

Headline: The sun beckons to counter climate change

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The Inquirer editorial, "An issue of existence" (8/19/21), provided a cogent reminder, a call to action on the existential threat of climate change. It echoed alarm bells ringing louder concerning global warming as evinced by unprecedented heat waves, droughts, and wildfires in several countries all over, and massive floods in others.

These are also discussed in the most recent report of the Intergovernmental Panel on Climate Change (IPCC)—"Climate Change 2021: The Physical Science Basis." It underscores that human-induced greenhouse gas emissions (carbon dioxide, CO<sub>2</sub>) from fossil fuels have raised the average global temperature by 1.1 degrees Celsius from the pre-industrial age. Absent resolute and concerted actions, it could rise further and even breach the 1.5 degrees Celsius threshold by 2040. The report prompted United Nations Secretary-General António Guterres to issue a "code red for humanity."

Global warming is known to be largely caused by the major industrial and advanced countries, and though smaller and less developed countries are minor contributors, they are likely to be disproportionately impacted by its disastrous consequences. For instance, while the Philippines' share of the world's CO<sub>2</sub> emissions is small at 0.35 percent as of 2016 (steadily growing annually), being an archipelago with thousands of kilometers of shorelines makes it particularly vulnerable to adverse weather conditions.

However, like other developing countries, it can productively act to mitigate and adapt to the adverse effects of global warming, such as avoiding reclamation projects and ramping up the use of renewable energy to supplant fossil fuels.

A little over half a decade back, power from the sun was facilely dismissed hereabouts as impractical, inefficient, and costly, as reflected in the Philippines' highest government-approved feed-in tariff (FIT) rate among renewables, namely, P8.69 per kWh for solar vs P8.53/kWh for wind, and lower still for biomass and hydro, etc. But the FIT for solar power has since been dropped for new installations, as its costs in many parts of the world have plummeted more than 70 percent over the last decade.

The Biden administration wants solar power to account for 40 percent of electricity generation in the US by 2035 from 3.0 percent currently. This objective can possibly be achieved through ample spending and supportive policies such as clean energy tax credits and other incentives (Pippa Stevens, August 2021).

In the Philippines, renewable energy (RE) in toto represents 29 percent of aggregate power supply capacity and 21 percent of electricity generation in 2020. Solar alone accounts for 3.9 percent of the former and 1.35 percent of the latter; wind power, by comparison, contributes 1.7 percent and 1.0 percent, respectively, according to the Department of Energy. Solar is now the fastest growing among the various RE types. From only 2.0 megawatts (MW) in 2011, solar power capacity ratcheted up to 1,048 MW in 2020. Wind power, by contrast, rose from 33 MW in 2011 to 443 MW in 2020 (Statista Research, July 2021).

The dramatic rise in the viability and popularity of solar power can be attributed to technology, innovations in regulation, clean energy tax credits, and financing, especially in the advanced

countries. It no longer needs government subsidies to be price-competitive vis-à-vis such traditional energy sources as coal, natural gas, and nuclear power. The International Energy Agency, which used to be lukewarm about solar power, has turned sanguine, predicting that solar energy will become the single largest source of electricity worldwide. Should that happen, electricity will reach areas such as far-flung off-grid villages in developing countries (Foreign Affairs, March/April, 2015).

It's encouraging that advanced countries, like the United States, Europe in general, and China, among others, are making deliberate moves to shift from toxic fossil fuels to green energy. In the Philippines, there seems little cognizance and appreciation as yet of the social and personal benefits of clean energy. While REs constitute 29 percent of total power supply capacity, there is plenty of room for significantly escalating the adoption of solar power, which continues to drop in price and improve in technical efficiency.

Rooftop solar photovoltaic panels installed on commercial, industrial, and academic buildings in the country's urban centers are by and large still uncommon. The Asian Development Bank is one prominent exception, where solar power satisfies practically most of its daytime electricity requirements, resulting in substantial cost savings. Innovative regulations and fiscal incentives will spur solar power installations in other buildings. Besides benefiting from nontrivial cost savings, owners or renters of these buildings would help ease the demands on the country's scarce power supply. Parenthetically, there could be an added bonus to these buildings as the value of REITs (real estate investment trusts) may be enhanced, benefiting the investors as well.

Rooftop solar panels installation on private houses is beginning to pick up, given the awareness that it can appreciably cut electricity costs, and with net metering that "exports" unused electricity to the DU (distribution utility, e.g. Meralco) toward further reducing one's monthly bill. With storage battery, houses beside buildings could be spared from power interruptions.

All told, renewable energy can greatly help counter climate change. There is wide latitude for ramping up solar power in particular, which has become quite affordable, fairly easy to install, and with benefits that can be private, social, and environmental.

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