a register of planned and committed power plants culled from information provided by the private power companies.

Before EPIRA, the NPC was responsible for both planning and implementation in the power sector. Even when it had no resources to build its own power plants such as immediately after the power crisis in the early 1990's, NPC ensured that the IPP plants were built and operated according to its overall plan.

After EPIRA, power plants are planned and built almost solely on the discretion of their owners, while NGCP builds out the

transmission grid based on its approved submission to the ERC. While still coordinated to some extent, through the TDP consultation process, planning in the generation sector is now performed in silos of the private companies and planning for the grid has become less responsive to these generation plans. Planning in the two areas has started to further drift apart and this has impacted on the projects that are built, the timing of completion, and the costs of the projects.

The RE Act's FIT Program as currently designed and implemented exacerbated the situation. Because RE plants were sited based on the availability of the renewable resource and were relatively quicker to build than the standard central station conventional power plant, many RE plants owners soon found that they had to build their own transmission lines to connect to the main grid. Even when built along transmission lines, some RE plant owners found that those lines were not sufficient to evacuate all the power their plants produced. The situation with the RE plants especially those under the 500 MW of solar PV installation target has yet to be resolved. It seems that there are many provisions of EPIRA and the RE Law that could benefit from a more rigorous reconciliation and more coordinated planning.

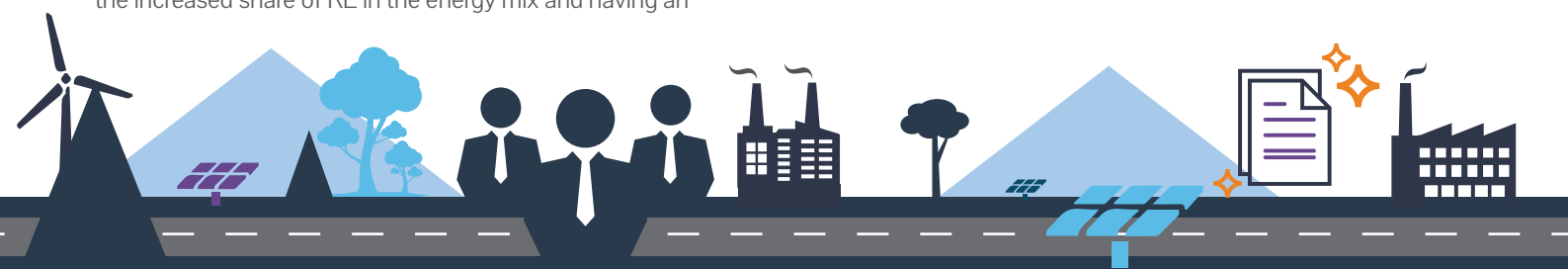
## Mechanisms and strategies also have to be put in place to ensure that the private sector responds and works toward the implementation of the roadmap.

Once the plans are drawn up, government must ensure that they are implemented. This presupposes that mechanisms are in place to ensure private sector participation. The barriers they currently face have to be overcome starting with streamlining the permitting processes, identification of generation zones where local permitting and connection are addressed, implementation of existing incentive mechanisms, and easing of the regulatory processes for obtaining approvals for offtake agreements and certificates of compliance to operate.

Government should not stop at having an aspiration as regards the increased share of RE in the energy mix and having an

aggressive NDC. Its plans need to be properly communicated to provide guidance and certainty to all stakeholders. Government also should assuage fears that its plans are fleeting and transitory. It does not foster investments if despite the plans' clarity and comprehensiveness, private sector continues to operate under the assumption that plans can change at any time.

There is still danger that despite all well-laid out plans, investments still will not happen or if they do, they are not in the technologies that will make the optimal energy mix target and the NDCs reality.



It is why merely relying on market forces to influence the investment decisions of the private sector is no longer desirable under this new regime. From market signals alone, if the private sector sees an opportunity to earn huge returns, they will put their money on the line and pursue projects, whether RE or conventional. If investment in coal gives the proponents higher and safer returns, they will gravitate towards that until an oversupply will drive prices down and endanger the returns for future coal projects. If higher emission standards or carbon taxes for coal are imposed, and these affect coal's competitiveness as against other technologies and lower return expectations, private sector will have second thoughts on coal. This, however, will not ensure that future investments will be made in less polluting technologies or in RE. Private capital may simply seek opportunities outside the power sector, thereby threatening security of supply. Market forces alone will not address the multifarious objectives that government seeks to realize, even with well-crafted plans and all measures to encourage private sector participation in place.

Strategies have to be adopted to allow government and not just the market to influence the behavior of the private sector.

**From a regulatory perspective, standards should be established for the selection of technologies to be deployed by the private sector. Recognizing that compliance to these standards will entail costs, mechanisms should be in place to define how the attendant costs are to be recovered.**

By law, generation companies' offtake agreements with distribution utilities have to be submitted, reviewed, and approved by the ERC. Hence, although their sector is deregulated, they are subject to the ERC's rate-making authority over the distribution utilities' retail rates and covered by the least cost supply requirement under EPIRA.

The ERC enforces the least cost supply requirement by subjecting the offtake agreements submitted to it to a thorough and lengthy review. Generation companies are required to participate in these proceedings and disclose, support, and justify all their cost assumptions underpinning the pricing structure agreed upon in the agreements. Distribution utilities defend their need for the contracted supply and disclose the selection process undertaken. Considering the cost-based pricing methodology employed by the ERC, there is an inherent

It is incumbent upon government to make sure that private sector will work consistently with the plans formulated with the OEM and NDC goals in mind. Short of giving out concessions, one way is for the DOE to use its endorsements as a tool for selecting which projects are built, much like the award of service contracts for RE. This way, government can dictate how much new capacity needs to be built, when and where, what types of technology, and, if these were to be adopted as a policy, what GHG mitigation measures need to be incorporated. All these have already been predetermined as outcomes of the planning process undertaken, to take into account demand forecasts, availability of transmission, acceptability of the project with the host local governments, the OEM and NDC, among others. Such DOE endorsement carries with it the assurance to the project proponent and its funders that the project is aligned with the plans, that it can be built at the chosen location, and that it can be connected, without need of additional investments in transmission capacity. By having a screening process for power plant projects at the start of project development, investors are not made to unnecessarily incur costs only to realize later that they cannot build.

advantage to the cheaper baseload plants and those with dependable generation over other technologies. These plants' per unit costs are more certain and lower in the case of baseload plants, as compared to other types of supply, particularly the intermittent RE. Their external costs, particularly for coal plants, are also not factored in in the price evaluation. At the same time, given the current methodology, their fuel risks are minimized, with the full pass-through of their fuel costs allowed by ERC. No wonder, when the sole criterion is cost and the objective of the regulatory exercise is to determine the lowest price without taking into account external costs, the default and preferred fuel for private sector investment in recent years has become coal. This, notwithstanding that it is the most carbon-intensive. Natural gas, given the higher capital costs required to put up the necessary infrastructure and the economies of scale needed for its price to be cost-efficient, cannot thrive in this regulatory environment.



Even within technologies, given the current approach to the supply agreement review, there is also the distinct advantage of existing plants over plants to be constructed, as plant investment costs vary across time, depending on the economic and legal conditions prevailing at the time the investment is made. The older plants may have been built at a time when capital costs were cheaper or, in the case of the privatized plants, when state subsidies or guarantees were extended. They possess the competitive edge over plants of the same technology that are still to be built, although their reliability and availability may already be in question. Investors in new capacities, aside from having to contend with new standards and other requirements that may be put in place, have to overcome consumer preference for cheaper supply as officially sanctioned by ERC's methodology. The environmental mandates under the law have to be observed

by all the plants, whether conventional or RE, new or old. Standards for each technology once prescribed should apply to all, be enforced by regulation and monitored during the life of the plants. If the decision is to hold on to the use of coal, at least until an alternative cost-competitive and comparable supply becomes available, but reduce GHG emissions by mandating only certain kinds of coal technologies to be built or requiring certain mitigating measures to be in place such as carbon capture and storage, regulation also has to assure compliance and cost recovery even if it means the consumers are to pay more for electricity. By doing so, coal's price advantage over other technologies is blunted and, with the right mix of policies to make natural gas cost-efficient, natural gas can overlap with coal in the merit order, thereby increasing its market potential and making it attractive for the private sector to invest.

**Finally, the roadmap should take into account the barriers hindering private sector investments, as well as the proposals to address them.**

Fifteen years after EPIRA's passage, and despite the privatization of almost all of NPC's assets and entry of new players, several of EPIRA's objectives have remained unfulfilled. Critics of EPIRA say that the privatization scheme only served to create oligopolies in the generation and distribution sectors, which hindered free and fair competition and endangered long-term supply security. They point to the fact that market shares in generation have largely been concentrated in four groups of generators and their affiliates, with prices of electricity increasing and no real competition happening in the sector. The investment framework has already been put in place in EPIRA. The governance structure has been defined and roles of government, through its instrumentalities – the DOE and the ERC, clearly delineated. The market has been primed for entry of the private sector and competition. The WESM has been set up

to allow for projects to be built even without offtake contracts. Open access has been mandated and retail competition has started. In short, the Philippines has observed known best practices that would have made investing in the power sector an irresistible proposition. And yet, investments have been difficult to come.

Notwithstanding the existence of a legal and regulatory framework to govern the restructured power industry, to secure private investment and advance policies on assuring “socially and environmentally compatible energy sources” and promotion of “indigenous and new and renewable energy resources” the challenges faced by the private sector are numerous and daunting to many.



### **Barrier 1 : Complicated permitting processes**

Even with its deregulated status, generation is subject to licensing and permitting authorities of various government

instrumentalities, both local and national. Endorsements of the DOE are required at every step of pre-development and development stage, starting from the endorsement to be even allowed to organize into a corporation. Then there are the demands of the host local government units, from the barangays





affected, the councils, the concerned mayors and sanggunians, the provincial government. They all need to sign on for the project to take off. The indigenous peoples in the area, concerned non-governmental organizations, and other elements need also to be satisfied and their concerns addressed. The project proponents need to do the rounds for the requirements of various national government agencies, such as the DENR, BOI, DAR, NCIP, NWRB, BOC, DPWH, and the ERC.

Various proposals have already been made to streamline the permitting process and prevent unnecessary delays. The DOE has initiated the development of an online system called Energy Virtual One Shared System (EVOSS). This can be revived and expanded to include all energy projects. It can provide all stakeholders with a more efficient means of navigating the country’s complex permitting system, starting with the identification of the applicable permits for each project depending on the technology, size, and location. It can be made interactive wherein the proponent will simply have to provide

the information about its proposed project, and it will already then be provided with all the applicable permitting requirements, description of how and where these permits are to be secured; the requirements needed and the steps to be undertaken, the legal fees to be paid, processing time, remedies in case of denial, etc. The system can also facilitate data-sharing among the various government agencies to cut down on the data requirements for submission to each concerned government agency.

The requirements will have to be reviewed also to remove those that are completely unnecessary or irrelevant and eliminate duplications across various government agencies that issue permits for an energy project. Depending on the permit required, there can also be instances when such permit can be deemed issued if not acted upon within the processing time set. This forces strict observance of the declared turnaround times for the permits and holds the government functionaries to account for the delays.



### Barrier 2 : Lack of grid infrastructure

As project proponents navigate through the maze of securing the various permits, endorsements, clearances, authorities, not to mention public acceptability, they then worry about the grid infrastructure needed to connect their projects. If by some misfortune such infrastructure is not available at or reasonably near the project site, they cross another decision point on whether or not to proceed. Project proponents are forced to advance whatever cost is entailed in making possible their grid connection, after conduct of costly impact studies and technical designs and after securing the required regulatory approval for construction of point-to-point facilities, which at

times gets delayed also. Aside from increasing the investment needed for their projects, they incur delay in attending to all the requirements for grid connection. Even after they obtain all requirements, they then face delay in implementation, due to right-of-way problems, among others.

There should be better coordination between the generation and grid planners to address this. An integrated planning approach under the auspices of DOE should facilitate this. The system of rewards and penalties under the rate-setting regime that applies to the grid owner or operator can also be further strengthened to reinforce and ensure implementation of the transmission and distribution plans.



### Barrier 3 : Financing

Project proponents also face financing hurdle. The equity needed for a power plant is huge and raising such capital from willing investors takes time. Securing financing is also tedious and costly. Bank financing for the debt portion of the capitalization

requires at the minimum the execution and approval of offtake agreements between the project proponent and bankable distribution utilities. The wholesale electricity market, with its current design, price uncertainties and price distortion-causing mitigating measures, has not been that successful in producing greenfield merchant plants.







### **Barrier 4 : Delays and conditions in regulatory approvals for offtake agreements**

Negotiating offtake agreements with distribution utilities entails costs and a lot of patience. The impact of the bidding requirement recently imposed on signing offtake agreements, whether or not it expedites the contracting process, makes it more expensive, results to lower generation prices, or discriminates against more expensive or intermittent RE, has yet to be seen. Securing ERC approval at the price level and under terms acceptable to the funders requires a lot more patience. More often than not, pass-on generation rates approved by ERC after a lengthy judicial process are lower than the stipulated pricing. These approvals come with several conditions attached to it, which for all intents and purposes, make the approved rates subject to change. The FIT could have helped as it bypasses this requirement for an offtake agreement. By law, it guarantees the market and price for the proponent. But FIT eligibility has

been subjected by DOE to the “first come, first served” rule with an installation cap and, in the case of solar, a deadline. Consequently, it creates a lot of uncertainties in projecting the revenues of the project if FIT eligibility will be conferred only after the plant is actually constructed. It makes it difficult, if not impossible, to secure debt financing to construct the plant.

The ERC’s current view of the generation and supply sectors can be revisited. Rather than focusing primarily on achieving its objective of advancing consumer welfare through the exercise of its rate-regulation function, it can consider adopting other approaches that will serve also the same objective. It can for instance issue the necessary regulations that further support the development of the market and promote market competition, which are also aligned to the same objective of consumer protection and even encompass other state objectives such as ensuring security of supply and promoting use of renewable energy.



### **Barrier 5 : Existing Incentives Mechanisms for RE**

The FIT Program has been proven effective at incentivizing private investments in wind and solar where it is most needed. DOE statistics support this. It has come at a cost, however, with the FIT Allowance (FIT-All) expected to rise from current level to maintain the FIT-All fund’s solvency. This is in light of the increasing FIT differential payable to qualified RE Developers brought about by the increasing RE generation that needs to be paid at the approved FITs and the downward trajectory of WESM prices due to more RE being traded in the market on a must-dispatch basis. This “merit order” effect of trading more RE in market, the delays in coming out with new FIT installation targets, and the necessity of increasing the FIT-All threaten the sustainability of the FIT Program.

With these uncertainties in the FIT Program, development of several RE projects has been put on hold. Considering also the delay in the RPS implementation, which in part is due to unresolved issues on the setting of quotas and the impact of RPS compliance on electricity prices, the investment environment for RE is quite uncertain.

It is high time for government to consider in its plans how it will implement these mechanisms to achieve its desired energy

mix. It does not mean that RE is to be promoted through these incentive mechanisms at all cost. It is within government’s means to design or redesign these mechanisms to mitigate their impact on electricity prices. What it cannot do is resort to plain inaction to stem any increase in electricity prices and foolishly hope that RE will continue to grow nonetheless.

Indeed, considering the huge capital investments and the legal and regulatory hurdles present in acquiring an NPC plant or contract or in establishing new generation capacities, the uncertainties during the time the privatization process was unfolding, the market and price risks faced by new players, and the permitting challenges, among others, only a few private entities are able to participate in the privatization process or in the development of new power projects, both conventional and renewable. That the privatization process is almost complete and that new power plants, including RE plants have been built or are being built in spite of all these, however, demonstrate the potential of the private sector, which only need to be guided and stoked to produce results consistent with state objectives and closely monitored to ensure protection of the general welfare at all times. These objectives include the attainment of an optimal energy mix for the country (OEM) and compliance to nationally-determined commitments (NDC).

There have been pronouncements that government will hold on to certain generation assets, invest in a gas plant, continue to allow coal, and, after studying the nuclear option, revive and operate the Bataan Nuclear Power Plant. The private sector awaits government’s final word on these matters, as this is crucial for any investment decision to be made. Government should decide soon.

Having faced a string of yellow and red alerts in its first few weeks, the new administration is under pressure to bridge the energy supply gap into the future and explore a range of cheaper and reliable fuel choices from coal, gas, and more recently, nuclear. Government sees the need to mobilize every available resource to prevent shortages, sustain economic growth, ensure security of supply, and bring down electricity prices. As it recognizes that the various objectives need not necessarily be mutually exclusive, it finds itself at the crossroads of having to make hard balancing decisions on very difficult questions: Coal vs. renewable? Gas as transition fuel? Nuclear for baseload? Re-engage in generation? cleaner or cheaper energy mix? Move

ahead with the NDCs? The sooner the answers are found and decisions made, the better for the right investments to happen.

The time to act is now. The various government agencies and instrumentalities need to come together around a common understanding of the energy pathway they want the country to take for the next ten, twenty, or thirty years. They need to decisively settle now what basket of policies that balances the imperative for energy security, economic development, energy equity, and cleaner energy mix, has to be put on the table, and thereafter to commit to vigorously implement them.

### Getting Our Act Together Action Steps

Policy Recommendation	Policy Instrument
Issue a Comprehensive Energy Roadmap Policy that contains the statement of national policy on energy. It sets out in clear terms the various interrelated policy objectives, their prioritization, NDC and other international commitments, the roadmap towards their realization, such as the energy infrastructure needed, etc., for the guidance of energy planners and other executive departments involved in the permitting and implementation of energy projects, and all industry stakeholders	Executive Order creating a multi-agency (DOE, DENR, CCC, NEDA, DOF, DTI, DILG, relevant attached agencies) committee to draft and propose the Statement of National Policy for Energy for approval/adoption by the President  EO on the National Policy for Energy
Align all planning towards this National Policy and ensure consistency across plans. For energy, DOE should take a more active approach to guide private sector on their investments and optimize investments (including investments in energy efficiency projects)	PEP/PDP/TDP/DDP/NREP
Adopt mechanisms to ensure that the right investments are made/encouraged and barriers are addressed or lowered	DOE issuance on the permitting for energy projects, criteria for the grant of its endorsements, standards to be met, to align with DENR issuances on environmental standards  DENR issuance for the environmental standards and streamlined process for securing permits  DILG/NCIP/NWRB etc. issuance addressing local permitting/ IP consent/securing of authority, streamlining/rationalizing the process, particularly for those areas identified as potential generation sites

## Getting Our Act Together Action Steps (continued)

Policy Recommendation	Policy Instrument
<p>Adopt mechanisms to ensure that the right investments are made/encouraged and barriers are addressed or lowered</p>	<p>DTI/BOI/DOF issuances to target incentives available only to projects that are consistent with the plans and to streamline/rationalize permitting process</p> <p>DOE/ERC/PEMC action on possible market rules revision/establishment of new markets in support of the plan</p> <p>DOE/DICT issuance on the platform to streamline permitting process, provide helpful information and assistance to project developers, eliminate duplications in requirements across government agencies</p> <p>DOE issuance on the RE Act incentive mechanisms, energy efficiency, smart grids, to take into account the National Policy</p>
<p>Make regulations work towards achieving the National Policy</p>	<p>ERC issuances/decisions for the adoption of regulatory approaches/evaluation methodologies/regulations that will support timely investments in the right projects/CAPEX, enforce standards, promote market competition, protect consumers, check on misbehavior/non-compliance by any stakeholder, etc.</p>





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