TESTIMONY OF
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BEFORE THE
U.S. SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

REGARDING
NATURAL GAS PIPELINE DEVELOPMENT

JULY 12, 2018

Madam Chair and Members of the Committee:

My name is Jim Murchie. I am Co-founder and CEO of Energy Income Partners, LLC or EIP for short. EIP is a Registered Investment Adviser that oversees about $6 billion[1] of client assets. EIP advises or sub-advises six mutual funds (five of which are New York Stock Exchange listed funds), two investment partnerships and hundreds of separately managed accounts for individuals and institutions. EIP invests all of these client assets in equity securities of publicly traded energy infrastructure companies located primarily in the U.S. with significant investments in Canada and nominal investments overseas. EIP invests in companies that operate natural gas and petroleum pipelines and related storage and terminals, regulated power generation, transmission and distribution as well as developers and operators of renewable energy selling power on long term contracts. Our investment strategy seeks stable cash flows being generated by regulated assets with modest growth.

EIP was established in 2003 and is an outgrowth of my personal investments in energy infrastructure dating back to the late 1990s. My firm and I appreciate the opportunity to present testimony to the Committee today.

I am joined here today by my colleague Sam Brothwell. The investment team at EIP is comprised of six individuals, including myself and Sam; we all have extensive energy and financial industry experience. My own experience includes 8 years at British Petroleum and its predecessor company the Standard Oil Company of Ohio, 5 years at the well-known Wall Street research house Sanford C. Bernstein and 2 years at Julian Robertson's Tiger Management. Sam

[1] As of June 30,2018

has worked in the industry at Public Service of New Mexico and Questar as well as on Wall Street at Merrill Lynch and Wells Fargo and has testified before the Federal Energy Regulatory Commission on pipeline ratemaking policy.

EIP's original fund which started in 2003 has generated a double digit compounded annual growth rate that exceeds the returns of the S&P 500, the PHLX Utility Sector Index, the Alerian MLP Index and the NAREIT REIT Index over the same time period.[2] Such outperformance is rare as recent studies by Standard & Poor's have shown that, on average, about 94% of active fund managers have underperformed their benchmarks over the last 15 years.[3] We believe EIP's success in achieving these returns is a result of three main factors. The first is our long-term investment horizon, the second is our focus on investing in companies with stable and predictable earnings and the third is that EIP does not adhere to the typical asset allocation guardrails imposed on most money managers by institutional investors that would pigeonhole us into being either a "utility" manager or an "MLP" manager.

One of the tenets of EIP's approach is a focus on total or absolute investment returns rather than returns relative to index benchmarks. In assessing both past and forecasted returns, we disaggregate the portion of the investment return contributed by dividend yield from the portion of the return contributed by share price appreciation. Separating these two components is critical to understanding how we invest and what factors we seek in our portfolio companies to maximize our returns. The yield component of our returns is about 6%, the balance has come from appreciation of the underlying share prices.

While share prices fluctuate daily, the long-term driver of share price appreciation is growth in per-share earnings and dividends. For investment managers with a short investment horizon, these fluctuations are far more important to their strategy and approach. Since those short-term fluctuations are caused so often by transient factors in the news for the economy, an industry or a particular company, it is those short-term factors that most investment managers focus on. Watching most portfolio managers speak on television business programs provides a good window into this investing style.

The higher yield of our portfolio over time versus the stock market averages (the yield on the S&P 500 is currently 1.9%[4]) is mostly a result of a higher dividend payout ratio, which is the portion of a company's earnings paid to its shareholders each quarter. Higher payout ratios tend to be found in companies with more stable earnings and in slower-growing mature industries. Stability of earnings matter because dividends are viewed by investors a little like the coupon payment of a bond. A dividend cut is a broken promise and often indicates more serious problems at a company. As a result, company boards of directors strive to set dividends at a level they will never have to cut. The more stable the earnings, the higher the payout ratio can

[2] Source: Bloomberg. The references to the performance of account is not representative of other EIP accounts that may not have experienced the same performance described above. Past performance is no guarantee of future results.

[3] Source: SPIVA ® U.S. Scorecard, S&P Global, Year-End 2017.

[4] Source: Bloomberg. Data as of July 3, 2018.

be. Slower growing industries also tend to have higher payout ratios because there are fewer growth opportunities requiring reinvestment of earnings.

We believe that pipelines and related storage as well as certain electric and natural gas utilities possess both of these attributes. Energy is a mature business (U.S. primary energy demand grows less than 1% per year[5]) and these businesses tend to operate under federal or state jurisdiction that earn allowed rates of return on their invested capital.[6] That means that they are less subject to the cycles of the economy, commodity prices or changes in the rate of inflation. Businesses that have these allowed rates of return are often referred to as Regulatory Asset Base businesses or RAB for short.

In the early history of the electric and natural gas industries, these regulated asset base businesses represented an alternative to public ownership. Today, the vast majority of electric and natural gas transportation infrastructure in the United States is owned by publicly traded corporations and publicly traded partnerships. By contrast, over 85% of water and sewer infrastructure is owned by municipalities and special government districts.[7] That U.S. energy consumers enjoy some of the lowest electricity and natural gas rates in the OECD is partially the result of an abundance of available capital to build and maintain energy infrastructure at reasonable cost, in our view. Again, by contrast, many municipal water systems are today reaching the end of their useful life and are increasingly being sold to investor-owned publicly traded utilities that can access the capital needed to modernize their pipes and related equipment without unduly increasing rates charged to consumers. Infrastructure assets have long—but not infinite—lives, and over time face stricter safety and environmental standards as well as ongoing technological evolution in the sources and uses of the products they transport that require constant reinvestment.

This RAB model in the U.S. traces its history back to a famous speech given by Sam Insull at the June 1898 (that's **eighteen**-ninety-eight) meeting of the National Electric Light Association, the forerunner of today's Edison Electric Institute. Insull had left the General Edison Electric Company (now General Electric) as Thomas Edison's right-hand man to head up what became Commonwealth Edison in Chicago. He was arguing for a regulated investor-owned utility framework that would benefit all stakeholders, including the customers buying the electricity during a time when the electric industry was in its "Wild West" infancy. Here's the essence of his message:

"Acute competition necessarily frightens the investor, and compels corporations to pay a very high price for capital….The best service at the lowest possible price can only be obtained….by exclusive control of a given territory being placed in the hands of one undertaking…..The more certain this protection is made, the lower the rate of interest and the lower the total cost of

[5] Sources: BP Statistical Review of World Energy: June 2018; U.S. Energy Information Administration (EIA)
[6] Sources: BP Statistical Review of World Energy: June 2018; U.S. Energy Information Administration (EIA).
[7] Source: American Water Investor Presentation: June 2018.

operation will be, and consequently the lower the price of the service to public and private users."[8]

Recognizing that regulation has since evolved to bring the benefits of competition to utility consumers, the essence of Insull's message remains as relevant today as it was 120 years ago; *that risk and cost of capital are highly correlated*. The regulatory framework under which pipelines and utilities operate reduces risk, takes advantage of scale, and is critical to achieving reliable, low cost service to customers, while providing reasonable and competitive returns to investors. The regulatory model articulated by Insull has resulted in an extensive U.S. energy infrastructure system that provides abundant energy to businesses and consumers at prices that are among the lowest in the developed world.[9]

The yield component of EIP's returns for its clients is a direct result of a regulatory framework that provides stable and more predictable earnings that allows for a payout ratio well above that for other industries or the stock market as a whole. As most of the investors in our funds and other investment products are individuals, this higher yield is a critical component of the investment return they are seeking.

Nonetheless, the growth component has been a larger contributor to our returns. At first glance it seems incongruous to have enjoyed growth in earnings and dividends from an industry whose unit demand grows at less than 1%.[10] There are two factors that explain the difference. The first is that unit demand growth of about 1% might still result in sales growth of 2-4% depending on the rate of inflation. This matches the average dividend growth over the last 15 years for the utility and MLP indices of about 4%.[11] The second factor is our successful stock selection as we have been able to identify companies with higher than average growth rates.

In assessing our own track record, we have found that higher growth rates result from our ability to select companies with good management teams operating under consistent and balanced regulation. If we can get these two parts right, a third component kicks in, which is a lowering of the company's cost of debt and equity financing also referenced in Insull's 1898 speech.

While we analyze financial statements and valuation like all other fund managers, our extreme focus on the quality of management is unusual among investment managers but consistent with our long-term approach. It is the management teams that determine where their competitive advantages lie and how to best allocate capital. It is the management teams that work with the regulators at the state and federal levels. It is the management teams that hire and retain the best employees. It is the management teams that determine the safety and environmental record of the company. All these activities determine a company's ability to deliver energy to its customers in

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[8] Source: Insull, Samuel. "Standardization, Cost System of Rates, and Public Control" (1898). Reprinted in S. Insull, Central-Station Electric Service, 34–47. Chicago: Privately Printed, 1915.

[9] Based on electricity pricing data sourced from U.S. Energy Information Administration as of December 2017 and the European residential electricity prices sourced from Eurostat as of December 2017.

[10] BP Statistical Review of World Energy: June 2018; U.S. Energy Information Administration (EIA).

[11] Source: Bloomberg. MLPS are represented by the Alerian MLP Index. Utilities are represented by the PHLX Utility Sector Index.

an economical, safe, reliable and responsible manner. Companies that consistently do this well over time tend to have superior shareholder returns. Companies that give short shrift to issues of worker safety, system reliability and environmental stewardship also tend to be poor allocators of capital, have higher operating costs and usually have poor relationships with regulators and other stakeholders. They also tend to have lower shareholder returns.

Just as the quality of management teams varies, so does the tenor of regulation, so all else equal, we seek the best regulatory constructs that we can find. One recent success is reflected in a portfolio shift we made several years ago to increase our weighting in state-regulated natural gas utilities also known as Local Distribution Companies or LDCs.

The leak and tragic explosion of a natural gas utility pipeline in San Bruno, California in 2010 and a similar incident in New York City in 2014 led many state regulators to encourage the accelerated replacement of old pipe through the use of incentives and rate tracking mechanisms that added regulatory certainty, facilitating a step change in the pace of investment. This, in turn, has driven improved worker and public safety, system reliability and perhaps even a reduction in fugitive releases of methane, a potent greenhouse gas. Shareholders also benefitted from lower regulatory risk and higher rates of earnings and dividend growth, and as those higher growth rates were recognized in the market, these stocks traded at higher valuations. Those higher valuations reduce the cost of equity just as a higher credit rating lowers the cost of debt. Lower capital costs benefit consumers, who ultimately bear the cost of utility financing.

The case of accelerated pipe replacement for LDCs and the regulatory structures that enabled them at the state level are a great example of the Regulatory Asset Base regulated model working for all stakeholders.

I once met a financial adviser who derided regulation as "a lot of red tape." My response was that so-called "red tape" consists of extensive public hearings, the consideration of all relevant testimony by regulators and oversight by an independent judiciary that insures that regulatory decisions have considered all the evidence and are arrived at by reasoned judgment and are therefore neither arbitrary nor capricious. This process, *so long as it follows established law and procedures*, protects all stakeholders including customers, the environment, as well as investors.

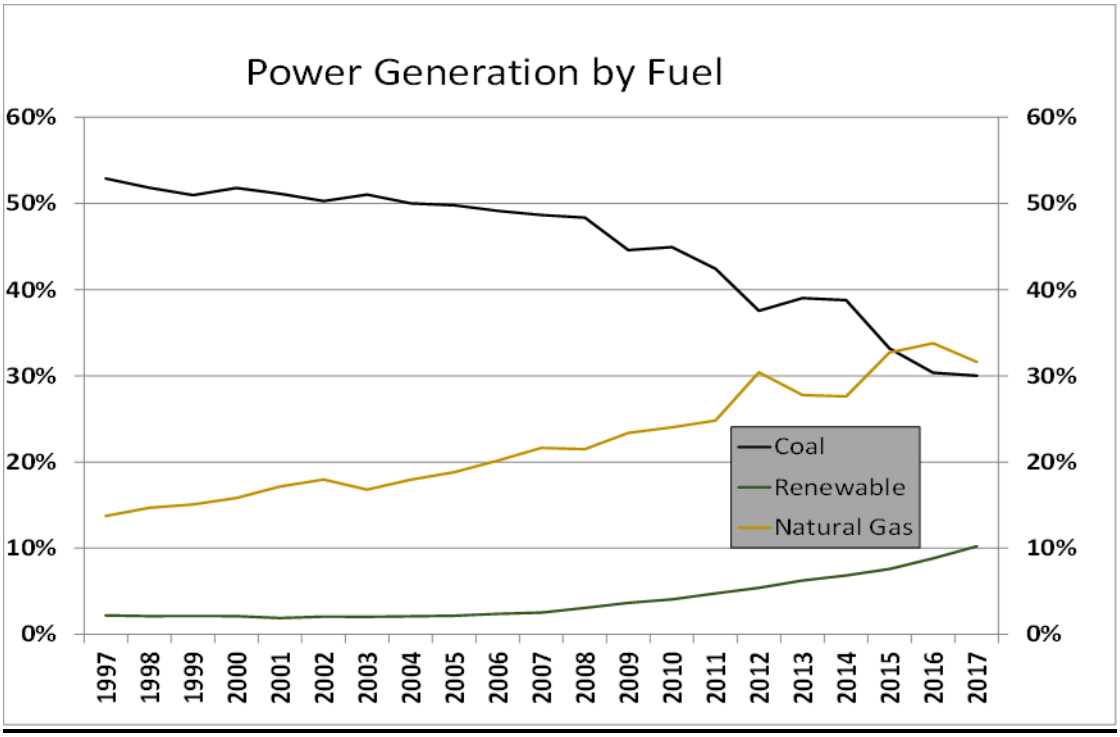
The 120-year history of these industries is also one of technological advancements that have driven lower costs, better worker and public safety, increased reliability and lower emissions of pollutants of all kinds. That holds true today as technological advances continue improving the performance and cost-effectiveness of renewable energy resources such as wind, solar, and energy storage the costs of which have declined about 70% over the last 8 years and have emerged as the most cost-effective source of new supply in many regions of the U.S.

Increased use of renewables, however, has actually been facilitated by another technological advancement: shale gas. The dramatically lower cost of natural gas has shifted electricity generation away from coal in favor of natural gas and increasingly, renewables. Contrary to the public debate pitting fossil fuels against renewables, natural gas and renewables actually complement each other because of the intermittent and variable output of wind and solar and the flexibility of gas-fired generation to respond quickly to the rapid changes in output from wind

and solar that coal and nuclear generation lack. As battery costs decline, more of this back up function can be borne by storage of electricity in the future. But cleaner generation of electricity is *happening now* in large part because of the availability of cheap natural gas.

The graph in Exhibit 1 shows how electricity generated by natural gas and renewables has grown while generation from coal has declined. These changes have led to a 13.2%[12] decline in U.S. CO2 emissions since their peak in 2005. Emission of other pollutants such as sulfur dioxide, nitrous oxides and mercury are also lower.[13]

Exhibit 1 – Electricity Generation: Coal, Natural Gas and Renewables



Sources: U.S. Energy Information Administration, Electric Power Monthly, February 2018.

Germany, by contrast, embarked on a bold strategy which accelerated in 2011 with Fukishima to eliminate nuclear power and fully embrace renewable wind and solar. While on a path to achievement, this initiative came at great cost to the country's electricity consumers as German residential electricity prices have risen nearly 45% in the past decade. Retail customers in Germany today pay about 35 cents per kilowatt hour vs around 13 cents in the U.S. and 22 cents for the rest of Europe.[14] Germany's initiative has had another almost surely unintended consequence; lacking access to abundant and reliable sources of natural gas as a back-up fuel for renewables, Germany continues to rely on lignite, a domestic but environmentally hostile fuel.

[12]Source: BP Statistical Review of World Energy: June 2018

[13] Source: US Environmental Protection Agency Website

[14] Eurostat, UBS Research, U.S. Energy Information Administration Electric Power Monthly, December 2017.

Since these goals were laid out in 2011, Germany's CO2 emissions have actually increased by 0.4% while over this same time frame the U.S. has lowered its CO2 emissions by 5.3%.[15]

It is in this context that we view the debate about the Greenhouse gas (GHG) impact of permitting new natural gas pipelines. To be direct, we view the debate as a false choice. When regulators and the courts are asked to address the impact of a particular new natural gas pipeline on GHGs, the discussion centers around considering the impact upstream of the pipeline (more natural gas production) and downstream of the pipeline (more natural gas usage). Missing from the discussion, in our view, is recognition that natural gas pipeline infrastructure enables natural gas to reduce coal usage, reducing power plant emissions of all kinds, including CO2 and further facilitates adding more renewables to the mix.

From a portfolio management perspective, we see uncertainty surrounding pipeline certification and approval as a growing risk that we must factor into how and where we allocate our investor's capital. These risks affect primarily the growth component of our returns but in the rare case of an existing pipeline being shut down, the impact could also affect the dividend payments of the company that owns that pipeline.

Perhaps more important than any changes we would make to the EIP portfolios are fund redemptions by investors as they see the cancellation of new pipeline projects due to objections by regulators as well as some of the recent rulings by FERC as risks that outweigh the rewards of a 6% portfolio yield. We believe that this flight of capital from the equity securities of companies that own federally regulated pipelines has had a negative effect on valuation and therefore a negative effect on the cost of capital for building new pipelines which is ultimately paid for by consumers.

As investors in a capital-intensive commodity industry we recognize that lower costs ultimately win out. And in our analysis, we include the costs of externalities like pollution and safety because under our system of government the cost of those externalities are eventually paid for by those who cause them. *In short, we want to own the low-cost way of shipping the lowest-cost form of energy.*

While natural gas pipelines are a significant part of our portfolio, so too are operators and developers of low cost renewable power, including a growing number of utilities that recognize the opportunity in aligning their strategy with the direction of public policy. In the future we expect to have a significant investment in companies providing infrastructure for electric vehicles as we see them as eventually being the low-cost, higher performance means of transportation.

We believe our investment success in the future will be directly impacted by policy makers' and regulators' ability to use our existing regulatory construct to facilitate rather than frustrate the increased adoption of these new technologies that improve the reliability, cost, safety and environmental impact of our domestic energy system. Because adoption of these new

[15] Source: BP Statistical Review of World Energy: June 2018

technologies cuts across industries and therefore the mandate of the relevant regulatory agencies, there is an important role to play for policy makers as well as regulators.

Our investors have benefitted from great management teams operating essential businesses under a consistent rule of law administered by regulation that balances consumer and investor interests to the benefit of all. We will continue to manage the allocation of the capital we are entrusted with to seek fair returns and minimize risk by investing in well-run companies operating under the guidance of balanced, reasoned and predictable regulation.

This concludes my testimony. Thank you for the opportunity to share my Firm's views on these very important issues.