The Winds of Change

**Energy is essential.** It is the power that helps us drive vehicles, light buildings; and heat and run our offices, homes, and lives. Traditionally, energy is divided among four economic sectors: residential, commercial, transportation and industrial. Primary energy sources take many forms, including nuclear energy, fossil energy—like oil, coal and natural gas—and renewable sources like wind, solar, geothermal and hydropower. These primary sources are converted to electricity, a secondary energy source, which flows through power lines and other transmission infrastructure to homes and businesses.

You may have noticed that the form of energy origination is shifting—as is the energy market. Over the past decade, an abundance of natural gas in the United States has led to a shift away from coal and towards natural gas as the primary source for electric power generation. As a result of the shift to inexpensive natural gas, the United States has consistently experienced lowered energy prices. These prices have translated into cost
savings for businesses and homeowners in recent years. The not so good news is: these times won’t last.

Conditions and factors impacting the prices are changing. And while natural gas emits less carbon than coal, there’s a sharp rise in interest surrounding renewable energy because of environmental benefits. **Tried and true to economics, a rise in interest—and thereby demand—is sparking a rise in cost.**

As concerns about the environmental impacts of some energy sources continues to be explored, consumers, industries and legislators alike are seeking alternatives. An increase in legislation to raise the standards and uses of renewable energy sources, like sunlight, wind, rain, tides, waves and geothermal heat, is one of the factors creating increased costs associated with those resources. For example, the State of Maryland’s Clean Energy Jobs Act of 2019 not only raises Maryland’s requirement for renewable energy to 50% by 2030, but also requires state planning to reach 100% renewable energy by 2040. Maryland isn’t alone. A majority of states have either passed statewide or local jurisdiction legislation to advance clean air, energy and jobs.

We can and should expect regulations to get more stringent. So what does that mean for your business and/or buildings? Because of numerous factors, costs are rising within the energy market that you must prepare for now. Most commercial users of electricity are currently locked into fixed rate contracts with third party energy suppliers and have been temporarily shielded from this increase. However, they will feel the impacts of the Renewable Portfolio Standards (RPS) legislation when their contracts come up for renewal.

While most businesses today have sustainability goals, far too many don’t understand how to attain them in today’s operating environment. It’s much easier to say a company wants to “go green,” than to actually get there—especially once the costs involved become clearer.
MD Energy Advisors (MDEA) advises clients on how to meet their energy goals, within specified timeframes; developing strategies and helping you look ahead. We don’t rubber stamp solutions. We understand that different companies have different needs, circumstances and goals and we take into consideration internal and external landscapes. We listen to what you have accomplished, and what you would like to accomplish in the future. Importantly, we help you plan, not only for the short term—easing the blow of the shifting energy environment and costs—but for the long term; so you’ll see a real return on your investments.

Our solutions are steeped in **two** principles:

1-*Educate*—know the environment and be prepared; and
2-*Plan*— develop a holistic, long-term strategy steeped in the client organization’s needs.

**Let’s begin.**
Energy Costs 101: The Fundamentals of the Energy Environment

The first step is critical: MD Energy Advisors educates clients, and importantly, educates ourselves on the individual operating environment of each client and their goals. While every business or building is different, there are basic fundamentals and principles at play that it is important our clients are informed about.

The energy market is shifting, not only because of changes in the type of energy origination, but also due to a number of other factors, including movement in the energy market. There are also changes in sectors. For example, as COVID-19 moves from pandemic to endemic status, the industrial sector is beginning to bounce back. While coal plants that generate electricity have converted or moved to natural gas (which increases its demand and price), natural gas in the United States is being liquefied (LNG) and exported to countries like China. This increase is expected to continue.

Liquefied natural gas exports were not even a factor five years ago. Overall, exports continue to increase year over year, shifting U.S. supply of natural gas throughout Europe, Mexico and Asia. Additionally, natural gas is being used as a bridge fuel for many countries—a short-term solution—to lower
emissions while planning for longer term goals of 100% renewable energy. All the while, demand is increasing, as supply is steady to slightly declining. As stated, Renewable Portfolio Standards policy is also increasing demand. It’s not only being driven by states and municipalities. The International Energy Association (IEA) has identified the environmental strain of drilling well caps and has restricted drilling in certain areas. In fact, the IEA recently said new investments in upstream fields need to stop if the world wants to hit net-zero carbon emissions by 2050. This would mean a significant decrease in fossil fuels, which also leads the market back to renewables.

**NATURAL GAS PRICING TRENDS**

![Natural Gas Pricing Trends Graph]

**ELECTRICITY PRICING TRENDS**

![Electricity Pricing Trends Graph]
EWABLE ENERGY CREDIT (REC) PRICING TRENDS

U.S. ELECTRICITY GENERATION PROJECTIONS

U.S. electricity generation and share from selected fuels and renewable sources

Factors in Rising Costs
Electricity generation is directly tied to natural gas prices, as much of power generation is fueled by natural gas. Electric and natural gas prices have increased significantly in 2021. The volatility and strong prices are due to:

**INCREASED DEMAND**
- coal retirements continue
- natural gas as a bridge/transition fuel to renewable sources
- increased liquified natural gas exports

**STAGNANT PRODUCTION, UNDERSUPPLIED**
- increased demand typically sparks investment in production, but lack of capital to increase supply is producing higher prices
- natural gas producers continue to be financially disciplined, holding off on new wells/production
- natural gas storage on track to be at or near record low at the end of injection season

**RENEWABLE ENERGY**
- increased interest in renewable energy sources are supporting higher prices for RECs, carbon offsets, solar and wind generating capacity
Increased demand typically sparks investment in production. Lack of capital and increasing fiscal discipline of producers have undersupplied the market, marking one of the lowest gas storage injection seasons on record.

Moreover, public, private and government sectors have steep renewable energy goals. The increased demand in renewable energy has caused the cost of renewable energy to skyrocket in 2021. Supply and demand is affecting the renewable energy market similarly to the traditional energy market.

**Energy Costs 102:**
**The Foundation of Your Energy Plan**

If you are only looking at one aspect of your energy plan, you are missing something. Procurement, energy efficiency and sustainability goals are all interrelated. Too often companies have a disconnect between internal groups handling these various functions. Importantly, planning strategically also helps you to plan for the longer term, which eases potential financial blows.
Our holistic, strategic approach to solving energy challenges allows us to look at your entire energy spend and offer personalized energy solutions that result in savings. While solutions are customized to fit the needs of each building owner, this five step approach to reducing the quantity of energy consumed works, time and time again:

**Step One: Determine the current state of energy efforts, including any existing energy strategy**
- Review existing policies to assist in understanding client priorities and needs
- Establish goals and timelines with client

**Step Two: Identify data needed and collection process**
- Work with client to obtain current energy usage data, utility billing, budget reports, energy contracts, building automation reports, etc.

**Step Three: Evaluation of data to use for future metrics/goal attainment**
- Determine what is currently being done well and where there are opportunities for improvement
- Benchmark buildings
- Set energy usage targets for each building

**Step Four: Plan and execute improvements**
- Set and prioritize goals, establish a plan and timeline to attain goals
  - clearly define and identify needs including vendor partnerships, technology and financing
- Identify and share best practices among property teams
- Develop simple, actionable energy reports

**Step Five: Monitor and report**
- Continuous assessment of performance
- Report, on scheduled basis, performance versus baseline
- Regular adjustments to energy strategy based on internal and external factors
Energy Costs 103: Budget by Controlling Your “Q”

We can’t control the legislative environment and we can’t control the energy market, but the good news is, we can do something to help you control the amount of energy you consume or Q for (Quantity).

It’s simple math. If P (Price) is going up then, again, it becomes important for Q (Quantity) to go down. This is within your control through energy efficiency projects and will help you to manage C (Cost). At MD Energy Advisors, we have a proven strategy to manage price, usage and energy costs. MDEA details how you can control Q through energy solutions and improvements.

MD Energy Advisors helps turn energy related capital projects into energy efficiency projects to help reduce operating expenses and improve net operating income, even in an ever-changing regulatory environment. We provide energy efficiency solutions and look for opportunities to reduce energy consumption throughout your portfolio.
This includes the use of processes like retro-commissioning, which enable facilities to operate with optimal efficiency by monitoring, troubleshooting and adjusting systems in existing buildings to optimize energy performance. In addition, HVAC is one of the most effective areas to decrease overall energy consumption through heating and cooling efficiency. Lighting is the next largest source of electricity consumption for most buildings. Additionally, retrofitting exterior and/or interior lights is one of the easiest ways to generate energy savings. We make recommendations based on your sustainability goals and budget, and will help you develop a comprehensive sustainability strategy.

“Providing leadership in the Washington DC real estate market is extremely important to us. The team at MD Energy Advisors was able to explain the intricacies of 100% Green Energy purchasing in a way that made it easy for us to make an informed decision. We hope to set an example for our peers in being stewards of the environment.”

Stacy Purdy-Lautar, CPM®, LEED GA
SVP, Director of Property Management
The Meridian Group
Whether your business has sustainability and environmental goals you want to reach, or it’s bottom line factors that motivate you, MD Energy Advisors arms our clients with the knowledge and information you need to create, evaluate and modify your energy plans. The market will be what it is—and it will continue to change. But, knowing where you want to be, how you want to get there, and making an investment to build your energy strategy is a choice you can control that will secure your long-term outlook.

Together, we work efficiently and effectively to develop an energy plan based upon internal and external factors that matter most. With expert education and planning, your business will be prepared to weather any changes ahead.

**View recent case studies** to learn more about our impact for clients.
MDEA delivers energy solutions with unparalleled customer service. By infusing art into energy, we create dynamic customer-centric experiences. We deliver personalized solutions that matter to people and the world around them. For more information, please visit, mdenergyadvisors.com.