Beginning to Look a Lot Like Windsor

In just about two weeks, the Windsor Energy Consultation will gather at the castle of the same name outside London. This marks the 18th consecutive annual Consultation. Each has been held under a royal charter granted by Queen Elizabeth II and held the first week in March while the royal family is in residence at Windsor.

The restricted gathering (rarely more than 50 attendees) is by invitation only and brings together some of the world's most knowledgeable energy experts, practitioners, and policy makers for frank discussions held under the Chatham House Rule. That Rule allows for public acknowledgment of what is said outside of the meetings provided no names are associated with any expressed opinions.

The highlight is always on Saturday afternoon. Then, several of the experts provide a briefing to assembled ambassadors and ministers. The "Ambassadorial Briefing" by tradition is held in the castle's dungeon. The remainder of the sessions take place in the same room where Shakespeare presented the first performance of "The Merry Wives of Windsor." That performance was to Elizabeth I somewhere around 1597!

That latter location, in turn, is close by hallowed St. George's Chapel. Last year's sessions were held during an historic late year snow storm not long before the chapel hosted a much-anticipated royal wedding.

"Frosty" Windsor Castle grounds (St. George's Chapel on the left), March 2018

I have had the distinct privilege to address the plenary sessions and brief the ambassadors at the last eight Windsor Consultations.

Dr. Moors briefing ambassadors in the Dungeon, Windsor Castle

My most recent appearances have considered dimensions and problems emerging in worldwide energy investment.

This year I will be returning to those themes under the rubric of a major new unfolding international move to integrate the next stage of global energy investment.

Today, investment decisions are largely project-driven, investment-return focused, or determinative of national policy priorities. Bringing together analysis, international perspective, research, and the coincidence of country/regional interests in a single ongoing flexible format might prove useful.

I have had personal experiences in reviewing energy problems in several troubled parts of the globe. The inability to provide energy for widening populations is a main blueprint for rising instability.

The Windsor Consultation is an excellent venue at which to unveil the initiative. In addition to major sector figures attending, both the United Nation's International Energy Agency (IEA, based in Paris) and the OPEC-

sponsored International Energy Forum (IEF, headquartered in Riyadh, Saudi Arabia) will be represented.

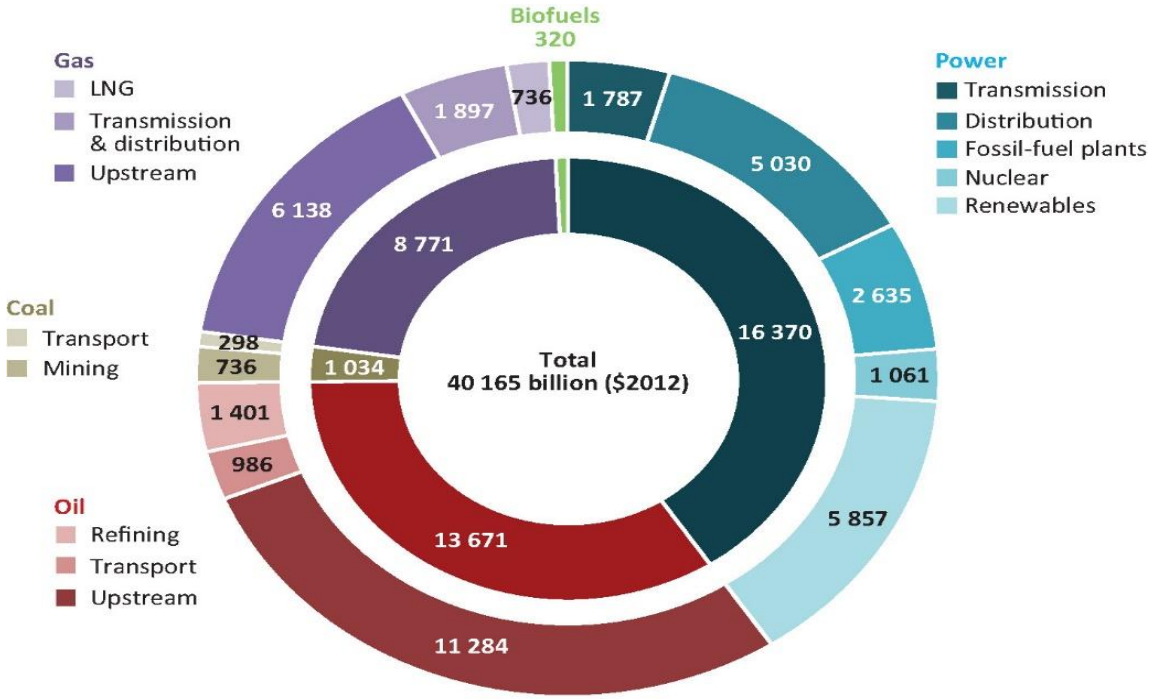
The initiative results from detailed conversations among a worldwide network of global policy and investment folks about establishing a vehicle to coordinate public/private energy investment advisories. This would act as a facilitator for conversations (a "clearing house" of sorts) addressing worldwide energy needs with a special emphasis on the accelerating energy infrastructure crisis.

Over the coming months I will have more to say about how this project is developing and what insights it will provide.

The Price of Supply

But today I want to focus upon a main worry arising from the last several years of study in what is needed in energy and where the investment is likely to go. This concern is an expanding energy infrastructure crisis. It's a crisis that is fast becoming worse. By any standard of measurement, three concerns are paramount.

The first involves the need to replace and expand the available global energy supply. This is what the IEA thinks the energy investment breakdown needs will look like by 2035:



The estimate of a bit more than $40 trillion (in 2012 dollars) assumes extension of what is essentially the current supply breakdown. If, on the other hand, the IEA's *New Policies Scenario* is introduced, the figure increases to $48 trillion ($40 trillion for supply; $8 trillion for efficiency improvements.

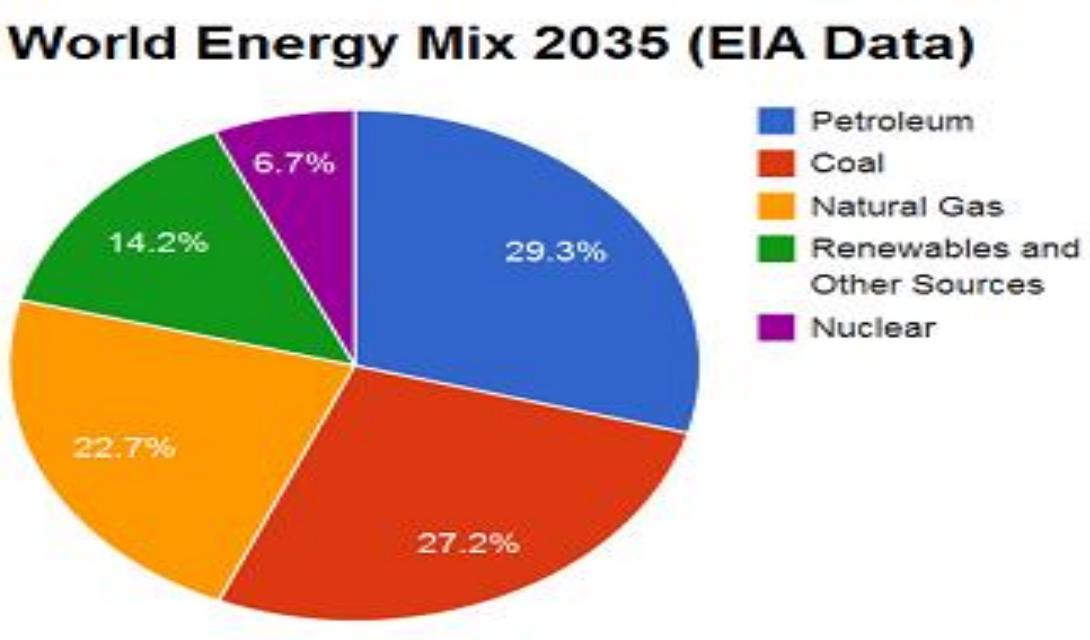
And if the EU's 2º climate change target (the *450* Scenario) is selected, the total moves up to at least $53 trillion (once again in 2012 dollars).

Based on interim rolling projections, my latest estimates (made in September of last year) indicate a shortfall of about $5 trillion by 2025 and almost $16 trillion (40% of the basic $40 trillion figure) by 2035. And this is only to continue the projected rises from the current level of energy availability.

At least 50% of all expenditures are to meet the *current levels of global demand* period, providing no volume increase at all for rising energy usage (a certainty with rising population levels between now and 2035). Additionally, 80% of all aggregate expenditures are in crude oil and natural gas.

Aging Infrastructure as Security Risk

Second, the figures also assume that the present distribution among energy sources will essentially remain the same. While the movement to renewables will comprise the single greatest percentage increase, by 2035 oil, natural gas, and coal will remain the three dominant energy providers. This becomes more apparent as Asia takes over as the main driver of worldwide demand levels. This is how the US Energy Information Administration (EIA) sees the 2035 picture (about the same as IEA and IEF estimates):



Several commentators and analysts (including me) have suggested that the rising infrastructure investment problem provides an opportunity to upgrade and change the upstream-midstream-downstream network of energy distribution. For example, electricity grids in many regions (the US is in this group) are old and well beyond effective performance. Other parts of the globe have a more acute problem. There, rising power shortages and breakdowns will be moving millions of additional people literally into the dark.

This sole factor introduces a security problem of the highest magnitude. Cut off from the basic requirements for life, these “lumpen populations,” as Karl Marx labeled them, provide a rife environment for recruitment into all manner of terrorist and revolutionary movements.

Failing Grades, Fading Prospects

That brings us to the third concern. As the World Energy Council (WEC) discusses in its latest World Energy Trilemma Index 2018 (the entire report is available at https://www.worldenergy.org/publications/2018/trilemma-report-2018/), the access to energy within populations is becoming more difficult.

The WEC survey ranks countries on three elements: energy security; energy sustainability, and energy equity.

This last category considers how much of a nation's population can obtain accessible and affordable energy. Basically, the index gauges how successfully a government manages tradeoffs among the three, assigning each nation a rating of A through D for each of the three elements.

In the latest overall rankings, nine of the top ten are European: Denmark, Switzerland, and Sweden holding down the top three spots; New Zealand the only non-European (coming in eighth). The US is fourteenth, Russia fifty-ninth, China comes in at seventy-eighth (Hong Kong, however, is thirty-eighth), and India is eighty-eighth of the 125 WEC members.

The key to the rising concern is found in this part of the WEC analysis – when Gross Domestic Product is factored in, those having GDP per capita of less than $6,000 overwhelmingly populate the lowest quadrant in the study (## 91 to 125). In most of these cases, energy equity is given the lowest grades of C or D.

Preliminary comparisons of the WEC ratings to a composite of expected energy needs and investment offers an expected and disturbing result. Those nations having the lowest WEC energy equity grades are likely to realize the largest disparity between the energy available and what is needed for basic life moving forward.

This is a humanitarian and security concern of expanding import.

About the Author

Dr. Kent Moors is an internationally recognized expert in oil and natural gas policy, risk management, emerging market economic development, and market risk assessment.

He serves as an advisor to the highest levels of 27 countries, including the U.S., Russian, Kazakh, Chinese, Iraqi, and Kurdish governments, to the governors of several U.S. states, and to the premiers of two Canadian provinces. He's served as a consultant to private companies, financial institutions and law firms in 29 countries, and has appeared more than 2,300 times as a featured radio-and-television commentator. He appears regularly on ABC, BBC, Bloomberg TV, CBS, CNBC, CNN, NBC, Russian RTV, and the Fox Business Network.

A prolific writer and lecturer, his six books, more than 2,700 professional and market publications, and over 650 private/public sector presentations and workshops have appeared in 47 countries.

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