

GLOBAL ENERGY TODAY: THE ASIAN NEXUS

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"Bangui Windmills" by Paolo Dala Bangui, Philippines

Article 1

INTRODUCTION

Global energy, we can safely say, has entered a new historical era. Exciting and hopeful on the one hand, this new era also comes with uncertainty and many challenges, as the reports in this series will show. Two fundamental dimensions in energy have changed. First, the center of world energy use has passed from advanced, mostly western nations to the developing world, specifically Asia. For nearly 200 years, Europe and the U.S. were the heart of an evolving, modern energy system. That era ended by 2010. Growth in energy demand had largely ceased in the West and was outstripped by soaring consumption in developing nations. Consider China: its energy use exceeded that of the U.S. in 2009 and is now forecast to be twice U.S. levels by 2040.

The second face of the new era involves a shift in the fuels the world now favors. This energy transition towards low- and non-carbon sources is still in its cradle. Even as it advances, the global fossil fuel realm continues to grow too, in Asia most of all, though at a slowing rate. Powering the shift are concerns over climate change, certainly. But there are other factors, too: lethal air pollution, a convergence between environmentalism and public health, worries over energy security, and also sustained corporate investment in alternative energy technologies.

The transition, however, will

need many decades to mature. Fossil fuels comprise something like a \$30 trillion set of systems that cannot be dismantled quickly. Policy decisions are made difficult, too, by conflicting ideas. Even terms like "clean" and "dirty" cloud matters with polarizing moral judgments. One objective that all can agree on is improving the efficiency of existing energy-consuming technologies, especially those in power plants, homes, and buildings in general.

Asia stands at the center of the new era. By 2030, more than 4 billion people will live here. Yet population alone is not what determines energy use. More important is the level of economic, industrial, and technological development. Today, a majority of the region has only recently entered, or is about to enter, its main phase of

industrial modernization in terms of transport, life styles, and electrification. Nearly 700 million people in Asia have no electricity, while twice that number have it intermittently, a few hours a day, a few days a week. The push for power is now an overwhelming priority. And the choices Asia makes for eliminating energy poverty are of huge importance, since the region's carbon emissions are now greater than the rest of the world combined.

Most Asian nations have signed the Paris Climate Agreement to lower these emissions significantly. But their plans for doing so are highly variable and, in some cases, tentative. Coal, with all its climate and pollution problems, remains the cheapest fuel in the region. If China is scaling its use back, other nations, from Pakistan to Vietnam, are increasing theirs. Many of these nations are also adding non-carbon sources to their energy mix, including hydropower, solar, wind, and nuclear power. Unlike most of the West and Japan, Asia sees no conflict between renewables and nuclear.

Energy realities have also made Asia a center of geopolitics. China's need for fuel has urged it to forge new relationships with countries as different as Iran, Myanmar, Kazakhstan, and Russia. Not only India but Japan, South Korea, and Taiwan are highly dependent on the war-torn Middle East for their oil and would much prefer to shift some of this to the U.S. and Canada, if possible, not Russia. The future seems no more secure than the present. As the following articles make clear, the new energy era has arrived in Asia both with much opportunity and complexity.