Energy Poverty, Then and Now: How Coal Proponents Have It Wrong

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Introduction: The Coal Promise and the Coal Myth

The promise of coal—past, present and future—is that it can bring affordable electricity to everyone. It's a promise based in myth, however, a story that overlooks costs to public health and the environment and that ignores how coal-fired electricity puts entire economies and national energy security at risk.

Perhaps the most vocal promoter of the coal myth is Peabody Energy, which promotes coal—its bread and butter—as the solution to global "energy poverty."

Peabody's pitch vastly overstates the role coal can actually play today in bringing people out of energy poverty, which, to be sure, is a challenge. But no two countries hobbled by energy poverty are alike, and it's a problem best tackled nation by nation. Coal dependence in many cases constitutes reliance on a resource that must be imported or at least transported from one region of a country to another section of that same country. It's an ultimately economically damaging arrangement, especially considering the alternatives. Wind, solar and energy-efficiency program are always rooted in local resources, and energy money doesn't get exported just to buy fuel. Rather it stays, supporting local and regional economies and the people who live and work in those economies.

This paper, based on IEEFA's ongoing quantitative analysis of the coal industry, outlines in a qualitative way the links between energy poverty, economic poverty and economic development that form the backdrop today to the debate over coal-fired power generation. We see limitations on coal as a development tool and we note its modern impact on poor people in a wide range of different countries with many different cultures, political histories and approaches to market development.

Some takeaways:

1. Energy poverty is a function of economic poverty.
2. Efforts to address the broader issue of core economic poverty through coal-fired power generation have worked in some cases but are outweighed by the extent to which they have exacerbated economic imbalances.
3. These imbalances, and broader societal forces, are now creating lower-cost alternatives to coal-fired generation.
4. The best solutions will come from lessons learned from the history of coal-fired generation; from informed debate over current, local policy decisions in places where coal proponents are pushing more coal use; from a clear-eyed view of cultures and markets affected by such policies; and from a realistic view of how development can proceed (specifically taking into account how corruption can undermine the best intentions).

We see *true* promise in extending the benefits of energy access to all through the following methods:

I. Greater use of solar, wind and energy efficiency. Industry innovations in these areas present cheaper alternatives to coal both in longer-term efforts to maintain environmental and financial sustainability. We see the job creation function of these new forms of investment as promising because they can grow construction employment and employment for the maintenance of systems that are more decentralized and with greater potential for skill development in communities with underserved educational resources.

II. Combining reasonably sized technologies with market-building tools like cash distribution. This particular combination gives the poor control over a fundamental resource—cash—that can replace most forms of inherently dysfunctional commodity distribution. Such strategies also begin to develop more mature markets where a combination of cash and the strengths of local labor and goods exchange networks can grow. Asset growth is easier and more likely if the underlying basis for development and growth has a healthy foundation.

Coal-fired generation has shown its limitations even where it has been successful. While it will continue to play a role in many national economies, that role will grow weaker as time goes by and will far short of what companies like Peabody Energy envision. Energy markets are taking a different direction. Where coal-fired electricity is dominant today, energy diversification means less demand for coal. Where it is non-existent, coal-fired generation becomes a contentious choice financially and environmentally.

Coal, in its day, grew because economies could absorb the financial and environmental costs. That's no longer the case. Coal-fired generation in the new energy economy is economically dysfunctional—contributing only to overleveraged, high-priced, pollution-creating electricity generation whose regime is all too often rooted in corruption and the absence of innovation.

Coal and Energy Poverty: Past Imperfect, Future Tense

Sometime in the 1930's, a young congressman from Texas named Lyndon Johnson began agitating to bring electricity to rural Texas.

Johnson, much to his surprise and frustration, ran into resistance from every quarter, including from the very people who would benefit from rural electrification.

"It cost five dollars and a lot of people don't have five dollars," a poor farmer is said to have said to the notion that electricity could improve the lives of poor Texans.

That reaction helped the future president of the United States see that if you provide an asset to a poor community, and the underlying income from the surrounding community cannot support it, then that asset has little value to the population for whom it was built.

What good is electricity if the people you're aiming to sell it to can't buy it?

Johnson's great contribution along these lines was in recognizing the importance of finding an innovative way to address the problem. He saw that there were too few people, spread out across too great an area with too little income to cover the cost of capital, operations and profit to make a plant financially viable. These problems plus the inherent political weakness of the poor suggested that there would be no electricity for impoverished dirt-farm families.

But Johnson had sympathetic and powerful allies in President Franklin D. Roosevelt and First Lady Eleanor Roosevelt, neither of whom much liked the fact that the rural poor so often went without electricity or that rural electricity was so expensive. Enter the Rural Electrification Act of 1936, which Roosevelt saw as the grand blueprint to bring electricity to every corner of the U.S. It was a good bill, but it did not bring electricity to Congressman Johnson's district.

Why not? Because in true Washington fashion (politics worked back then much like it works today) utility-industry interests inserted into the bill a rule that prevented power plant development in sparsely populated rural areas and that made power-plant construction too expensive even where it might be allowed. Johnson went to FDR and explained how the law did not work for his constituents, and how the terms of the loan, its interest rates and pay-back requirements did not help much either. The result: Johnson got a rural electrification loan on terms his Texas constituents could afford. (Not being one to miss a trick, he insisted also that his constituents get the jobs to build the resulting hydroelectric plant).

The Rural Electrification Act at its core created a network of electric cooperatives that pushed the national power grid into rural areas. The cooperatives opened new power plants (most of them coal-fired), marketed electricity and showed rural families how to use it to introduce efficiencies into households and farm operations. The new efficiencies freed up time, labor and money for new investments—in appliances and farm equipment, spurring activity at local stores and providing incentives for new retail markets. The army of electricity coop agents—a new stratum of workers deployed across the country—were catalysts for innovation and economic growth at the grassroots level.

Times have changed, of course. Today many governments and private interests point out the economic and environmental dysfunction of coal. While the coal industry in many countries has contributed to economic growth, its effects have been uneven at best. South Africa, for instance, has a coal-fired electric grid but electricity prices and poverty levels there remain stubbornly high. In India, opposition to India's coal mine and coal-fired power plant buildout is fierce, rooted in pollution, water and land issues, a pattern that has been joined recently by opposition on financial grounds, which suggest India's imported coal-fired electricity is simply too expensive. In a particularly egregious example of misguided public policy, the government of Kosovo is pushing for a new coal-fired electricity plant built around assumptions that ignore environmental risks, the political impact of population displacement and price dysfunction. While Puerto Rico, a poor island with enormous financial problems, relies on oil for electricity generation, its current plans to shift to reliance on natural gas with only a weak renewables component threaten to reproduce the same dysfunctional energy and economic system that has brought the commonwealth to its current bankruptcy.

Coal Is No Longer the Economy Builder It Is Said to Be

The Rural Electrification Act unleashed an energy model that to this day supports coal-fired power generation. It worked in its time, but does not work so well today.

All across the American South, the Midwest and the West, electricity cooperatives and the public power sector still rely on coal for 70 percent of their electricity. The U.S. as a whole depends on coal for about 35 percent of its electricity. The point here in the U.S., in India and in China—in most of the more complex economies of the world—is that coal and other energy sources played a role in the economic development models that drove growth. The alignment of technological, government, finance and politics made it work. That business model has unraveled in recent years, however, as the viability of coal has collapsed.

The coal industry would have people believe something else. Industry executives say coal is the only way to alleviate energy poverty, so more coal-fired generation is better. Peabody Energy has gone so far as to publish a five-point pie-in-the-sky coal plan it says would address energy poverty around the world:

1. By ensuring that half of all new generation is coal-fueled.
2. By replacing older coal plants with advanced coal-burning technologies.
3. By developing at least 100 major new coal-fired carbon-capture projects.
4. By developing new coal-to-gas, coal-to chemicals and coal-to-liquids projects.
5. By commercializing next-generation technologies to achieve near-zero emissions.

This public-relations rush toward coal as an energy-poverty solution comes in no small part because the coal industry is in trouble. The reasons for that are many but can be summarized

succinctly. A growing awareness that there is no safe way to burn coal is spreading globally. Coal use creates air, water and land pollution that is simply no longer acceptable to the public. Coal's contribution to global climate change is sufficiently alarming now to turn both public and private sector institutions away from its use. More broadly, new technologies both within the fossil fuel sectors and in the larger energy sector are creating market share growth for other sources of energy and stock value losses for coal. Coal lags badly behind its competitors on the innovation curve.

There's also the fact that the coal industry is coming off of a massive capital expenditure binge that ran from 2007 to 2011. That spending was driven by rising coal prices, growing market share and rising equity values. During this period, acquisition prices for new coal deposits rose dramatically, and coal companies paid the prices. Most of the deals that were struck happened to have come at the peak of the bull market using mainly debt funding, and most of these transactions are falling apart now. Today's low coal prices have depressed revenues and increased the likelihood of default on the large debts incurred to buy during the up market. New coal plant construction in the U.S. is non-existent, everywhere else it is a matter of contention. Coal companies, once thought sufficiently positioned to weather a down cycle, are now coming to recognize the structural nature of a shrinking market and are going through a wrenching process of reorganization.

As part of this backdrop, large consumers of coal that could be counted upon historically for annual, sizable increases in coal consumption are looking at much slower growth rates or outright decreases. Where coal remains part of the growth storyline, that demand is offset by much larger industry losses leading to overall structural decline in coal use, prices and future outlook.

Michael Spence's 2012 book "*The Next Convergence: The Future of Economic Growth in a Multispeed World*" focuses on the all-important quality of development choices in both advanced and emerging countries. Spence notes that lessons from older, maturing economies can be used by emerging ones, and that the roughest spots can be made smoother in emerging economies if leaders learn from the larger past. Spence argues that growing economies can leapfrog ahead past some of the usual growth complications, particularly in the area of technological innovation and energy. Where coal once contributed to growth, it is being replaced now by other sources of energy, a transition that allows emerging countries today to rely less on coal than they might have in the past, bypassing the many negative effects of coal while still managing to grow.

The limits of coal's benefits are being widely recognized today in large advancing economies that include China and India, both of which have reached a kind of pollution-saturation limit that impairs public health and poses a challenge to political legitimacy. They are looking to move forward more cautiously with coal. The U.S. is doing likewise.

Lyndon Johnson could not have known coal's complicated full legacy. But he understood innovation—how to create an energy-poverty solution—and his spirit of innovation is still alive and afoot wherever the status-quo school of thought is being questioned.

Africa as Case in Point: Coal Is Both Too Expensive and Too Far Away

Peabody Energy suggests that 50 percent of the world's new electricity generation must be coal-fired if we are to make a dent in energy poverty. And Peabody has targeted Africa, among other places, as a potential beneficiary of coal-industry expansion.

Parts of Africa have a long history with coal generation. South Africa gets more than 70 percent of its electricity from coal-fired generation (its indigenous coal mines with exceptionally low strip ratios have made it a leader in coal-fired power for decades). The country's economy has benefited from a rapid expansion of energy access since the 1990s, when only 36 percent of the country had electricity. Today, more than 90 percent of South Africa has some kind of electricity service. According to the International Energy Agency 43 percent of South Africa is still energy poor, however -- that is, 43 percent of South Africans pay more than 10 percent of their income for electricity. Even as electricity prices have skyrocketed, the coal industry has been insufficiently incentivized to maintain its coal fleet, and South Africa's coal-fired system is antiquated and suffering increased blackouts as the system fails to cope. Meantime, the South African government supports an ineffective substantial subsidy program for the poor to help them pay their electricity bills. The program has only limited actual benefit. Access to the program is difficult, multiple layers of dysfunction complicate electricity use at the local level and many poor households are still without electricity.

The South African government says it expects that coal will continue to be a mainstay of its generation system but concedes the country will turn increasingly to solar, wind, hydropower and nuclear power. Coal reliance will likely be reduced due to depleted reserves, investment decisions to move away from coal, and air pollution concerns. Renewable technology is becoming cheaper and more reliable, and while no one can argue that coal hasn't contributed to South Africa's economic development, the price of the electricity it generates is too high and the costs of pollution are unacceptable.

Energy poverty is most pervasive globally in Sub-Saharan Africa, where huge populations lack access to electricity. Coal-fired energy is not the answer, however. What worked in South Africa—where mines are in direct proximity to the population base—can't work in the rest of Africa because the required grid transmission distances are far greater. The International Energy Agency, among others, notes that coal has only a limited use across the rest of the continent because working mines are too far away and local populations aren't big enough to support the costs required to bring coal-fired generation to these areas.

What's also missing in most Sub-Saharan communities are stable, steady and reliable flows of cash. Without established markets that produce healthy businesses and regular employment there is little basis for underwriting large capital expenditures. To make coal-fired generation work under current conditions requires prohibitively high levels of subsidization. Because cash income in these communities is small and frequently disrupted, market formation and stable management of financial assets like power plants is difficult.

While coal has helped expand access to electricity in South Africa, it has done so in ways that keep electricity too costly for vast numbers of households. The country's racial history and its longstanding disparities in income distribution and employment have limited access to

electricity; the mere presence of coal has not solved the country's energy poverty. And while coal advocates talk about the broad benefits of coal-fired generation, South Africa today stands as an example of how coal—even coal in abundance—does not eliminate energy poverty.

This truth is even more evident in Sub-Saharan Africa. For reasons political and geological coal fired generation is a poor choice for large-scale electricity investment.

Kosovo as Case in Point: How a Proposed New Coal Plant Would Damage a National Economy and Create a Harsh Burden for Most Households

Kosovo, a small country in Southeastern Europe, presents another current case study.

IEEFA recently released a report showing how the *New Kosovo Power Plant*, a proposed coal-fired behemoth, would cause electricity tariffs to rise by as much as 50 percent, create a long-term unsustainable debt condition for the country and most likely hinder national economic development for years to come.

Our report, "The New Kosovo Power Plant: An Unnecessary Burden at an Unreasonable Price," shows also that the project—if it were to go forward—would be built on the back of extraordinary and costly subsidies from the World Bank and other international financial institutions and that poor people would ultimately pay for those subsidies. Our report concludes that the project would end up having low-income households pay 34 percent of their income for electricity once the plant is operational, almost six times what is typical in Europe (Europeans on average pay 6 percent of their income for electricity).

Our report notes also the irony of World Bank involvement—the bank is supposed to help lift people out of poverty, not worsen their condition. And it notes that the project, endorsed by the U.S. government alongside the World Bank, runs counter to U.S. and World Bank climate-change policies, creating an inexplicable political exception.

Kosovo for decades has relied on coal for over 90 percent of its electricity. It remains among the poorest countries in Europe, and its economic condition is fragile at best. Current electricity prices, somewhat low by European standards, are nevertheless too high already: While most residents of Kosovo have access to electricity, most are having a hard time paying for it.

Among the many claims made by proponents of the coal-to-end-energy poverty thesis is that coal-fired generation drives economic growth. Even if a plant costs a lot to open, according to this argument, the economic growth it fosters will offset the cost.

In fact, the huge debt and other financial costs that are part and parcel with the *New Kosovo Power Plant* would cripple economic growth because the plant would consume a significant amount of national borrowing capacity. Kosovo's limited borrowing capacity could—and

should—be used instead to build private businesses. As it stands under the government's plan to build the *New Kosovo Power Plant*, that borrowing capacity will go instead toward banks that finance the plant and to foreign companies associated with construction of the plant.

Proponents also point to Kosovo's supposed "coal advantage" as the country's boundaries contain large lignite reserves. A transition to a more diverse set of energy resources for Kosovo would contain coal. But our estimates are that 50 percent of the nation's electricity will need to be coal fired, not virtually 100 percent as is now the case.

The scheme supporting construction of the New Kosovo Power Plant is simply not in the best interest of Kosovars. The poor will end up paying far too much for electricity—meaning electricity will be less accessible than ever— the economy—too small and not diversified enough to carry the proposed weight of the requisite debt load —will suffer.

When institutions like the World Bank make massive misguided subsidy commitments like they are making in this case, they aren't acting in the best interest of local populations. Both the World Bank and the U.S. government can help Kosovo choose a better path more in line with the modern energy economy.

Puerto Rico as Case in Point: A Coal-Fired Economy in Shambles

Virtually every resident of Puerto Rico has access to the island's electricity grid, yet the economy of Puerto Rico is in shambles. It is savaged especially by expensive debt service and an unnecessary addiction to imported energy.

One reason the commonwealth is facing such deep financial difficulties is the fact that its electricity is so expensive, ranging over the past three years from 19.55 to 27 cents per kilowatt hour and making electricity prices higher in Puerto Rico than in any state in the U.S. (Puerto Rico, a U.S. commonwealth, is colloquially referred to sometimes as the 51st state). Meantime, over 40 percent of the population lives beneath the poverty level, and the Puerto Rico Electric Power Authority (PREPA) pulls no punches in its aggressive programs to curb energy theft and collect sizable back bills.

PREPA runs predominantly on oil, and in a good year its oil bill can consume 55 percent of revenue; in a bad year, oil costs can approach 70 percent of revenue. Debt service on PREPA's outstanding borrowing exceeded 15 percent of revenues in FY 2014. An additional 20 percent of revenues support purchase power agreements (PPAs), and the rest—what's left—goes to services, salaries and benefits.

What do low-income residential consumers do when faced with high electricity prices and flat incomes in an anemic economy? Either they move somewhere else or they buy less electricity. That's one reason Puerto Rico's population is shrinking and why the average Puerto Rican household uses on average 390 kwh of electricity per month while the average U.S. household uses 911 kwh per month. There's no evidence that the gap is closing, and no evidence that PREPA's managers appreciate the link between high electricity prices and economic difficulty.

In 2014, as Puerto Rico faced a mounting debt crisis, PREPA projected an electricity demand increase of 1.29 percent. Actual use of electricity in 2014 dropped 1.5 percent.

PREPA today is proposing updating its aging oil-fired system by switching to natural gas, a move that will not lower costs and indeed may increase them (since natural gas, which is inexpensive today, is as subject to price volatility as oil and since natural gas purchases are as subject to the corrosive impact of corrupt practices as oil is). Its plan financially appears to be to negotiate a 15 percent reduction in principal on its debt, to lower its fuel costs by substituting natural gas for coal and to reduce operations costs by decreasing headcount and cutting employee benefits.

PREPA has made no substantial commitment to rate relief, and the market signal it is sending now to residential customers and businesses is to expect higher prices. Additional borrowing for a new natural gas plant—even with the 15 percent reduction in debt—will leave PREPA worse off in the debt-payment department and crowd out the potential for more flexible and innovative investments.

Perhaps the most glaring flaw in PREPA's current resource development plan is the lack of commitment to solar energy and energy efficiency. While PREPA has given lip service to solar energy, its strategy to deliver on that front is unlikely to produce results, even though the island is blessed with an abundance of sunshine and the potential for job creation in an aggressive expansion of solar would far outweigh any employment opportunities created by construction and staffing of a new gas-fired plant.

Why Puerto Rico's decision-makers want to maintain dependence on international oil and gas interests is baffling (the New York Times recently revealed a decades-long scheme tied to fossil fuel interests that defrauded the people of Puerto Rico).

The commonwealth's government could take a page from Hawaii, another island hobbled by an overpriced electricity system but whose leadership acknowledges changing energy markets and sees opportunity in moving toward an electricity-generation system fueled 100 percent by renewables.

Here's Hawaii's rationale:

1. A renewable-energy strategy will make us far less reliant on outside interests.
2. A renewable-energy strategy is an investment in our own economy (Hawaii aims to keep $5.1 billion in state by putting that money into renewables rather than spending it on imported oil).
3. A green-energy sector will counter-balance our dependence on tourism and the military.
4. Our clean-energy category will attract business and expertise.

Puerto Rico's leaders, on the other hand, are evidently more interested in channeling PREPA revenue to Wall Street bondholders than investing it in a sensible renewable energy plan. The priority, inexplicably, is to keep sending money to fossil fuel companies with little interest in the island's economy. It is a brutally expensive and misguided policy, and a couple of numbers from last year speak volumes on this point: PREPA's electricity-fuel bill was $1.9 billion and it made debt payments of approximately $630 million. $2.5 billion in cash, the lion's share of which is sent out of the country to support bondholders and oil companies.

The commonwealth, frankly, is overleveraged and is sending too much money somewhere else. Such resources can be invested locally, in solar, and a significant solar expansion need not be financed in the same manner as a natural gas plant and need not simply translate into more debt on an already overly indebted balance sheet. Its energy-development policy is shortsighted and ultimately unaffordable (more here on that: "Opportunity for a New Direction for Puerto Rico's Electricity System").

Lyndon Johnson, 80 years ago and hundreds of miles removed, would immediately have grasped the potential in solar energy had it been available in his time. He would have seen practical impact for his generation and generations to come. He knew that debt relief—and good debt management—would bring electricity progress to rural Texas then just as it can bring electricity progress to Puerto Rico today. He knew thousands of jobs would be created by making electricity affordable and modern, not only in power generation (which is highly specialized work), but more important in teaching people how a new resource can improve household and small business efficiency and can stimulate local and regional economies.

Solar energy development can work today like coal energy development worked in Johnson's time because it can leverage federal and state support in a way that stimulates local economic activity. In Puerto Rico's case, it can correct the deeply damaging imbalance of exporting the one thing Puerto Rico needs the most, cash.

And Puerto Rico has little to lose by pursuing an innovative new energy-economy model. Fiscal and economic chaos loom if it does not.

India Suggests a Way Forward: Solar Technology and New Cash Markets

India relies on coal for over 70 percent of its annual electricity generation. This number, like the energy grid itself, has been growing for almost 60 years. So coal has served as a critical component of India's economic development, and the country's heavy dependence on exceptionally low-cost domestically produced coal is likely to continue for decades to come.

Still, there remain hundreds of millions of people who do not have electricity in India, which has 247 million households and a total population of approximately 1.24 billion. Most people live in rural villages (about 45 percent of households are rural) and some 75 million of those households have no electricity. Six million urban households, or about 8 percent of the total population, have no electricity.

These ratios have not changed appreciably since 2001 despite the addition of approximately 95,000 megawatts of coal-fired generation. Large new coal-fired power plants have not served rural areas where populations are sparse, cash is scarce and the electricity grid is too far away to be of any use. After decades of a state-run coal monopoly, in other words, India still has a huge energy poverty problem. India's air and particulate pollution problems, in the meantime, have worsened, and planned coal build-outs across the country have raised pressing questions about impacts on land, water resources and other economic activity.

India is also struggling with a utility system that, although it has historically been responsive to the relatively low incomes of Indians, is buckling now under the growing weight of unfunded electricity price subsidies to the agricultural sector in particular, which have reached $10 billion annually over the past two or three years. These subsidies have increased pressure to raise electricity prices to underwrite the massive $75-85 billion DISCOM debt restructuring currently underway. This restructuring aims to reduce the carrying charges that finance the entire electricity sector distribution and transmission network in order to support India's predominantly coal-fired power plant sector. Many of the big coal plants built in India over the past several years are financially dysfunctional and there is a growing list of new projects that have been cancelled or put on hold for lack of financial viability and/or lack of commercially viable electricity off-take agreements. Debt and equity investor losses on coal plant project developments are now well over $10 billion over the past five years (in terms of market value of equity destruction alone).

Despite this track record, the Indian government is planning to build new coal plants and is working to expand its coal mining industry and its existing coal plant utilization.

The government, to its credit, has also invested significantly in solar power, which is now more than competitive with imported coal fired power from a current cost standpoint. At the same time it is less polluting, more easily and rapidly deployed to areas that have no access to the larger electricity grid or whose access is via weak regional grids.

While its economy has grown rapidly in recent years, India remains a very poor country. Its long-documented efforts to combat poverty are rife with corruption and failure. Among the high-profile government initiatives aimed at easing poverty: a series of commodity-distribution programs that provide kerosene and other basic necessities to impoverished households. Such initiatives, well intentioned though they may be, have limited benefit. Cash—actual rupees—are far more valuable to most families than commodities or service. Monthly household expenses typically exceed income, and a half-full canister of kerosene does not pay the rent and cannot be eaten.

To address these shortcomings in its commodity-distribution, the government has instituted a cash-distribution system that has proven more effective than most other poverty-alleviation programs. The program sets up and funds bank accounts for poor families. This initiative suggests a preferred route out of poverty—energy poverty included—empowering individuals to participate more directly in their economic futures and saving enormous sums of money that would be otherwise wasted in the many schemes and scams that pervade commodity distribution and most other forms of aid to the poor (these include coal-related scams and scandals).

Combining successful cash-distribution schemes with more emphasis on solar development carries great promise in rural and poor urban areas. Tapping solar energy to extend power into areas that coal-generated electricity has not reached can create enough electricity to light homes, for instance, charge cell phones and power fans. Solar can be introduced so inexpensively—in tandem with cash-distribution programs—that the benefits won't be clawed back by new electricity charges and can be invested instead in other household needs, creating local ripples in the economy. Steady albeit modest cash payments to millions of families under such a program would create stronger local economies, a basis for stable growth in employment and increasingly sophisticated forms of consumer demand and productive investment.

In time would come greater demand for electricity along with a greater financial and economic footing for investment in larger-scale power generation systems that do not drain local economies and perpetuate uneven development.

The Modi government's current innovations in solar combined with its push for more direct household cash supports stand a reasonable chance of effectively addressing energy poverty across India, in part by creating a knock-on effect that would attract bigger investment and fuel a cycle of economic expansion.

Evolving National Energy Policies: China, India, Russia, the U.S.

China, India and Russia account for almost 58 percent of the world's coal production—a feat achieved mostly through state-owned enterprises that by definition are controlled by governments that also control entire economies. The U.S.—which has 11.7 percent of the world's coal supply—also has a global coal-market presence that can be attributed to government support (American coal companies have enjoyed a quasi-monopolistic business partnership with the federal and state governments since the 1970s).

All of these countries can and do shape their energy economies with federal and state spending, regulation, monetary policy and blunt politics. As it stands, governments absorb significant direct and indirect costs at various places in the energy-development chain that supports coal as a source of reasonably priced electricity. This is how coal over the years has become a tool for broader economic development, how Lyndon Johnson brought rural electrification to Texas.

This model is faltering now because coal imposes much higher costs—to public health, to the environment, to economic wellbeing in general—than other fuels. Flaws in the coal-as-economic-engine model are especially evident in economies that are not robust, where the risks and costs of coal-fired power are especially concentrated and create imbalances and foster inequality. This is what's happened in South Africa and Puerto Rico and what a coal-generation buildout would mean for small countries like Kosovo.

Even large economies are having trouble making the coal-as-economy builder model work. In India, electricity tariffs from coal-fired generation are too high for most households. In China, the high financial price of coal-powered electricity has been spread through its economic system. The price, however, is increasingly apparent in the economic blowback from environmental damage. Russia has similar problems and the U.S. coal-fired electricity market becomes less and less competitive with other sources of energy as each day goes by.

The challenge to the coal industry globally, and to local economies that are built on coal, is the energy economy alternatives that did not exist when coal was king. As the price of solar and wind come down, countries that have for years grappled with volatility in the pricing of fossil fuels now have another way to fuel growth and manage their energy economies.

Conclusion: In the New Energy Economy, Coal Proponents Have It Wrong

Peabody and other powerful proponents of coal as the weapon of choice against energy poverty have it fundamentally wrong.

Coal-fired generation works as an economy builder only when governments and societies are willing and able to absorb the accompanying costs. That is no longer the case today. And history shows that coal-fired generation has profound limits anyway. Even where the coal-fired industry has carved out huge monopolies by creating captive markets and consolidating political power—large numbers of households remain energy poor. To harken back to Lyndon Johnson, if electricity costs five dollars and the consumer only has two, then electricity is unaffordable, inaccessible and largely useless.

India's example of providing direct cash assistance to facilitate market development and to encourage more solar development is a promising step toward addressing energy access and the broader issues of economic poverty. Kosovo and Puerto Rico, by contrast, are offering poor policy responses to energy and economic poverty.

Some imagination is required. Bill Gates recently observed that the road ahead for renewable energy will be tough and that new forms of innovation will have to lead the way. A practical touchstone, and a key piece of the current literature, is in research published by Carbon Tracker on how Africa and India can very practically expand their use of renewable energy and energy-efficiency tools.

To a hammer, every problem is a nail. That's the perspective Peabody and its ilk bring to the table. What's called for in the war on energy poverty is something more akin to a surgeon with a scalpel. Each patient, though inflicted with the same disease, requires a cure and a treatment that works for that patient.

Institute for Energy Economics and Financial Analysis

The Institute for Energy Economics and Financial Analysis (IEEFA) conducts research and analyses on financial and economic issues related to energy and the environment. The Institute's mission is to accelerate the transition to a diverse, sustainable and profitable energy economy and to reduce dependence on coal and other non-renewable energy resources. More can be found at www.ieefa.org

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Tom Sanzillo, director of finance for IEEFA, is the author of several studies on coal plants, rate impacts, credit analyses, and public and private financial structures for the coal industry. He has testified as an expert witness, taught energy-industry finance training sessions, and is quoted frequently by the media. Sanzillo has 17 years of experience with the City and the State of New York in various senior financial and policy management positions. He is a former first deputy comptroller for the State of New York, where he oversaw the finances of 1,300 units of local government, the annual management of 44,000 government contracts, and where he had oversight of over $200 billion in state and local municipal bond programs and a $156 billion pension fund.

Sanzillo recently contributed a chapter to the Oxford Handbook of New York State Government and Politics on the New York State Comptroller's Office.