Breaking Ground

THE MAGAZINE OF THE MASTER BUILDERS' ASSOCIATION OF WESTERN PENNSYLVANIA

MARCH/APRIL 2023

GREEN BUILDING INNOVATION

MBA


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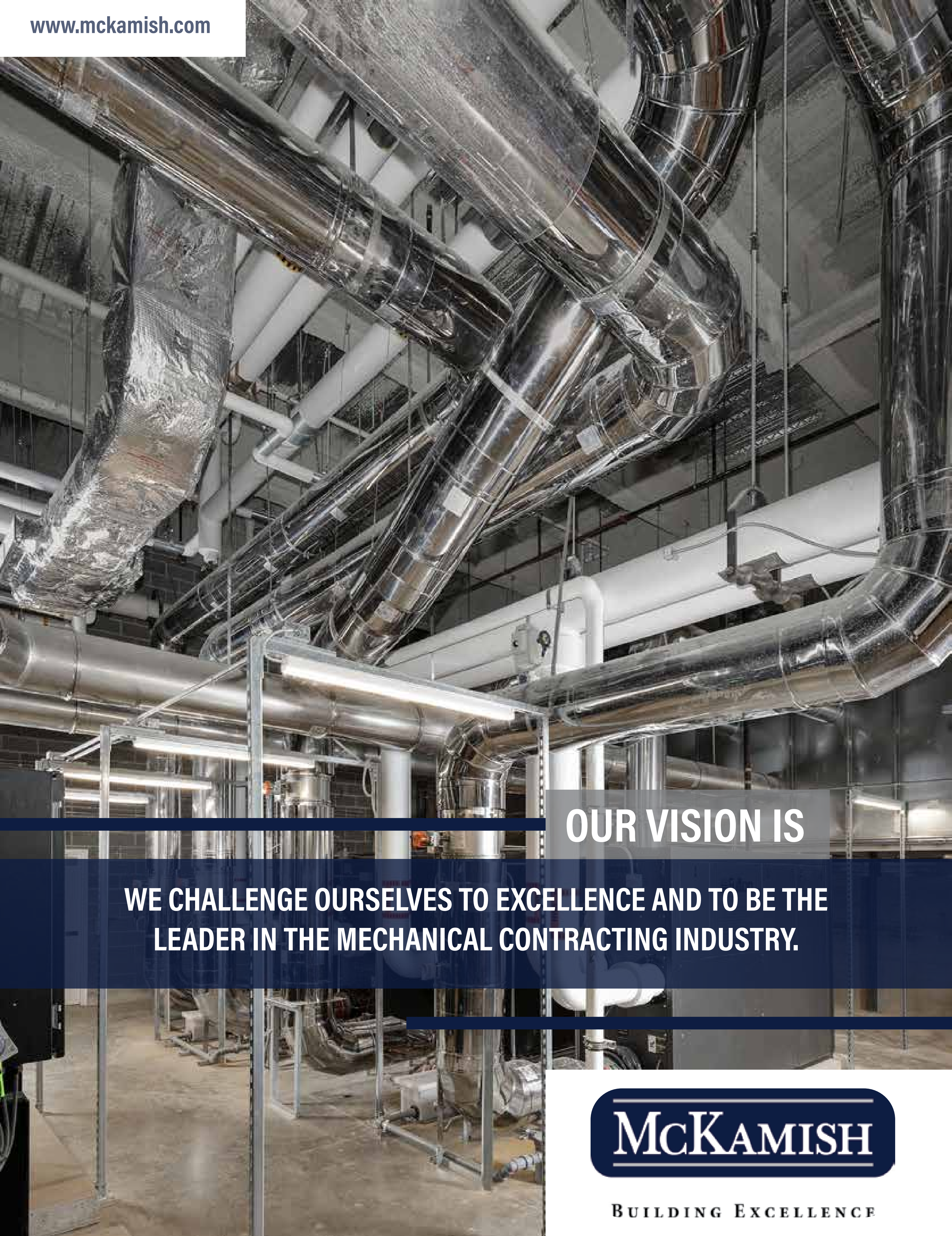

OUR VISION IS

WE CHALLENGE OURSELVES TO EXCELLENCE AND TO BE THE LEADER IN THE MECHANICAL CONTRACTING INDUSTRY.

MCKAMISH

BUILDING EXCELLENCE

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On the cover: RIDC Mill 19 at Hazelwood Green. Photo by Scalo Solar

PUBLISHER'S NOTE

When we put together the first complete edition of BreakingGround in fall 2006, the feature topic was green building. In that article we predicted that green building would be mainstream by the end of the decade. It turned out we were right, but the landscape has certainly changed since then.

In that first edition we talked to and about a number of people who have since moved on from Pittsburgh's construction scene, like Gary Saulson, Rebecca Flora, and Vivian Loftness, and were pioneers in green building advocacy. The conclusion of the 2006 article was that sustainable design and construction, and specifically LEED certification, have benefits that building owners would demand in their projects. The struggle was in getting a foot in the door to explain what sustainable design was and what it could mean to the occupants and owners of the built environment. By 2010, when we did a green building update, the conclusion of the feature article was that it had gone mainstream. In 2006, there were not yet a handful of LEED-certified projects in Western Pennsylvania. By 2010, there were dozens of projects being certified each year.

One of the most surprising trends that I uncovered during the research for this month's green building update was the stagnation in formal LEED certification. There are several theories as to why this has happened, and we will explore them in the feature, but the consensus is that the consciousness of the industry has been raised to the point that the standards that resulted in project certification are now widely used. After talking to owners and architects about this I have to say that feels about right. I hope that is the case since we are facing a few global problems for which high performance buildings can be part of the solution.

One of those is the development of energy sources that can sustain the planet's growing demand without destroying the planet. We have amazing advancements in technology that allow us to generate electricity from the sun, the wind, and the atom that can at some point eliminate the need for us to burn fossil fuels. The market's pursuit of these technologies will yield winners, maybe even the kind of breakthrough that changes the energy landscape. It is worth remembering, however, that these technological advancements come with a cost, both in development and in opportunity. Moreover, the development of one or more winning technologies at a global scale is still many years away. The switch to renewable energy generation will require major or massive improvements to the distribution and storage infrastructure that are not within sight either. Those realities should not discourage the aggressive search for renewable energy, but until there is true global scale in renewable energy, demand requires that we use the resources that are at hand.

Of course, we can also use less energy.

What green building offers that renewable energy generation does not is a decrease in the amount of energy we use. The technologies and methods for conserving energy and resources exist today and can, at small scale, dramatically reduce the need for power generation. What we have learned over the past two decades is how to put a building together so that it consumes far fewer resources. Cutting demand in half, for example, has the net effect of doubling the amount of energy on hand. That's a win for our planet and our economy. That's a win that probably does not happen without the advocacy for green building that has educated professionals and public officials over the past 25 years.

The decline in participation for LEED certification is, in some way, a legacy of that advocacy, which has raised the bar for building design. I doubt the Green Building Alliance is preparing to declare victory and move on from LEED, but it is true that many of the champions of LEED in 2010 are now champions of the WELL standard or Passive House. And it's easy to draw a line connecting the decades of advocacy to the generous incentives included in the Inflation Reduction Act.

Those incentives will doubtless bring a surge in the construction of more energy efficient buildings. But, for the drive towards zero energy and decarbonization to ultimately succeed, there will need to be lasting benefits to the owners and occupants of those new buildings. If history is a guide, the owners and professionals involved with those new buildings will build higher-performing buildings if the market rewards them. That is how a virtuous cycle of innovation is reinforced. That is how green building went from novel to vital in 16 years.

Jeff Burd

REGIONAL MARKET UPDATE

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The double whammy of higher inflation and rapidly rising interest rates, and the uncertainty about when conditions would stabilize, chilled construction in Western PA in 2022. In a year that looked promising for construction, the economic conditions forced delays that trimmed roughly $400 million from the pre-2022 forecast for nonresidential/commercial construction – a decline of $905 million from 2021 – and pushed residential construction down 22 percent from a year earlier.

Residential construction was down in all three major property types. Traditional single-family housing, which has suffered from a shortage of lots and labor for nearly a decade, fell by 20.3 percent, with 1,922 new homes started in 2022 compared to 2,411 in 2021. Construction of single-family detached homes decline from 1,060 to 896 units. There were 1,728 multi-family units started in 2022, a decline of more than 600 units from 2021.

Permits for all types of residential fell below the five-year averages, and the total new residential construction was 9.3 percent lower than the five-year average. Total new construction fell 21.7 percent from 5,808 units to 4,546 units.

The drop in apartment construction was attributed to the sharp increase in interest rates and, to a lesser extent, the higher cost of construction. While the latter contributed to delays, as developers and contractors sought cost savings, the jump in borrowing costs of more than 300 basis points from spring to fall short-circuited financing for apartments. Unlike with single-family homes, demand for apartments remained high and rents continued to increase, although at a much slower pace than through mid-year. The higher borrowing costs caused problems for developers to meet debt service coverage ratios, pushed cap rates higher, and dampened expectations for property values at exit. All those factors made it more difficult to finance apartments in the second half of 2022.

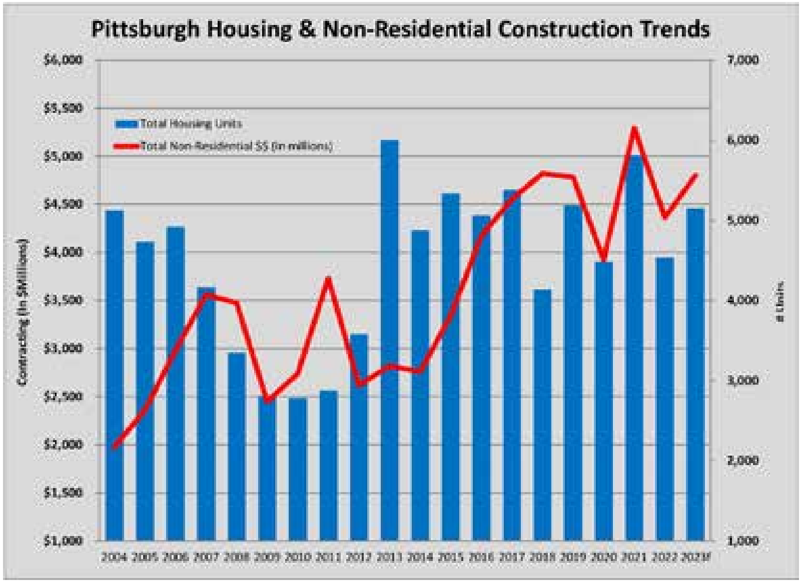
Apartment development prospects remain solid in Pittsburgh, despite the more challenging environment. Demand is still solid, and the development pipeline suggests that between 2,000 and 2,500 units will start in 2023. The single-family market is unlikely to see such a bounce back.

Financing of other commercial construction types was also more difficult than in 2021 and was a drag on development overall. Escalation played a larger role in the slowdown of institutional and public construction in 2022. Budgets were difficult to meet and value engineering or redesign added months to preconstruction, pushing many projects into 2023.

It was something of a happy coincidence that commercial construction was slowing cyclically coming into 2022, so that sector was less of a drag on the market than it may have been had similar inflation and financing conditions occurred in 2016 or 2018. Commercial construction made up only 15 percent of the activity in 2022. Institutional construction – healthcare, educational, and public structures – which is less impacted by higher rates, fared better and comprised 68 percent of the total construction market in 2022.

Contracting for nonresidential and commercial construction in 2022 – construction starts and contracts awarded to start work within 60 days -topped $4.386 billion, a significant decline from the $5.291 billion contracted in 2021. Excluding the work put in place at the Shell Franklin Plant, the years seemed to be dissimilar in activity - $3.68 billion in 2022 versus $4.34 billion in 2021 – but in the major categories of work the activity varied little.

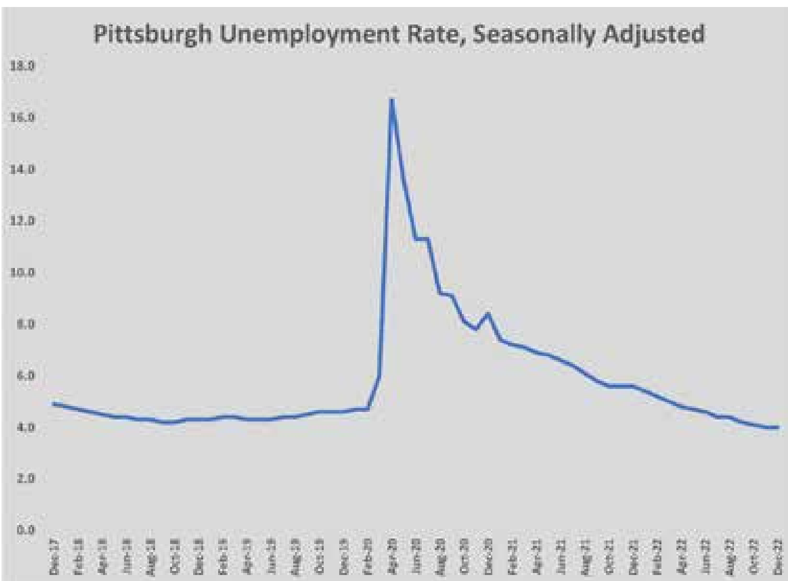
The biggest year-over-year variance, not surprisingly, was



Construction activity fell for both residential and commercial in 2022. Source: Tall Timber Group, Pittsburgh Homebuilding Report.

		2022		2021	Variance
Total Single-family Units		2,825		3,471	(646)
Total Multi-family Units (new)		1,728		2,337	(609)
Total Non-residential/Commercial	$	4,386	$	5,291	(905)
Healthcare	$	286.7	$	214.2	73
Higher Education	$	444.6	$	435.1	10
Industrial	$	570.5	$	594.5	(24)
K-12	$	186.9	$	173.3	14
Office	$	283.3	$	583.7	(300)
Multi-family	$	683.3	$	581.9	101
Retail	$	173.3	$	170.0	3
Waste & Water	$	275.6	$	221.9	54

Source: Tall Timber Group, Pittsburgh Homebuilding Report.



Source: Bureau of Labor Statistics. Federal Reserve Bank of St. Louis.

a $300 million decline in the office construction market. Neither 2021 nor 2022 saw much new office construction, but renovations and tenant improvement work slowed in 2022, likely because of the higher costs of construction and borrowing. Multi-family construction was $101 million higher in 2022, despite a 26 percent decline in new construction. Most of the increase in multi-family was due to a significant spike in converting existing buildings to apartments, notably in downtown and the Strip/Lawrenceville neighborhoods. In all other major categories of construction that saw at least $150 million in volume, the year-over-year variance was relatively small. In four other categories – industrial, K-12, higher education, and retail – the year-over-year variance was four percent or less.

Because there are still an unusual number of larger projects in the pipeline – including more than a billion dollars in contracting at the Terminal Modernization Program and UPMC Heart and Transplant Hospital – the outlook for activity in 2023 is brighter. Assuming that demand remains relatively flat, the pipeline of projects suggests that $4.8 billion in activity in the coming year for nonresidential/commercial projects.

Within the major categories, the most significant increases will come in the higher education, healthcare, and K-12 sectors (assuming the major projects in the pipeline are not derailed by bids that come in over budget). The office market is likely to be lower because there is no new construction expected in 2023; however, there is a marked increase in the pipeline of tenant improvement work that will be a positive for firms that work in that segment of the market. Industrial construction, which has been at unusually high levels for several years, should see a significant decline in 2023 as that sector works through new inventory and a retrenching of the logistics industry.

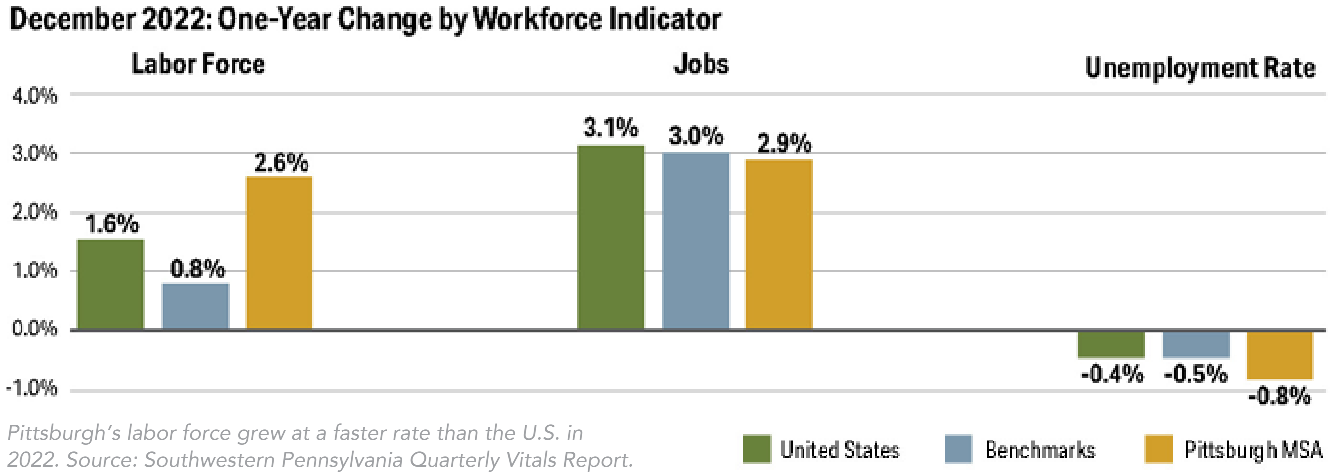
One important driver of construction, the level of employment, should remain strong throughout 2023, regardless of the overall economy.

At the end of 2022, seasonally adjusted unemployment remained at 4.0 percent in the metropolitan Pittsburgh area, the lowest rate since the Department of Labor and Industry began keeping metro-level records in 1976. On an unadjusted basis, there were 43,000 unemployed persons in the seven-county Pittsburgh market at the beginning of 2023. Employment grew by 32,500 jobs in 2022 to 1,136,200. That was an increase of 2.9 percent compared to the end of 2021. The sectors with the largest gains in employment were business and financial services, and leisure and hospitality, both of which added more than 10,000 jobs. Construction led the declining sectors, shedding 1,000 jobs, primarily due to an accelerated level of retirements.

There were 148,000 job postings in Pittsburgh in January, an 8.8 percent increase over the previous year and nearly 3.5 openings per unemployed persons.

According to the Pennsylvania Economy League of Greater Pittsburgh, the regional workforce grew from 2021 to 2022. Pittsburgh's labor force is in the midst of significant downward pressure because of its demographics, and the pandemic accelerated the rate of Baby Boomer retirements that is the major drain on the workforce. The labor force in Southwestern PA grew by 2.6 percent from December 2021 through December 2022, outstripping the growth rate nationwide by a full percentage point.

Another metric of workforce strength, turnover rate, remained steady in Pittsburgh, even as the turnover rate in the U.S. climbed. The turnover rate was 57 percent in Pittsburgh in 2022, according to the Southwestern Pennsylvania Quarterly



Pittsburgh's labor force grew at a faster rate than the U.S. in 2022. Source: Southwestern Pennsylvania Quarterly Vitals Report.

Vitals Report by the Economy League. That rate was unchanged from 2017 and two points lower than in 2012. By contrast, the U.S. turnover rate was 63 percent in 2012 and climbed to 71 percent last year.

January saw a marked improvement in two key metrics in the recovery of the Central Business District. While the occupancy level of office buildings remains mired around 22 percent of the pre-pandemic levels, daily visitors to Downtown increased by 31 percent from January 2022 to 84,119. The average number of workers daily in Downtown, Monday-to-Friday, increased to 35,424, the highest number since March 2020. Bus ridership remained at 58 percent of pre-pandemic levels. The improvement in Downtown worker occupancy, while encouraging, has not yet shifted the negative trends in office demand.

Pittsburgh's economy is diversified sufficiently that a national recession, which is likely to be mild, will have a muted effect on construction in the region. Cost escalation appears to be returning closer to normal, although costs are significantly higher than in 2019. Perhaps the biggest threat to a stronger construction market in 2023 could be the deferral of projects until 2024 in anticipation of lower interest rates and costs. This threat will be magnified in the second half of 2023 if inflation falls more steeply and a recession occurs by mid-year. BG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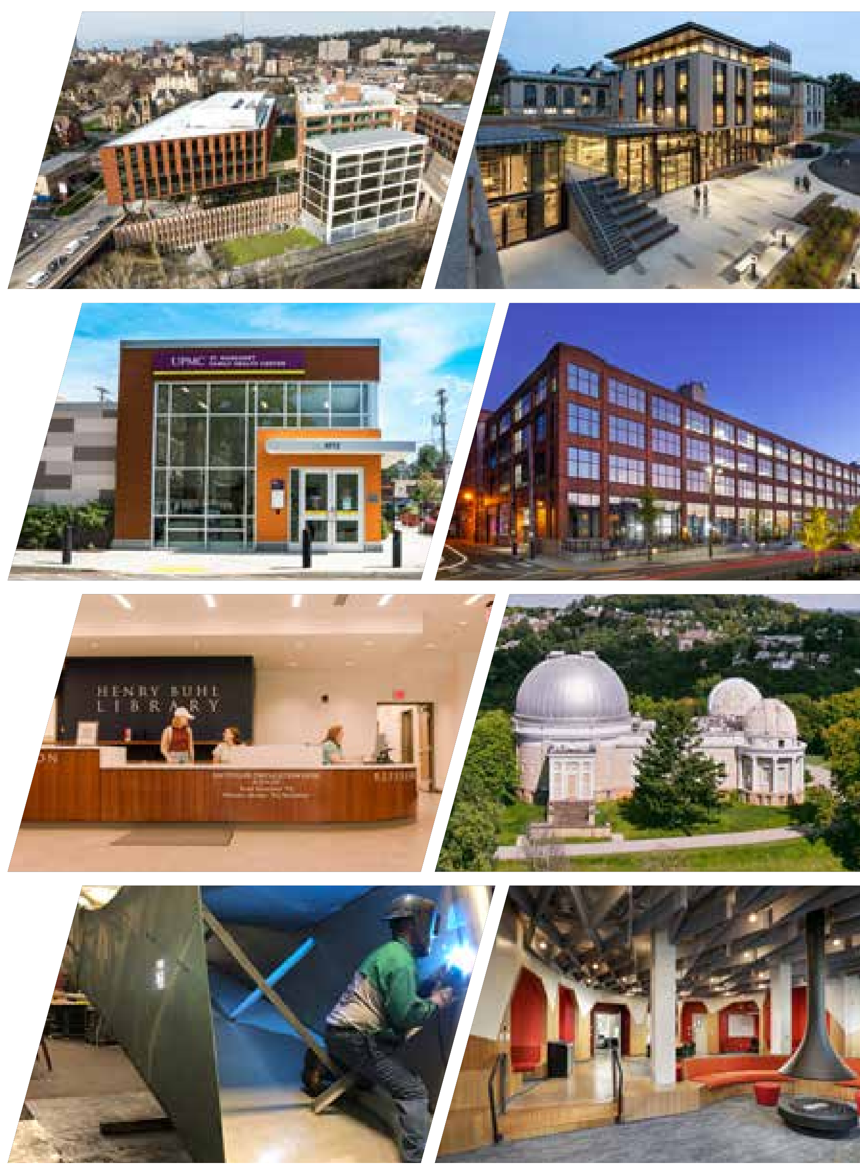


NEW CONSTRUCTION

Over $25 Million

The Assembly

CONTRACTOR:
Turner Construction Company

OWNER:
Wexford Science & Technology

ARCHITECTS:
ZGF Architects

MBA SUBCONTRACTORS:
ABMECH Acquisitions, LLC
All Crane Rental of Pennsylvania, LLC
Amelie Construction & Supply, LLC
Brayman Construction Corporation
Century Steel Erectors Co., LP
Clista Electric, Inc.
Cost Company
Donley's Concrete Group
Franco Associates
G. Kidd, Inc.
Giffin Interior & Fixture, Inc.
Hatzel & Buehler, Inc.
JLJI Enterprises, Inc.
Kalkreuth Roofing & Sheet Metal, Inc.
Lighthouse Electric Company, Inc.
Lisanti Painting Company
Marsa, Inc.
Massaro Industries, Inc.
Matcon Diamond, Inc.
McKamish, Inc.
Noralco Corporation
Phoenix Roofing, Inc.
Saint's Painting Company, Inc.
Sargent Electric Company
Schindler Elevator
Spectrum Environmental, Inc.
SSM Industries, Inc.
Swank Construction Company, LLC
Wyatt Incorporated


UPMC
1072

NEW CONSTRUCTION
$10 to $25 Million

Carnegie Mellon University – ANSYS Hall

CONTRACTOR:
Mosites Construction Company

OWNER:
Carnegie Mellon University

ARCHITECTS:
Bohlin Cywinski Jackson

MBA SUBCONTRACTORS:
A.J. Vater & Company, Inc.
Century Steel Erectors Co., LP
D-M Products, Inc.
EMCOR Services Scalise Industries
Ferry Electric Company
Franco Associates
Howard Concrete Pumping, Inc.
J.J. Morris & Sons, Inc.
Phoenix Roofing, Inc.
Richard Goettle, Inc.
Ruthrauff | Sauer, LLC
Schlaegle Design Build Associates, Inc.
SSM Industries, Inc.
Swank Construction Company, LLC
Wright Commercial Floors

NEW CONSTRUCTION

Under $10 Million

UPMC St. Margaret Family Health Center

Photo by Olivia Mendizabal

CONTRACTOR:
Massaro Construction Group

OWNER:
UPMC

ARCHITECTS:
Canzian/Johnston

MBA SUBCONTRACTORS:
Bryan Construction, Inc.
Costa Contracting, Inc.
Harris Masonry, Inc.
Lisanti Painting Company
Massaro Industries, Inc.
Menard USA
Specified Systems, Inc.

RENOVATION CONSTRUCTION

Over $10 Million

1600 Smallman Street / Aurora Fit Out

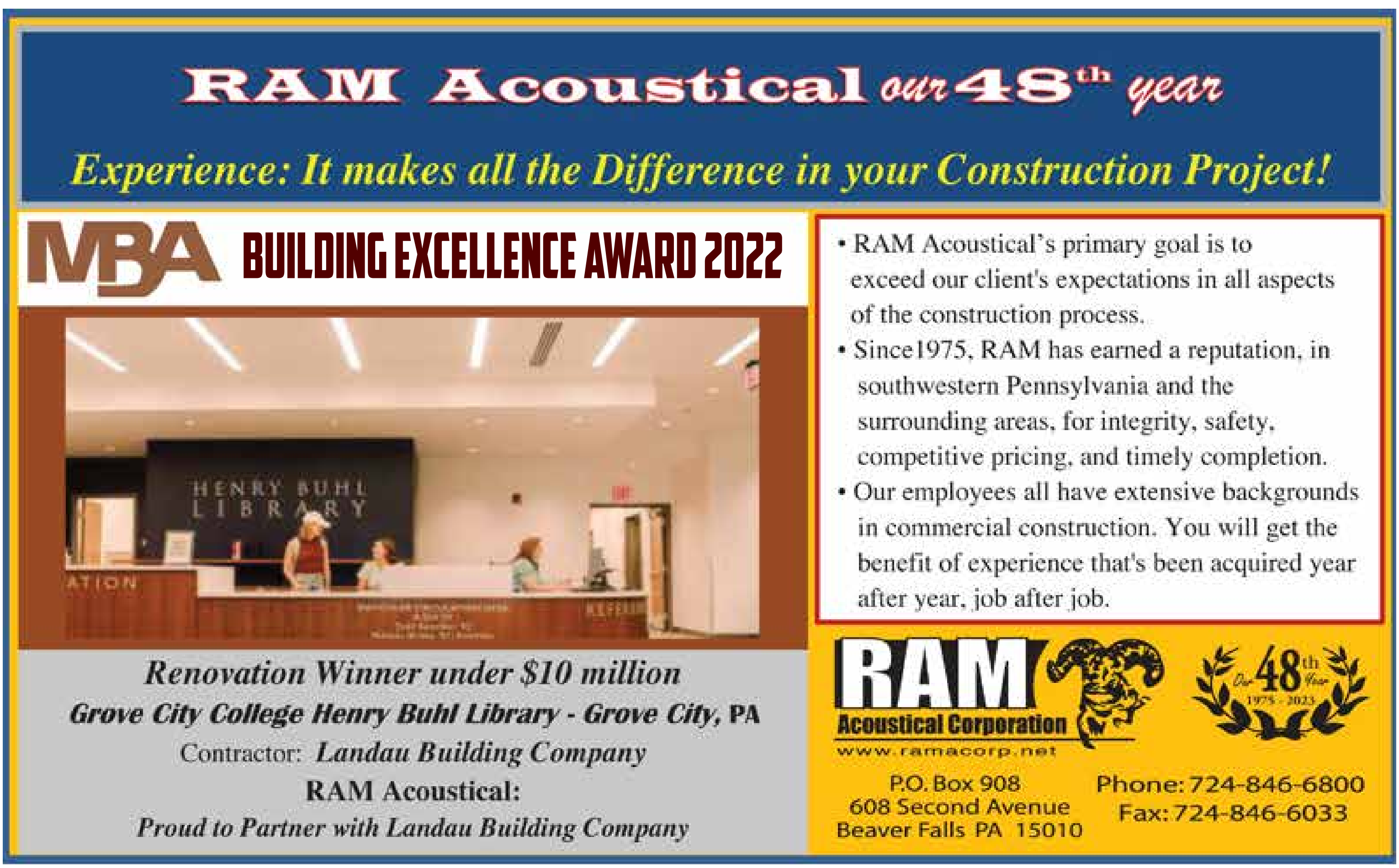
CONTRACTOR:
PJ Dick, Incorporated

OWNER:
McCaffery, Inc.

ARCHITECTS:
Antunovich Associates

MBA SUBCONTRACTORS:
A. Folino Construction, Inc.
Alliance Drywall Interiors, Inc.
Bristol Environmental, Inc.
Bryan Construction, Inc.
Easley & Rivers, Inc.
Ferry Electric Company
Franco Associates
Massaro Industries, Inc.
Phoenix Roofing, Inc.
RAM Acoustical Corporation
Ruthrauff | Sauer, LLC
Saint's Painting Company, Inc.
Schindler Elevator
Specified Systems, Inc.
T.D. Patrinos Painting & Contracting Company


safety
FERRY ELECTRIC COMPANY
Electrical Contractors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Grove City College Henry Buhl Library - Grove City, PA
Contractor: Landau Building Company
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Beaver Falls PA 15010
Phone: 724-846-6800
Fax: 724-846-6033

RENOVATION CONSTRUCTION

$5 to $10 Million

Grove City College — Henry Buhl Library Renovation & Addition

CONTRACTOR:
Landau Building Company

OWNER:
Grove City College

ARCHITECTS:
PWWG Architects

MBA SUBCONTRACTORS:
Giffin Interior & Fixture, Inc.
Marsa, Inc.
RAM Acoustical Corporation
Renick Brothers Construction Co.
Specified Systems, Inc.
Swank Construction Company, LLC

RENOVATION CONSTRUCTION
Under $5 Million

University of Pittsburgh — Allegheny Observatory


Photo by Olivia Mendizabal

CONTRACTOR:
Massaro Construction Group

OWNER:
University of Pittsburgh

ARCHITECTS:
Pfaffmann & Associates

MBA SUBCONTRACTORS:
Harris Masonry, Inc.
Kalkreuth Roofing & Sheet Metal, Inc.

EXCELLENCE IN CRAFTSMANSHIP

Exterior

Tuscarora Tunnel Renovation

CONTRACTOR:
McKamish, Inc.

OWNER:
Pennsylvania Turnpike Commission

ENGINEER:
Gannett Fleming Inc.

EXCELLENCE IN CRAFTSMANSHIP

Interior

Carnegie Mellon University — Fifth & Clyde Residence Hall and Hub

CONTRACTOR:
Rycon Construction, Inc.

OWNER:
Carnegie Mellon University

ARCHITECTS:
LTL Architects
Perfido Weiskopf Wagstaff + Goettel

NATIONAL MARKET UPDATE

As data from the end of 2022 rolls out to the public, there is ample evidence that the U.S. economy is cooling. Consumers and businesses have responded to higher inflation and the higher interest rates fashioned by the Federal Reserve Bank by spending less. Through January, there appeared to still be a chance for the economy to cool without a recession, but policy makers were clear that bringing inflation back to the two percent range was a higher priority than avoiding a downturn.

Initial estimates of gross domestic product (GDP) growth in the fourth quarter showed that the impact of higher inflation and borrowing costs had not dented the economy overall. The Bureau of Economic Analysis reported on February 23 that GDP grew 2.7 percent in the fourth quarter of 2022 and 2.1 percent for the full year.

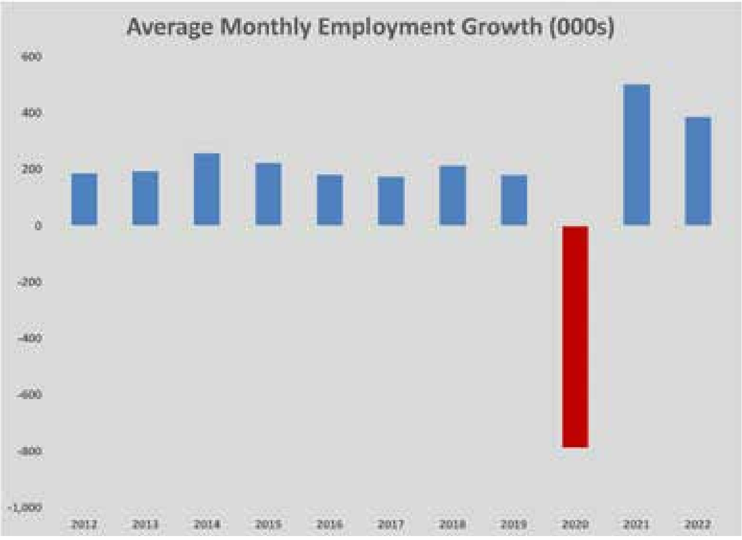
Below the headline GDP number, however, there were signs of weakness that suggest much lower growth in coming quarters. Residential fixed investment declined by more than 20 percent, manufacturing and exports also fell by significant numbers. Most notable, consumer spending increased by a smaller percentage and shifted to more spending on services. Growth was also driven by inventory growth (especially in petroleum, coal, and chemical products) and government spending at the federal and local levels.

Economists breathed a bit easier following the Employment Situation Summary report of January 6. The Bureau of Labor Statistics reported that employers added 223,000 jobs in December, bringing unemployment to a 50-year low of 3.5 percent. The pace of hiring continued to slow through the fourth quarter, easing fears that the Federal Reserve Bank would maintain rate hikes at 50 basis points or hike beyond the March meeting. The February 3 report on January's hiring – at 517,000 new jobs – threw a monkey wrench into the employment trends.

Unemployment fell to 3.4 percent in January. The number of unemployed persons was mostly unchanged but the number of unemployed from less than 1 month declined to 1.9 million and the number of persons unemployed longer than 26 weeks fell to 1.1 million. And despite numerous high-profile layoff announcements – primarily in the tech sector – initial jobless claims remained well under 200,000 each week into February.

There was good inflation news in the employment report. Wages grew 0.3 percent from December and 4.4 percent year-over-year, continuing the cooling from roughly 6 percent in mid-2022. On an annualized basis, the January wage increase translated to 3.7 percent.

The Fed's 25-basis point hike on February 1, while expected, did little to ease economists' concerns that the central bank would overplay its hand on monetary tightening and push



Employment grew faster in 2022 than all but one of the past 10 years. Source: U.S. Bureau of Labor Statistics.

Source: Institute for Supply Management.

the U.S. economy into an unnecessary recession. The resolve communicated by Fed Chair Jerome Powell indicated that the higher rates would remain until 2024. That reassures financial markets that inflation is unlikely to become entrenched; however, the effects of monetary policy tend to lag rate hikes (or cuts) by as long as a full year, meaning that further rate increases in 2023 could be unnecessary. Given the relatively quick decline in the rate of inflation at the end of 2022, a pause in hiking the Fed Funds rate at the end of the first quarter is not likely to blunt the decline in prices and might increase the chances of a soft landing. Bond markets were still pricing in another 25-basis point hike in late March, and the odds of a May hike ticked higher.

Economists pointed out that the January surge in hiring was driven by seasonal and part-time workers. Fewer expressed concerns about the January jobs report than the Fed's emphasis on the Job Openings and Labor Turnover Survey (JOLTS) as a measure of labor demand. Like many economic metrics, JOLTS appears to have been skewed by the pandemic and its aftermath. Following the rollout of vaccines in early 2021, job openings spiked by five million to nearly 12 million unfilled positions. That was nearly twice the number of unemployed persons. That gap has remained mostly constant from mid-2021 until today. An increasing number of observers are finding potential flaws in the JOLTS responses that would make it less reliable as a measure of labor demand.

Notably, the ease and low (or no) cost of job posting increases the likelihood that postings will remain active beyond the point that a search is ongoing. The severe shortage of labor that accompanied the rapid recovery from the pandemic was an incentive for employers to post numerous positions for hire, regardless of need, in the hopes of attracting any available worker. The JOLTS does not measure the "intensity" of an opening, meaning that openings still exist where interviews have not occurred for months. As an indication of the latter point, the JOLTS response rate has fallen from 44 percent to 31 percent since mid-2021.

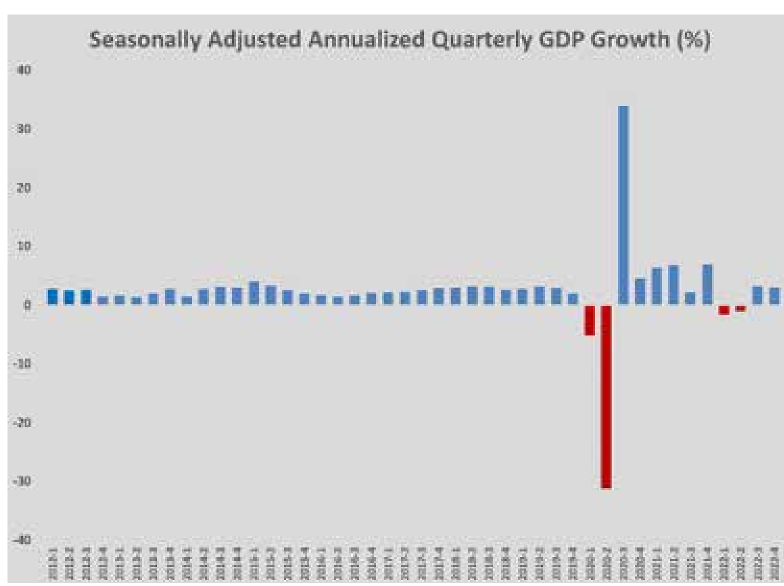
What concerns economists is that these weaknesses in the JOLTS reporting may overstate the true current demand for labor, giving the Fed an incentive to keep rates higher for a longer period than necessary to bring inflation back to pre-pandemic levels. The Fed has plenty of room for unemployment to increase before recessionary conditions appear; however, if it is relying on a metric that is not accurately reflecting weaker hiring conditions, the risk of overshooting the mark on interest rates is higher.

Other economic data showed that the economy was slowing in a predictable manner. The housing market continued to decline. Manufacturing slipped into negative territory, and the consumer is easing off the gas.

Retail sales fell 1.1 percent from November to December, after a 0.6 percent decline the previous month. Holiday sales were below expectations and year-over-year sales ended up 5.3 percent, more than a full percentage point below the 6.5 percent consumer inflation rate for the same period. The core personal consumption expenditures index developed by the Bureau of Economic Analysis declined to 4.7 percent year-over-year in December, compared to 6.4 percent in July.

Consumers added to savings in the fourth quarter for the

Construction of apartments increased significantly in 2021-2022, while single-family home construction declined. Source: U.S. Census Bureau



Source: U.S. Bureau of Economic Analysis first time in 2022, increasing the personal savings rate to 2.9 percent from 2.7 percent in the third quarter. The increase signals that households are pulling back in anticipation of potential higher unemployment. The report on January's retail spending, which grew three percent from December, was a reminder that the consumer had not gone into hibernation yet.

Readings from the Institute for Supply Management (ISM) have been slightly negative since the fourth quarter of 2022. The ISM Purchasing Managers Index declined steadily throughout 2022, falling below the neutral 50 level in November and December, and slipping to 47.4 in January 2023. ISM's new manufacturing orders survey was negative six of the last seven months of 2022, falling to 45.2 in December. Both of these ISM readings foretell decline within six months.

The housing market is typically a leading indicator of economic health. Since summer 2022, existing home sales, new construction, and the rate of home price appreciation have all slowed significantly. Housing starts slipped to the 1.33 million unit pace in December 2022, down from a peak of a 1.805 million unit pace in April and 1.776 million units a year earlier. Cumulative starts for the full year fell 3.0 percent to 1.55 million units. Single-family starts fell 10.6 percent to 1,008,000 units, the first year-over-year decline since 2011. Existing home sales fell from 6.9 million in January 2022 to fewer than 4.1 million at year's end. The average home appreciated less than three percent in 2022, according to the National Association of Realtors, down from 8.6 percent in 2021.

Multi-family construction remains the bright spot for the housing market. The cumulative 545,000 units started in 2022 was the highest total since 1986, although the pace of new construction fell 14.9 percent from December 2021 to 2022. Existing home inventories remain tight and, with new home construction slowing significantly and prices still rising, the number of renters continues to drive multi-family demand.

For policy makers looking for a clear economic trend, the monthly data remains noisy. It is clear that concerns about higher prices and recession have cooled spending and investment compared to a year ago; however, monthly spikes in retail sales or unexpected strong hiring continue to give oxygen to inflation. With the cost of shelter and fuel rising, consumers should feel more of a pinch as spring approaches, allowing the economy to slow and disinflation to continue. While the underlying economy is less robust than at the beginning of 2022, there is enough demand and stimulus for construction to grow slightly, even if a recession arrives in the third or fourth quarter.

WHAT'S IT **COST?**

All measures of inflation have been cooling considerably since the fall. The most recent reports on both consumer and business inflation show that costs, including wages, are trending towards reaching the two percent goal of the Federal Reserve Bank by 2024. January's consumer and producer prices were lower than December's, and 59 percent of the components that make up the consumer price index were deflating. As expected, February's consumer prices edged higher year-over-year than the previous two months, as prices for shelter, food, and energy increased at much higher rates than overall consumer prices.

For construction, however, inflation is still racing well ahead of historical norms. The most recent report on inflation from the Bureau of Labor Statistics showed that the producer price index (PPI) for new nonresidential buildings fell again, year-over-year, in January. But the escalation in costs was still 17.3 percent. That compares to core consumer inflation of 5.6 percent and producer price inflation of 6.0 percent.

The January report generally saw lower inflation compared to 90 days and one year earlier; however, escalation from December to January was heightened. Much of the decline in PPI for construction materials was due to falling prices for lumber (-30.8 percent year-over-year) and steel (-30.1 percent). Diesel fuel, which has a multiplying effect across construction, rose 7.1 percent from December to January and 22.8 percent from January 2022. Along with increases for paving materials, gypsum products, and paint, the spike in diesel offset most of the disinflation across building products and materials.

Other materials with unusual increases or decreases in January include concrete products (up 1.8 percent since December and 14.8 percent year-over-year), cement (7.7 percent and 17.6 percent), brick (0.7 percent and 12.9 percent), drywall (11.1 percent year-over-year), and architectural coatings (15.8 percent year-over-year).

The slowing business cycle appears to be having the desired effect on many of the commodities and materials that go into a construction project. PPI for materials used in new nonresidential construction were 4.3 percent higher than January 2022, the lowest rate of inflation since late 2021. The risks going forward in 2023 lie with materials that are heavily used in infrastructure projects and the price of diesel fuel. If infrastructure projects roll out efficiently, or expeditiously, demand for cement, concrete products, steel, and paving materials will increase significantly. A slowing economy should dampen demand for oil and fuel, but geopolitical uncertainty leaves the door open for supply constraints that would push prices higher.

Beyond the demand for construction from U.S. contractors and developers, the year-end change in COVID-19 policy in China could have a significant impact on construction pricing this year. China's increased demand, along with resilience in the Eurozone, pushed prices for scrap up 16 percent over the past 90 days. That shift will push steel prices higher through the spring. That is a trend that could spill into other construction materials that trade globally. BG

PERCENTAGE CHANGES IN COSTS	Jan 2023 compared to		
Consumer, Producer & Construction Prices	1 mo.	3 mo.	1 yr.
Consumer price index (CPI-U)	0.8	0.4	6.4
Producer price index (PPI) for final demand	0.9	0.3	6.0
PPI for final demand construction	1.6	1.8	16.6
PPI for new nonresidential buildings	1.7	1.8	17.3
Costs by Construction Types/Subcontractors			
New warehouse construction	0.0	0.0	13.7
New school construction	1.4	1.3	16.3
New office construction	3.4	3.9	19.6
New industrial building construction	0.7	0.8	17.3
New health care building construction	1.7	1.8	17.7
Concrete contractors, nonresidential	(0.8)	(0.3)	8.4
Roofing contractors, nonresidential	5.5	6.4	22.9
Electrical contractors, nonresidential	7.2	7.0	19.0
Plumbing contractors, nonresidential	0.8	1.3	13.4
Construction wages and benefits	N/A	0.8	4.3
Architectural services	0.1	0.3	2.0
Costs for Specific Construction Inputs			
#2 diesel fuel	7.1	(25.9)	22.8
Asphalt paving mixtures and blocks	7.9	4.6	14.7
Cement	7.7	8.2	17.6
Concrete products	1.8	3.6	14.8
Brick and structural clay tile	0.7	0.7	12.9
Plastic construction products	(0.3)	(1.3)	7.0
Flat glass	0.6	1.3	8.7
Gypsum products	0.0	0.2	11.1
Lumber and plywood	0.0	(6.2)	(30.8)
Architectural coatings	0.0	0.5	15.8
Steel mill products	(2.3)	(8.5)	(30.1)
Copper and brass mill shapes	2.0	9.2	(4.5)
Aluminum mill shapes	3.3	2.8	(6.1)
Fabricated structural metal	(0.6)	(2.2)	3.2
Iron and steel scrap	11.3	16.0	(14.2)

Source Bureau of Labor Statistics, Updated February 16, 2023
Compiled by Ken Simonson, AGC Chief Economist


H2
GREEN
HYDROGEN

green building update

Green Building is at that awkward age. Like a teenager, green building is well on its way to reaching its potential, but most of that potential lies in the future.

Bids were taken in February for a new $22 million Environmental Charter High School in East Liberty that is designed to be PassiveHouse and PHIUS certified. Rendering by Avon Design Group.

Two decades ago, leaders in green building worked hard to convince owners and developers that it was to their advantage to demand projects be more energy-efficient and safer for the environment and human occupants. That argument has carried the day, even if each project still represents an opportunity to push the envelope further. In terms of the total built environment, however, our buildings still contribute an outsized share of the world's pollution, energy waste, and peril to human wellness. There is no shortage of work to be done.

It is ironic that one casualty of the heightened awareness about designing a better built environment may be the Leadership in Energy and Environmental Design (LEED) certification. In October 2022, the U.S. Green Building Council (USGBC) announced that the 100,000th project had been LEED certified. Research on the previous five years activity published at that time, however, showed that certification may have peaked in 2017. That has certainly been the case in Western PA, where the number of projects certified in 2022 (14) were one-third the number of the peak years of 2011-2014.

LEED is not going away – some 6,000 to 8,000 projects are still being certified annually – and it is clear that its emphasis on energy efficiency and environmental stewardship served to raise the bar on what was considered acceptable for design, and paved the way for others. In its wake, a host of new standards for measuring the built environment have emerged, almost all of which are pushing the performance of buildings higher.

PassiveHouse creates buildings that produce more energy than they consume and highlights the importance of the building envelope. WELL Building Standard sets occupant health and wellness first, and optimizes the performance of the elements that affect occupant health. Living Building Challenge asks the most of its participants, measuring seven categories and pushing occupants to generate their own energy, capture their own water, and process their own waste. There are others.

As these standards work to elevate the supply of green buildings, the emphasis on environmental, social, and governance investing (ESG) is creating a well spring of demand from corporations. The mere mention of ESG can bring eye rolls in less progressive circles, but corporate America is not ignoring it. Concerns about talent attraction and retention are driving the corporate attention to ESG, and a proposed Securities and Exchange Commission (SEC) rule could make ESG a part of a public company's quarterly reporting. ESG involves many metrics, but the carbon footprint of a corporation – including its facilities – is a component. It is already clear that ESG is impacting real estate and design decisions.

Innovation in green building is constant, even if headlines about it are not. There continues to be a growing cohort of owners, builders, and designers working to make the buildings we occupy better for us and the environment. On a few fronts, there are things happening today that might even make a few headlines.

Solar and the Renewable Energy Market

The heyday of the renewable energy market came during the end of the Bush administration and the beginning of the

Obama administration, when runaway oil prices created a surge in demand and tax credits created a surge in the supply of wind and solar farms. In the 2010s, however, a glut of renewable generation crashed the renewable energy credit (REC) market, and the shale boom brought the price of oil and gas to cyclical lows.

Over the past five years or so, a handful of manufacturers have flooded the residential solar market, and the election of Joe Biden brought a renewable-friendly administration to govern. The impact of that election on environmental policy was felt in August 2022, when the Inflation Reduction Act (IRA) was signed into law. The IRA injected new life into the energy markets by offering significant tax credits for projects that resulted in the reduction of energy consumption in new or existing buildings. The tax advantages of the IRA have wide-ranging benefits (see below), but it is unlikely any sector benefitted more than the solar industry.

Matt Crea, vice president & general manager for Scalo Solar, notes that the IRA came along at a time when several other factors were tailwinds for the solar industry.

"[IRA] included significant tax incentives and secured them for the next decade, which was a positive. We have also seen a lot of volatility with utility prices. Our part of the country has had low utility costs because of natural gas and coal but, with the war in the Ukraine, there is a lot of volatility in utility prices," Crea explains. "The third thing is that corporate pressures for meeting ESG goals have created increased interest. Solar is a way to address ESG goals and save money. Finally, research and development and increased competition have made it more viable for the average person or corporation to invest in solar. It's a perfect storm of positive developments at the same time."

Crea explains that the incentives bring the return on investment in solar down to one to three years. That makes the investment attractive to for-profit businesses and for non-profits, which will install solar through a power purchase agreement (PPA) with a third party.

"We're spending a lot of time educating people. Most of the people we talk to are buying solar for the first time," Crea says. "There is a 30 percent tax credit for residential or commercial, and there are bonus incentives. There is an additional 10 percent if you are in an energy community, like Western PA. You get an additional 10 percent if you use American-made products. There are also bonuses for other conditions, like being in a low-income area. Some projects can potentially have a 60 percent tax credit. The credits make solar pencil out in almost any circumstance."

The solar industry had seen a rebound in recent years from its early 2010s trough. Since 2010, solar capacity has grown by an average of 35 percent annually, according to the Solar Energy Industries Association (SEIA). From January 2020 to the end of 2021, however, installed capacity of photovoltaic (PV) panels jumped almost 75 percent. SEIA predicts that higher growth is in the works during the next few years. While the IRA is the accelerant for the growth to come, it was the falling price to install solar that drove the growth in the previous decade. Between 2010 and 2021, the price per watt for a solar array fell from $5.79 to $1.38.

"The efficiency of manufacturing these products has improved drastically," says Crea. "On a typical 400-watt or 450-watt panel, the size is roughly half of it what it was 10 years ago. So today on the same size roof you can fit twice the capacity for the same dollars."

RIDC chose to add what is the largest PV installation on a roof in Pennsylvania on its Mill 19 at Hazelwood Green. The project was completed prior to the IRA. Tim White, senior vice president, development at RIDC, explains that the success of the project at Mill 19 would be more difficult to replicate at other multi-tenant commercial properties because of the rules that exist in Pennsylvania.

"Mill 19 has a creative setup. R.K. Mellon Foundation made a loan to RIDC. We paid for the installation, but Scalo Solar actually owns it for seven years to harvest the tax credits. It reverts to us after that," White says. "If you try to do solar as the owner of a multi-tenant building, it's difficult in Pennsylvania because of the net metering and the standby charge you're forced to pay the utility. The state needs to clean that up to make it easier for a commercial building owner to invest. If you're a multi-tenant building owner that wants to do the right thing or reduce the cost of operations, there are significant regulatory acrobatics you must do in Pennsylvania."

Despite those acrobatics, White sees the enhanced financing environment as a boost to the solar industry in Pennsylvania.

"Having tax credits that supercharge the return helps people endure the pain. When there are storage options that will help too," he says.

Another piece of legislation, the Bipartisan Infrastructure Law passed in November 2021, is giving momentum to the development of hydrogen as an alternative energy resource. As part of the bill, Congress dedicated $8 billion for the creation of a network of hydrogen hubs. The Biden administration has requested proposals for plants that it hopes will validate the efficacy of hydrogen as a fuel for producing energy. The successful project teams will receive grants of roughly $1 billion to develop the manufacturing and generating capacity.

Two of the competing teams represent the tri-state area. A team spearheaded by Shell, Equinor, and U.S. Steel will submit the official proposal for Pennsylvania. A second team from West Virginia includes EQT Corporation, CNX Resources, and KeyState to Zero, which is another hydrogen hub proposed for Clinton County, PA. Very little has been released to the public from either team, including information about potential sites.

Hydrogen is a controversial technology for renewable energy. For starters, there are multiple hydrogen technologies, some less renewable than others. Heavy industry has been using gasification to convert carbon materials (usually coal) into hydrogen and carbon dioxide, with the greenhouse gas byproducts released into the atmosphere. The hydrogen hubs that the Infrastructure Law intends to create will differ from this technology.

The "greenest" hydrogen is generated through electrolysis, the splitting of water into hydrogen and oxygen through electricity. Getting to scale for green hydrogen requires the manufacturing of industrial electrolysers, which will require electricity to operate. Keeping the green hydrogen green will require that the energy needed to operate the electrolysers be from renewable sources, like solar or wind.

"Blue" hydrogen uses steam reforming to split hydrogen from natural gas. The process produces greenhouse gases, but the plans for hydrogen hubs include facilities for capturing and sequestering the carbon to prevent its release into the atmosphere. Blue hydrogen facilities would work well in regions with abundant natural gas supply, like the Appalachian Basin.

Former Governor Wolf, in announcing the Pennsylvania initiative, touted the opportunity to convert the commonwealth's abundance of fossil fuels and convert the carbon emissions from the steel and other heavy industries into a renewable fuel. There are a few inconvenient realities about the drive to adopt hydrogen as a future fuel for industrial, commercial, and consumer usage.

It will be well into the 2030s before it is affordable enough for the large-scale replacement of fossil fuels with hydrogen. Before that can happen, hydrogen hubs will need to be built that are many times larger – and many times more expensive – than those pilot plants that the Department of Energy will fund later this year. A pipeline infrastructure that is much larger than the current system for natural gas will be necessary. And, as environmental advocates point out, the burning of natural gas for steam reforming involves the risk of methane leaks and inefficient carbon capture and sequestration.

Notwithstanding these potential barriers to development, the use of hydrogen as a fuel has the potential to unlock developed society from fossil fuels. The investments needed to reach global scale for hydrogen usage are no different than those needed to scale up the use of oil and gas as fuels in the 20th century. Initial investments have to be made and, with the federal government priming the pump, the odds are fairly good that a proposal from Appalachia will succeed.

Raising the Bar on Design

As efforts continue to bring renewable energy sources to scale for the future, efforts to reduce the future demand for energy are accelerating. There are more projects being developed in Pittsburgh that are meeting the challenges of more aspirational design and construction methods. In particular, there are important increases in PassiveHouse, Reset, and Living Building Challenge projects. Like with the surge in solar, there are increased incentives for supply and demand that are growing the share of these projects.

"There is a convergence of awareness that buildings can be built better than what we're doing and the enhanced requirements for decarbonization that are happening globally. New York City has ACT 97. Boston just adopted a similar piece of legislation. City of Pittsburgh is coming along with an energy disclosure and is now starting to mandate that all its main buildings are zero energy ready," says Craig Stevenson, president of Auros Group.

Stevenson notes that PassiveHouse is being adopted by the commercial real estate market, a reversal of where the industry was just a few years earlier. He pointed to this year's Passive House Network Conference in Boston, where the keynote speaker was the developer of the Winthrop Tower, a PassiveHouse high-rise that is the third tallest building in Boston. The speaker observed that the energy codes in Boston were such that PassiveHouse standards were not a stretch.

"We're at an inflection point now for building performance," Stevenson predicts.

"The second beneficial trend is in materials. When I started doing this 10 years ago, all our windows had to be sourced from Europe. Today there are 15 manufacturers in the U.S. that I can go to buy PassiveHouse-certified windows. The same is true with low flow equipment," he continues. "That is what happened in Europe when they started adopting PassiveHouse. The manufacturers responded to the market need and, when they did, the adoption became much easier."

The increase in adoption is noticeable in Pittsburgh too. Currently, a handful of projects are underway that will meet PassiveHouse standards. In February, bids were taken on a $22 million Environmental Charter High School that will be

LEED certification of projects in the 26-county Green Building Alliance footprint peaked in 2012. Source, USGBC, Green Building Alliance.

Solar applications like parking lot or walkway covers expand local generating capacity without consuming property that might have a higher or better use. Photo by Scalo Solar.

built in East Liberty. The new 70,000 square foot school will also be RESET Air- and Waste-certified. The charter school's architect, Rick Avon from Avon Design Group, explains that the stringent certifications for performance of the building go hand in glove with responsible design.

"The way to approach sustainability is to first focus on occupant safety and then the environment is a byproduct of that," Avon says. "What I love about PassiveHouse is that if we can control the air coming into the building, we can also filter the air; therefore, your breathing air is better. The difference in the approach with PassiveHouse is that they don't tell you how to meet the standards; they tell you the metrics and you need to figure it out. A PassiveHouse isn't something that you decide to try to see if it will work out. It requires a commitment right from the beginning."

"The place to start with any PassiveHouse conversation is why. We need to understand the goals and priorities of the client because there are always choices to be made," says Mike Gwin, principal at Rothschild Doyno Collaborative. "It's good to know if a client is interested in [PassiveHouse] for particular reasons so you can align the goals, because there are many steps in between a conventional building and a PassiveHouse building. There are many benefits to a PassiveHouse building beyond energy savings and it's important that the architect make sure the client understands what those are."

RESET is a relatively new performance standard that, like PassiveHouse, measures outcomes rather than prescribing methods. Thus far, RESET standards have primarily been used on air quality and, to a lesser degree, on waste management. An acronym for Regenerative Environmental, Social, and Economic Targets, RESET focuses on monitoring, benchmarking, and transparent reporting of data to a building's occupants and owners.

"RESET Air is to air quality as PassiveHouse is to energy consumption. I would argue that RESET is the most compatible program for any certification," says Stevenson. RESET is continuous monitoring. RESET advocates for monitors that are durable and will function properly throughout. RESET also sets standards for deployment of monitors so that they're measuring where the occupants are breathing the air."

These higher standards for performance typically bring with them equipment and products that have a higher price tag, but lower life-cycle costs. Because PassiveHouse is not prescriptive, the architect and engineer can design a building that is no more costly overall. Avon says he made this point at the pre-bid meeting for the Environmental Charter High School, when he sensed that the participants were expecting a premium when they were told it was a PassiveHouse.

"The brick doesn't know that it's a PassiveHouse. You're going to put money into a vapor barrier. Is it too much to ask that the vapor barrier work?" he laughs. "A lot of this is just showing the contractors how it will be done. I detail every penetration through floors, roof, and walls, so the contractor knows we thought this out and they are not left to figure it out in the field. I'm happy to talk to the project manager or the owner of the firm, but the person I want to talk to is the person in the field. If that worker understands, then we get a PassiveHouse."

Avon says he has seen the worker in the field understand the value of PassiveHouse too. On another PassiveHouse project, he was doing a site visit after spending significant time wrangling with workers on the proper way to execute the details of the building envelope. The site visit came during winter, after the building had been buttoned up.

"I was walking through an area where the guys were working without coats on and heard one say, 'Hey this stuff actually works'," Avon says.

Mike Gwin is involved in a residential project that is marrying Living Building Challenge standards to affordable housing.

"The International Future Living Institute (IFLI), which created the Living Building Challenge, is now trying to understand how to bring aspirational sustainable design to more people. They're looking at pilot programs in particular areas and the one we are connected to is in affordable housing," Gwin explains. "We introduced the idea to the City of Bridges Community Land Trust program. They are trying to provide a permanently affordable homeownership program in neighborhoods around the city and want to see if we can do it at the highest sustainable design standards. We will be starting construction on the first four single family homes this summer on a community in Hazelwood, with eight more to follow next year. They will be the first affordable homes to be built in our region – and maybe beyond – according to the standards of the Living Building Challenge."

To Chris Klehm, vice president of sustainability and director of business development for Jendoco Construction Corporation, the construction industry should be striving for the highest sustainable standards. Klehm, a LEED Fellow and a founding member of Green Building Alliance (GBA), acknowledges that would mean saying no to many clients, an unlikely prospect, but believes that the gains made to date were a result of stretching expectations instead of meeting them.

"Why shouldn't we be aspirational?" he asks. "We are all part of the same community. We don't do the community any good by building something that is less healthy to occupy or inefficient to operate. Our duty as contractors is to point out ideas to owners and architects that they don't know about."

Incentives and Implementation

Green building has always had tension between the aspirational and the practical, the mainstream of the industry that has strong incentives to resist change. As incentives drive demand, there remains the challenge of implementing the changes so that higher standards of performance can be routinely built in the field.

The solar industry is unlikely to be the only sector in development and construction to see growth as a result of the incentives embedded in the IRA. The principal incentive comes from the 25 percent reduction in energy consumption, which can be achieved in a variety of ways. The IRA will surely influence design of projects that were in the pipeline and should accelerate the positive trends for zero- and near-zero-energy projects.

Multi-family development could benefit significantly, especially projects planned for communities that have lower income profiles. The legislation awards bonus points for low-energy projects that are in low-income communities. Multi-family projects developed between now and December 31, 2032, which meet EnergyStar or Zero Energy Ready Homes certification, will qualify for immediate tax deductions of $2,500 or $5,000 per unit respectively. (The same credits apply for single-family homes). Such tax incentives could more than offset the financial impact of higher interest rates.

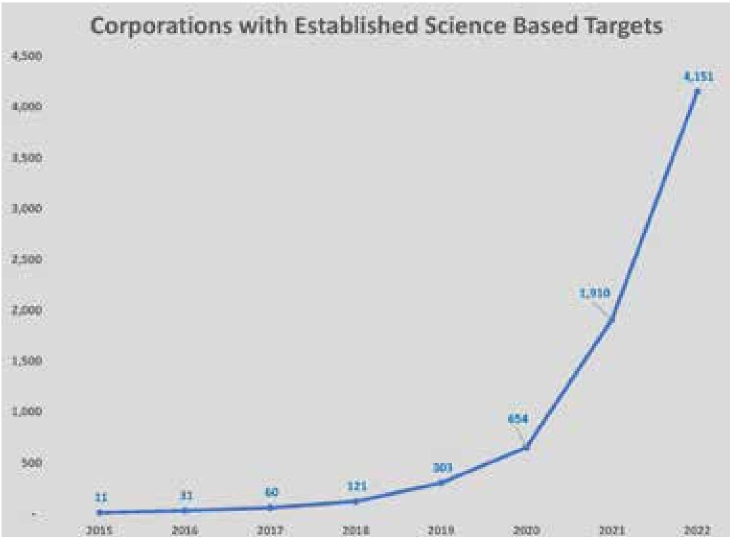
There are incentives for commercial buildings as well. Building owners can claim $5 per square foot tax credit for installing qualifying energy systems, although there are prevailing wage and apprenticeship requirements that may reduce the credit allowed.

Those tax incentives can nudge a property owner or developer towards decisions that create more high performance buildings, which should be especially inviting given the financing environment. There are also incentives coming from the marketplace that are gaining in influence. In commercial real estate, there is general agreement that corporate ESG compliance will have an oversized influence on property selection.

"ESG had a predecessor in sustainability and LEED. What ESG is doing is putting some formality and user metrics on the occupant as opposed to the developer," says Jason Stewart, managing director, agency leasing for JLL. "Right now, the buildings that are developed with sustainability as a focus fare better subjectively. If the SEC rule comes to pass, then it will become very objective, very fast. Those buildings that already exist and carry the attributes that will be measurable for ESG will have an advantage."

"With the focus on carbon reduction in ESG requirements and guidelines for corporations, PassiveHouse and other high-performance standards just makes sense," says Mike Barnard, vice president of development for Oxford Development Company and member of GBA's board of directors. "It's becoming more real, more practical than it seemed a few years ago."

The largest industrial/logistics developer in the U.S., real estate investment trust Prologis, predicts that the capacity of installed rooftop solar on commercial warehouses will double in 2023, accelerating the trend towards sustainable warehousing. Prologis, which has committed to installing one gigawatt of solar capacity globally by 2025, cites the growing demand from corporate occupants for ESG compliance and the practical advantages for industrial landlords. Building distribution centers with lower carbon footprints and the capacity to generate or store electricity provides resilience for the property owners in the event of volatile energy pricing



Source: Science Based Targets.

and changing regulations. Sustainable warehouses reduce the risk from more restrictive corporate leasing policies and community resistance to development. Demand for electric vehicle charging is also expected to jump to 10 megawatts by the end of 2023.

As with many energy-related trends, the European Union is ahead of the U.S. in development and regulation. While the IRA is expected to supercharge the supply of more sustainable facilities, regulations and incentives in Europe have been driving both supply and demand since the mid-2010s. According to the European Commission, the number of cities with low-emission transportation zones more than doubled from 2015 through 2022. Corporate ESG policy in the U.S. has been gaining steam, with more companies establishing net zero targets. According to the Science Based Targets initiative, the number of corporations that set science-based net zero targets reached 4,151 at the end of 2022, more than six times the number reported in 2020.

Corporate goals and regulations are likely to have an impact on development to a degree not seen in decades. In come cases, this will be because countries and states that have fewer regulatory barriers will see more rapid growth. This will lead to ebbs and flows in demand for space, as the growth in corporate ESG compliance meets potential constraints in supply of properties deemed compliant.

For the professionals working in Pittsburgh – architects, engineers, owners, and craft workers – there is enhanced training to meet a potential surge in demand for higher performance construction. The GBA is leading a program that provides training in PassiveHouse that is deepening the bench of designers and builders who are comfortable with the demands of the standards.

"Several years ago, it came to our attention from folks in the local PassiveHouse community that you had to leave Pennsylvania to get credentials. There was a gap in training availability," recalls Leslie Montgomery, vice president of education and communications at GBA. Along with our friends at PassiveHouse Pennsylvania and their partners, we received a grant from West Penn Power's sustainable energy fund to bring master training to Pittsburgh for PassiveHouse designers. That allowed some people in Pittsburgh to become master trainers. And then we did the same with training for trades persons."

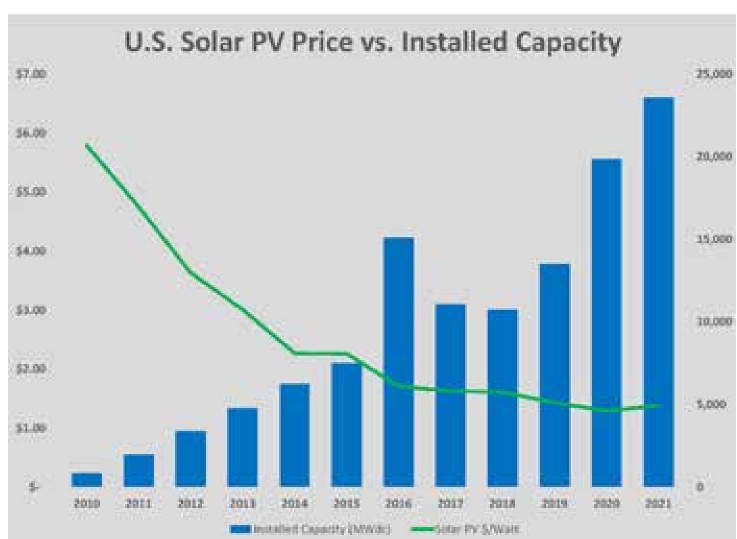
The training program has helped build the supply of professionals prepared to deliver PassiveHouse projects in Western PA and will likely adapt to include other high-performance standards – systems that go beyond LEED certification – as demand grows. For the near term, the program is also serving to meet the needs beyond the local market.

"We get calls from outside of Pittsburgh because there are not a lot of places to get training around the U.S." Leslie Montgomery, If the surge in demand for higher performance in the built environment occurs as predicted, green building will become a hot topic again. The stresses on the supply side of the industry, both in physical and human capacity, will give organizations like PassiveHouse Institute, IFLI, and GBA lots of business.

"Thinking back over the years in Pittsburgh, a lot of what GBA has a tried to do is nurture supply and demand at the same time." says Montgomery. "We try to keep people educated on what will be required of them."

Klehm expects the advocates for green building to continue to educate, but also to agitate.

"Quit slowing down. We have to stop, turn around, and take another path," he says. "We have to have the courage to challenge people." BG



Source: Solar Energy Industries Association, Wood McKenzie Power & Renewables.

Elan Mizrahi Photography

PROJECT PROFILE

HUNTINGTON BANK STRIP DISTRICT BRANCH

Huntington Bank, like most of the banks in Pittsburgh, has been eyeing the Strip District for an opportunity to locate a branch. With its shortage of buildable land and dense existing building stock in high demand, the Strip is a difficult and expensive neighborhood. In winter 2020, an opportunity arose for Huntington to buy a vacant building at 18th and Smallman Street. The bank quickly saw that it should make the most of the opportunity.

"Our real estate folks thought it was a unique location, with a lot of foot traffic, and when that building came on the market, they saw an opportunity," says Jen Vinci, senior project manager for Huntington. "They came to us and asked what we could do to make it spectacular. At that point we didn't know what we would be allowed to do."

Vocon Partners LLC is Huntington National Bank's architect. The firm had done a dozen or so projects in Pittsburgh for Huntington and other clients by that time. One of Vocon's senior project managers, Erin Hogle, recalls that the Strip District branch was being viewed differently from the prototypical brick-and-mortar new branches that had been built.

"The project was to be an extension of the Huntington brand. The inspiration that they sent as reference was the Victoria's Secret store in Times Square, which is a very bold brand statement," Hogle says. "They wanted something that would be memorable. 'Welcome' is Huntington's brand message, so we went into this seeking to figure out how to integrate the branch physically into the community, bringing the outside in and the inside out. We wanted to blur the lines between the bank and the community."

Vocon's design called for stripping away much of the existing masonry exterior wall and replacing it with storefront windows. The renovation would also create a covered vestibule by demolishing the 18th Street corner of the building and constructing a new entrance supported by a steel column. The building's exterior got the Huntington Bank branding, including new signage and an unusual green illuminated roof parapet that matched the Huntington green graphics and a custom glow wall that surrounds the ATM.

"We took a lot of time on the design end, little tweaks that we made all to make this building stand out in a way that a standard brick-and-mortar new branch does not," says Vinci. "Some of those elements, like the TV wall and the illuminated honeycomb, were selected because we knew this was a walking site not a driving site. We were trying to bring the inside to the outside."

Elan Mizrahi Photography

The building Huntington was going to renovate was a one-story brick structure built by Jim Patrinos in the late 1980's. Vinci saw the potential challenges of renovating a building that was an infill in an old urban and industrial neighborhood and decided to bring a general contractor into the picture early in the process.

"We had worked with Busse in that market since 2005 and had great success with them. We wanted the Strip branch to be unique. I wanted to have the advice of someone I knew and trusted to work with our architect as we started design," Vinci says. "We had two brick walls we were going to remove and replace with glass. We were concerned about finding the best way to bring to life the features we intended in the design. We had a lot of feedback from the neighborhood partnership, so I really felt it was important to get someone I trusted involved."

"What we had going for us was F.J. Busse Co. had a relationship with Huntington," says Hogle. "We were able to bring them in at the beginning of design. It was helpful to have a partner who could respond to different design ideas."

John Paul Busse, president of F.J. Busse Co., recalls budgeting the project in early 2020 and making recommendations about constructability. When the project bid in late fall, F.J. Busse Co. was the successful contractor. Busse recalls that some of the potential challenges he had noted remained in the final design. As they began demolition and investigating the existing conditions, he discovered that there were more serious challenges that had not been detected.

"We discovered the existing conditions were not what were on the structural drawings. We had the whole building shored up and were going to do the piers when we saw that there were old stone foundation walls that Jim Patrinos probably left in place so they didn't have to shore up the street. They built new block walls inside that," Busse says. "There were precast concrete floors cantilevered over the old foundation wall. The engineer thought that the precast was sitting on the block and we could build piers next to it, but the exterior walls were bearing on the precast outboard from the foundation on 18th Street."

To support the new glazed exterior walls, F.J. Busse Co. was to pour seven new piers for the structural steel above. Locating the piers to the concrete block foundation wall inboard from the stone wall would shrink the size of the building. F.J. Busse Co. hired its own structural consultant, Mike Cenkner, to collaborate with the structural engineer, which had initially instructed F.J. Busse Co. to excavate outside the original foundation to reinforce the existing structure. That solution proved untenable.

"The reason that Patrinos probably didn't build outside the old foundation was that the street is roughly eight feet from the building. We would have had to shore the street to do that, which would have been very risky and expensive," Busse says. "We punched a hole in the block wall, and you could see that they backfilled with rubble and debris. If we had excavated outside the building, I think the street would have collapsed. I talked to Mike Cenkner and we recommended to the engineer of record that they use a an oversized pier that cantilevered out underneath the floor to support the steel."

Elan Mizrahi Photography

One of the designs which concerned John Paul Busse during preconstruction was a plan to create two entrances on either side of a recessed vestibule at the corner of the building. That entrance was important to Huntington Bank and chosen as the final design; however, the difference in elevation between 18th Street and Smallman Street caused a problem.

"They wanted the entrance to be accessible from both streets but the grade on 18th Street is 10 inches higher than Smallman Street. Huntington had to forgo one of the main entrances on 18th Street because of that grade difference," Busse explains. "We cut a 10-foot by 12-foot area in precast plank for the vestibule. We installed new steel, poured a structural slab, waterproofed it, and then poured a topping slab."

Beyond the unforeseen conditions, the 18th and Smallman Street site presented several challenges for staging and construction. There was no laydown area, nor was there space for workers or trucks. Deliveries were logistical headaches for the same reason. The building's exterior extended to the limit of the sidewalks and the alley behind it, making it impossible to work on the exterior without creating a pedestrian hazard. F.J. Busse Co. had to come up with creative solutions.

"We rented parking spaces off the city because the site was so tight. We fenced in some of the diagonal parking spaces on Smallman to store material and have access," Busse says. "Luckily the basement of the building was available, but there was no lay down space. There was also a power pole next to the vestibule at 18th and Smallman that was leaning almost over the building, which we had to reinforce."

The project began in late December 2020, just as the first vaccines for COVID-19 were approved and was completed by September 2021. While the most severe measures for mitigating the pandemic were no longer in force, the project nonetheless took place while most people were still taking precautions. That made it more difficult to deal with the foundation problems, for example, especially since F.J. Busse Co. was the only one of the project's principals physically located in Pittsburgh. As issues arose, each had to be communicated and solved remotely.

"Luckily, we are only two hours away, so it could be just us in our car and we had other projects in Pittsburgh," says Hogle. "John Paul and his team were easy to work with on FaceTime or Zoom calls."

Busse notes that the unforeseen conditions and owner-driven change orders added time to the original schedule, but when it opened Huntington Bank was happy with the result.

"When you drive down to the Strip in the evening that branch is glowing," he says.

"I can't even tell you how proud Huntington is of that branch. We just did a project in downtown Detroit across from the ball field and we referenced the Strip District branch so much," Vinci says. "We are evaluating another site in the Pittsburgh market right now and are looking at the Strip District to see how we can make it as special. It's just a bank. How do you make it stand out?"

"There is something distinct and different about the Strip District. Someone having a night out in the Strip sees the bright lights green lights of the branch and that brings a different kind of energy," Hogle says. "The project was also successful because we worked with the neighborhood groups to make sure we were accomplishing this statement we wanted while being respectful of the area. I think that partnership goes back to Huntington's sense of community and welcome. That helps make these projects successful."

Vinci also commented on the relationship with the Strip District community partners. The branch's visual impact, especially at night, is not subtle.

"I know our green is a little bold and people can be a little nervous about that," Vinci admits.

"We toned it down from where we originally started," Hogel laughs. "We negotiated to that design."

"The project was successful because of the partnerships with all the parties involved," says Vinci. "The architect did a great job of envisioning what that site could become, which was nothing like what it was. We had a lot of input from Busse's team. Everybody came together to make this project happen."

"It was successful because we had a good superintendent on site and good project management. We also had an understanding owner to work with," concludes Busse. "The Strip District branch was our fifth job with Huntington Bank. We have a really good rapport with them." BG

PROJECT TEAM

F. J. Busse Company	General Contractor
Huntington National Bank	Owner
Vocon Partners LLC	Architect
WHS Engineering	Consulting Engineer
Kusler Masonry	Masonry
Specified Systems Inc.	Glass & Glazing
Gunning Mechanical	HVAC
AMB Plumbing Inc.	Plumbing
M & J Electric	Electrical
Master Woodcrafters	Millwork
T. D. Patrinos Painting & Contracting	Painting
Butler Flooring	Flooring
Bruin Roofing	Roofing
D & G Steel	Steel Erection
Tri-City Steel	Steel Reinforcing
BLT Contracting	Asbestos Abatement
Automated Entrance Systems Inc.	Automatic Doors

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EXCULPATORY CLAUSES: WILL PENNSYLVANIA COURTS PERMIT OWNERS TO CONVERT TERMINATIONS FOR DEFAULT INTO TERMINATIONS FOR CONVENIENCE?

BY WILLIAM D. CLIFFORD, W. ALAN TORRANCE, AND GEORGE D. APESSOS

Many standard form construction contracts include exculpatory clauses which permit owners of construction projects to convert wrongful terminations for default into terminations for convenience. Consider the following hypothetical:

- Owner A hires Contractor B for a construction project.
- Owner A believes Contractor B's work is untimely or defective.
- Owner A abruptly terminates the contract without notice or an opportunity to cure as required in the contract.
- Contractor B alleges and proves that the termination was wrongful, i.e., for default.

Can Owner A limit its damages by relying on an exculpatory clause in the contract that converts a wrongful termination for default into a termination for convenience? In Pennsylvania, at least, it's unclear.

Generally, with respect to these types of exculpatory clauses, "[t]he rule in Pennsylvania is that [they] cannot be raised as a defense where (1) there is an affirmative or positive interference by the owner with the contractor's work, or (2) there is a failure on the part of the owner to act in some essential matter necessary to the prosecution of the work." Coatesville Contractors & Engineers, Inc. v. Borough of Ridley Park, 509 A.2d 862, 865 (Pa. 1986) (citations omitted).

In 2003, the Pennsylvania Board of Claims, an administrative board which hears claims against the Commonwealth arising from contracts with the Commonwealth, held that under certain circumstances a wrongful termination can constitute "interference" and bar application of termination-for-convenience exculpatory clauses. See Able-Hess Associates, Inc. v. Slippery Rock Univ., No. 3369 (Oct. 27, 2003).

The Able-Hess Board found that Slippery Rock University ("SRU") could not convert a wrongful termination for default into a termination for convenience in accordance with the contract where SRU egregiously interfered with Able-Hess' performance and "arbitrarily" terminated the agreement even though it "had no reason to believe that the project was behind schedule." Id. at 16, 19. Among the many acts or omissions by SRU that the Board determined to be an "interference" with the agreement are the following:

- SRU shifted the location of the Project's building footprint by 14 feet after issuing the NTP, which added to the delay to Able-Hess' design work.
- SRU rejected one of Able-Hess' important subcontractors even though the subcontractor was listed as approved in the Project Specifications.
- SRU demanded a recovery schedule from Able-Hess at a time when the Project was not behind schedule, and subsequently rejected the proposed recovery schedule without analyzing it.
- SRU defaulted Able-Hess for not submitting a list of its subcontractors even though such list was not contractually required at the time of default.
- SRU defaulted Able-Hess for failing to mobilize at the site even though it had mobilized and commenced work two weeks prior to default.

It appeared to the Board that, "in the real world, the expectations of [SRU] at this phase were quite unreasonable." "[N]o matter what work was done, what design submissions were made, or what recovery schedules were submitted, [SRU] had lost faith in Able-Hess and decided to fire them. What [SRU] never brought into evidence was why. Other than the inability to see the building begin to rise, phoenix-like, it felt justified in firing an experienced general contractor three months into a thirteen-month project."

The Board's reasoning is simple: a materially breaching party should not be able to invoke the contract for protection. "The Board can envision no worse an interference with a contractor's work than being kicked-off the job by a wrongful termination. As such, the termination for convenience clauses contained in the instant provisions cannot be used as a defense to Plaintiff's claims." See also Camenisch v. Allen, 44 A.2d 309, 310 (Pa. Super. Ct. 1945) (a party that materially breaches a contract cannot thereafter seek to enforce the contract for its own protection).

The Slippery Rock case embodies the colloquial phrase that "bad facts make bad law." If adopted by the Commonwealth Court, then there would be no instances where an owner could ever avail itself of a similar exculpatory provision. Such a holding would defy basic contract principles which afford parties the opportunity to bind themselves to enforceable terms.

Although exculpatory clauses generally cannot be raised as a defense where the owner interferes, it is hornbook contract law that "contract terms will not be construed in such a manner so as to render them meaningless." Girard Trust Bank v. Life Ins. Co., 364 A.2d 495, 498 (Pa. Super. Ct. 1976). In our hypothetical, the foregoing rules conflict: if wrongful termination constitutes "positive interference by the owner with the contractor's work," then an exculpatory clause that converts a wrongful termination into a termination for convenience is necessarily rendered meaningless.

Although no Pennsylvania court has resolved this narrow issue, other jurisdictions have enforced such exculpatory clauses. Consider the Court of Appeals of Texas' decision in Gulf Liquids New River Project, LLC v. Gulsby Eng'g, Inc., 356 S.W.3d 54 (Ct. App. Tex. 2011). There, the owner wrongfully terminated its contract when it improperly determined that the contractor failed to comply with a condition precedent to payment. The termination-for-convenience clause specifically limited the owner's damages in the event of a wrongful termination to those associated with a termination for convenience, including "payment for the percentage of Work actually completed by [the contractor], plus overhead and profit equal to 8 percent of actual costs to date." The Gulf Liquids Court enforced this exculpatory clause and reasoned as follows:

The clause expressly contemplates that if [the owner] wrongfully terminates [the contractor], the termination will be deemed a termination without cause, and limits [the owner's] damages accordingly. *Such a clause would never be enforceable if by wrongfully terminating the owner also loses the right to exercise the termination-for-convenience clause and the limitation-of-damages provision found therein.* Because the contract expressly contemplates that the owner may wrongfully terminate the contractor, and then limits the contractor's damages to those specified in the clause, we will not render that provision meaningless by holding that the owner's rights are waived by committing the very breach that the clause contemplates. *Such circular reasoning would render the termination-for-convenience clause meaningless, which we will not do.* (emphasis added).

Likewise, in Christopher Glass & Aluminum, Inc. v. Tishman Constr. Corp. of Ill., No. 1-19-1972-U, 2020 Ill. App. Unpub. LEXIS 1665, (App. Ct. of Ill. Sep. 30, 2020), the termination clause provided that if the owner wrongfully terminated the contractor for cause, such termination shall be deemed a termination for convenience. In the event of a termination for convenience, the general contractor's "sole and exclusive remedy" was payment for the percentage of work actually completed plus overhead and profit on actual costs to date. The Christopher Glass Court found that the reasoning in Gulf Liquid was "sound and consistent with federal jurisprudence surrounding termination for convenience clauses." The Court limited the owner's damages accordingly so as not to render the termination-for-convenience clause meaningless.

The foregoing cases are in stark contract with Able-Hess. The cases enforcing termination-for-convenience clauses recognize that the parties' inclusion of the exculpatory language evidences that they intended for "interference" to include action beyond mere wrongful termination. On the other hand, the Able-Hess Board decreed that wrongful termination alone could constitute interference.

In resolving this issue in the future, Pennsylvania courts must be careful not to convert this legal issue into a factual one. Accepting the position that certain actions constitute interference could create absurd results where the "wrongfulness" of a wrongful termination is a matter of varying degree that differs from one wrongful termination to another. Such a holding would set a poor precedent and subsequently require Courts to subjectively evaluate and rank each wrongful termination against others, which would most likely lead to inconsistent results. A new "sliding scale" of wrongful terminations would make it difficult for owners and contractors to negotiate contracts and navigate terminations.

It goes without saying that language in contract documents is often the most critical factor in a construction dispute. Signing a contract without fully reviewing and understanding its legal implications can leave parties little bargaining power. This is particularly poignant in the case of exculpatory clauses, which parties may rely on to their detriment on the blanket assumption that such clauses are always enforceable.

Act of November 10, 1999, P.L. 491, as amended, 35 P.S. §§ 7210.101-7210.1103; See Commonwealth v. Null, 186 A.3d 424, 427 (Pa. Super. 2018) (quoting Flanders v. Ford City Borough, 986 A.2d 964, 969 (Pa. Cmwlth. 2009)).

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THE INFLATION REDUCTION ACT AND CONSTRUCTION CONTRACTORS.

BY MARK DIPIETRANTONIO AND KIRK MITCHELL

Introduction

In its guidebook "Building A Clean Energy Economy"[1] the Biden Administration states its case that the Inflation Reduction Act (the IRA or the Act) signed into law last year "makes a historic commitment to build a new clean energy economy." The Act includes hundreds of billions of dollars of funding for projects through the provision of various tax credits, grants and enhanced deductions intended to accelerate the transition to a greener economy. The construction and real estate industries are both direct and indirect beneficiaries of this Act through their involvement in creating the infrastructure necessary to fuel this vision.

However, along with the benefits of the IRA come additional complexity and compliance requirements. These complexities include meeting prevailing wage, domestic content, apprenticeship and project cost certification requirements. To participate in large projects, contractors and subcontractors may need to comply with the prevailing wage rules where they don't directly benefit from a tax credit so as other taxpayers can maximize their credits under the IRA. Additional complexity arises from the need to understand non-tax rules promulgated by other federal departments, such as the Department of Energy's energy program requirements, to benefit from programs developed under the Act. One needs to pay attention to the effective dates provided in the IRA.

The Act provides a two-tiered credit system in many instances, which includes a base credit versus an enhanced credit exceeding the base percentage for taxpayers (including builders and developers) who meet those requirements (prevailing wage and apprenticeship) for certain credits and deductions including, but not limited to, the following:

- Section 30C Alternative Fuel Vehicle Refueling Credit
- Section 45 Electricity Produced From Certain Renewable Sources
- Section 45L New Energy Efficient Home Credit
- Section 45Q Credit for Carbon Dioxide Sequestration
- Section 45U Zero-Emission Nuclear Power Production Credit
- Section 45V Credit For Production of Clean Hydrogen
- Section 45Y Clean Electricity Production Credit
- Section 45Z Clean Fuel Production Credit
- Section 48 Energy Credit
- Section 48C Advanced Energy Project Credit
- Section 48E Clean Electricity Investment Credit
- Section 179D Energy Efficient Commercial Buildings Deduction

In addition, increased credits are available in certain circumstances depending upon project location within low-income communities or within an energy community. Also, for tax years beginning after 2022, taxpayers can elect to transfer all or a portion of certain credits for energy property and electricity from renewable resources to an unrelated taxpayer for cash.

The effort needed by the government to provide guidance on these new provisions (and by individuals, businesses, and tax-exempt organizations to understand the rules and to take advantages of the benefits and comply with requirements) is extensive and ongoing. The IRS on its "Credits and Deductions under the Inflation Reduction Act of 2022" webpage (updated 2.3.2023) notes that it "is working on implementing" the Act, that guidance will be posted "as it becomes available" and to "check back regularly for updates."[2]

In this article, we will highlight some of the benefits and requirements of the Act.

But additionally, be aware to take into consideration non-IRA tax provisions when planning for the longer term; it is not just the IRA that construction contractors need to pay attention to. Other tax issues are lurking that may offset the benefit additional IRA credits and deductions generate. For example, Congress has not addressed the requirement that research and development costs (that often can also generate R&D credits for construction contractors) now need to be capitalized and amortized over 5 years rather than being deducted immediately when incurred. Bonus depreciation allowances decline annually by 20 percentage points over the next few years beginning in 2023. And the Tax Cuts and Jobs Act Section 199A qualified business income deduction is scheduled to expire at the end of 2025. What the government can give with one hand can be taken away by the other – often, it seems, at the cost of additional increased compliance.

Section 45L New Energy Efficient Home Credit

To help encourage the construction (or substantial reconstruction and rehabilitation) of more energy efficient homes, eligible contractors may be able to claim a tax credit for a qualified new energy-efficient home that a person acquires for use as a residence (both traditional and manufactured). The Act extends the Section 45L credit for 11 years (or for homes acquired on or before December 31, 2032). The Act further amends this credit's provisions, including the amount allowed, the energy savings requirements, basis adjustments to property and prevailing wage requirements (discussed briefly below).

One set of rules applies to homes acquired before 2023, while another set applies for homes acquired after 2022.

The post 2022 new energy-efficient home credit also has categories of credits depending upon whether the home is single dwelling versus multi-unit dwelling. Credit categories include:

- $5,000 for a single-family home that certifies as a zero-energy ready home under the Department of Energy's zero energy ready home program as in effect on January 1, 2023
- $2,500 for a single-family home that is not certified as a zero-energy ready home but meets the Energy Star Single-Family New Homes Program
- $1,000/$5,000 per unit when the dwelling unit is certified as a new certified zero-energy ready home under the Department of Energy's zero energy ready home program as in effect on January 1, 2023
- $500/$2,500 per unit when the dwelling unit is not a new certified zero-energy ready home but meets the Energy Star Multifamily New Construction Regional Program Requirements

Note that the prevailing wage requirement applies only to the construction of multi-family residences and is the reason for two values provided above; the higher credit only applies when the prevailing wage requirements are met.

Additional rules apply.

179D Energy Efficient Commercial Buildings Deduction

The 179D deduction was first introduced in 2005. It provides a deduction ($1.88/square foot in 2022) for energy efficient improvements to commercial property by referencing the applicable 90.1 ASHRAE standard.

For properties placed into service on or before December 31, 2020, the energy improvements are compared to the 90.1-2007 ASHRAE standard; projects placed in service after January 1, 2021, and before January 1, 2023 will reference the most recent Standard 90.1 affirmed no later than 2 years before the date that construction of the qualified property begins or the date the construction permit is issued.

The deduction is available to taxpaying owners of commercial buildings who are then required to reduce the depreciable basis of the building by the amount of the 179D deduction. However, 179D also allows Designers (Architects, Engineers, and Design-Build contractors) to be allocated 179D deductions from non-tax-paying entities including Federal and State governments, local municipalities, universities, and K-12 schools.

The Act makes two significant changes that will impact the 179D deduction in years after 2022. First, the maximum deduction of $1.88/square foot will increase to a maximum of $5.00/square foot. Second, Designers are eligible to receive 179D allocations from tax-exempt entities and private universities and K-12 schools.

A number of different types of public projects can qualify for the assignment of the 179D deduction including:

- Charitable organizations
- Private schools and universities (after 2022)
- Public schools, including state universities
- Churches
- Libraries
- Airports
- Government offices, post offices, and courthouses

The IRA also made other changes to the 179D deduction that are effective for 2023 including:

- Taxpayers must demonstrate a 25 percent reduction in total annual energy power costs relative to the benchmark (a 50 percent reduction was required under the prior law).
- To qualify for the full $5.00/square foot deduction taxpayers must meet specified prevailing wage and apprenticeship requirements.
- Energy savings will now be based upon the ASHRAE standard published in the 4 years before the property was placed in service.

To claim the 179D deduction, the property must be certified by an independent third party who is qualified to perform a study certifying that the energy standards have been met.

Section 45W Qualified Commercial Clean Vehicle Credit

A new business credit is now available for each qualified commercial clean vehicle placed in service during the tax year, effective for vehicles acquired after December 31, 2022. While the statutory language is much more complex, at an executive level, a credit is available for the acquisition of a "qualified commercial clean vehicle"; this is (i) a vehicle that is manufactured primarily for use on public streets, roads and highways, or (ii) mobile machinery (as defined by IRC §4053(8)) which includes machinery or equipment to perform a construction operation if the operation of the machinery or equipment is unrelated to transportation on or off the public highways. An example of a mobile machinery vehicle is a crane mounted on a truck chassis that meets other requirements.

The vehicle must be propelled to a significant extent by an electric motor which draws electricity from a battery which has a capacity of not less than 15 kilowatt hours (or, in the case of a vehicle which has a gross vehicle weight rating of less than 14,000 pounds, 7 kilowatt hours) and is capable of being recharged from an external source of electricity.

The calculation of the credit itself is also complex – but again at an executive level - the amount of the tax credit is the lesser of 15 percent of the vehicle's basis, or 30 percent if the vehicle is entirely electric; or the vehicle's incremental cost (defined as equal to the excess of the purchase price for such vehicle over such price of a comparable vehicle powered solely by a gasoline or diesel internal combustion engine and which is comparable in size and use to such vehicle). However, the maximum credit for a qualified vehicle is generally $40,000, reduced to $7,500 if the vehicle has a gross vehicle weight rating (GVWR) under 14,000 pounds.

Initial Prevailing Wage and Apprenticeship Guidance

In November, the IRS issued Notice 2022-61 (while also noting that they "anticipate issuing proposed regulations and other guidance") providing preliminary prevailing wage and apprenticeship guidance. The issuance of this notice started the 60-day window (ending January 28, 2023) for which construction projects could begin without needing to meet the prevailing wage/apprenticeship requirements requiring a reduction in the amount of the credit being earned. The press release accompanying the notice notes that to "maximize many of the available clean energy and climate tax incentives, firms need to pay workers a "prevailing wage" and employ a certain number of apprentices from registered apprenticeship programs."

Note that around the same time as the IRS issued its notice, the Department of Labor issued FAQs intending to assist businesses and other stakeholders in understanding these new provisions.[3] The DOL website includes other resources, including a slide deck discussing the Act's prevailing wage and apprenticeship requirements, providing guidance for businesses desiring to claim the credits.

In summary, the IRS notice provides taxpayers with guidance on how to satisfy the wage requirements and to meet record keeping requirements along with additional information such as definitions and basic examples.

Conclusion

The Inflation Reduction Act is a complex piece of federal legislation that impacts both individuals and businesses in several ways, including from tax, economics, environmental and social perspectives.

We've been through this drill a number of times recently including but not limited to Tax Cuts and Jobs Act and CARES Act legislation; the law is already effective, but additional guidance is needed from the government to properly comply with the requirements and benefit from its programs as intended.

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[1] Building A Clean Energy Economy: A Guidebook to The Inflation Reduction Act's Investments in Clean Energy and Climate Action at https://www.whitehouse.gov/cleanenergy/inflation-reduction-act-guidebook/

[2] https://www.irs.gov/credits-and-deductions-under-the-inflation-reduction-act-of-2022

[3] See https://www.dol.gov/agencies/whd/IRA and https://www.apprenticeship.gov/inflation-reduction-act-apprenticeship-resources

SURETY MARKET UPDATE

When Jay Black, principal, and vice president of surety at Seubert and Associates, assessed the 2022 construction market he was concerned about one issue above others: the end of Paycheck Protection Plan (PPP) funding. Like most industry observers, Black had feared the worst in spring 2020 but watched PPP loans – which were later forgiven – lift the financial fortunes of his contractor clients. One year ago, Black feared that the end of that stimulus for contractors would spell financial problems for those firms that had suffered behind the scenes in 2021. Those concerns proved unfounded.

"Even with all the complications of the supply chain, labor shortages, and material escalation, there is still tremendous demand for construction," Black says. "We talked to all of the major surety providers, and none are having significant losses. I thought more losses might occur when PPP vanished but that hasn't been the case.

"We don't have year-end financials, but we have monitored our customers throughout the year and companies made money last year. I don't expect there will be record profits, but I don't expect to see much red ink either."

"It was another really strong year for the sureties. Losses among the top sureties were low. Only one of the top 25 surety companies experienced losses that could threaten profitability," says Jim Bly, managing director for subcontractor default insurance and surety analysis for Alliant Insurance Services. "We did have one default last year in our region but besides that was no significant surety loss activity here in 2022."

Conditions in 2022 provided more challenges for both general contractors and specialty contractors. The supply chain improvements were incremental. Most project schedules were still painfully hard to manage, making it difficult to complete on time. Inflation peaked in the third quarter, with inputs to construction climbing to 22 percent higher year-over-year. Skilled workers were still hard to find. All these conditions, along with interest rates that doubled in a nine-month period, kept lots of work from transitioning from backlog to work in progress. Yet, despite those challenges, the construction industry remained primarily in the black.

The carry-over from PPP certainly helped build working capital reserves that allowed contractors to manage delays and lower volumes. Project owners were accepting – if unhappy about – supply chain delays and cost escalation. Contractors' defaults – instances when contractors failed to complete projects or went out of business – did not materially increase. For the industry that insures against default, that meant that no response was necessary. Underwriting and premium pricing have not changed coming into 2023. That does not mean there will not be challenges for the market.

"Capacity is still at record levels and there have been no problems getting bonds for contractors that qualify. The biggest concern now on the midterm horizon is what the economy is going to do," Jon McCauley, vice president and manager of bonds for First National Insurance Agency. "There are two concerns from a contractor's perspective. How will inflation affect contractors? And probably the biggest struggle our customers are having is the ability to get skilled labor."

In contrast to the surety market, the global property and casualty market is in a "hard" market, one in which capacity is shrinking and premiums are rising. The litany of woes for property and casualty is long: increasing natural disasters, major infrastructure and structural failures, pandemic-related losses and liabilities, exorbitant liability verdicts and settlements, and of course, inflation. Hard markets in one insurance sector tend to bleed into other sectors. This has happened several times recently to surety. In the early 2000s, the losses from Lower Manhattan after 9/11 and natural disasters that culminated with Hurricane Katrina caused insurers to focus on profitable lines and pare back capacity. After the financial crisis in 2008, nearly 25 percent of insurers walked away from the surety market.

Today, however, the hard market for property and casualty is not making conditions more difficult for construction surety. In fact, in recent years several carriers have entered or re-entered the surety business. That was true again in 2022, when the overall surety loss ratio fell to 15.1 percent.

"There is more than enough bonding capacity in the market," notes Bly. "Surety companies are profitable and there is new capital in the market. We have insurers knocking on our door to provide capacity for good credits. For companies that have challenges to their credit portfolio we can still get something done."

Bonding companies are buoyed by the fact that the industry is on the upswing. While private business demand for construction may decline in 2023 while interest rates are at elevated levels, there is an overdue uptick in publicly-funded construction. The American Recovery Plan and the Inflation Reduction Act (IRA) offer significant funding for construction through tax credits and the distribution of COVID relief funding to municipal levels. The Bipartisan Infrastructure Law of 2022 is more impactful, adding $350 billion to pay for construction of highways, bridges, and other infrastructure. Forecasters predict that U.S. construction spending will grow by four to six percent in 2023, adjusted for inflation. A poll conducted by the National Association of Surety Bond

Producers (NASBP) found 96 percent of surety executives had no plans to tighten underwriting in the near term.

Where the hard market could impact construction is in a reduced capacity for large projects. Pittsburgh should not feel the effects of such a constriction in capacity, which will likely be resolved by having multiple insurers bonding portions of a major project. The impact of inflation is strongest in these conditions, where insurers (or insureds) have been forced to foot the bill for underinsured projects that cost significantly more than when the bonds were written.

Inflation has the potential to increase the number of defaults and surety losses, as contractors that failed to adequately price cost escalation are stuck buying equipment and materials at higher prices than what was reflected in their bids. Cost escalation peaked in mid-2022 for construction, so it is possible that there will be more inflation-related losses coming in 2023; however, many basic materials saw double-digit increases in 2020 and 2021 too, and contractors were able to manage inflation successfully through 2022.

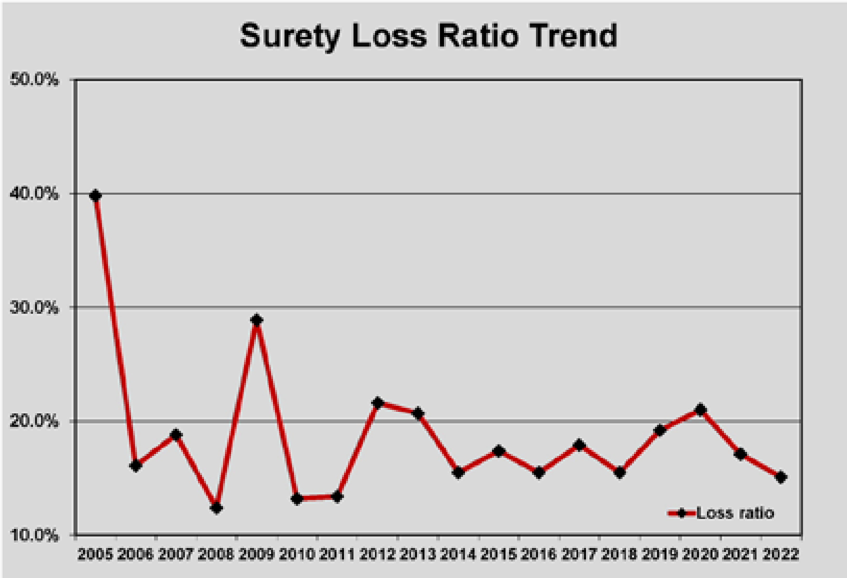
Likewise, the supply chain disruption that sparked the high inflation also created default risks. Contractors that assumed a resumption of normal delivery times when they entered into contracts in the middle of 2020 would have missed the market and struggled to meet completion schedules.

Owners building in 2021 and 2022 were aware of the extreme supply chain and inflation issues, if for no other reason than the conditions were the same throughout the global economy. A contractor that was caught off guard by prices that spiked after bids were taken or that had to report that specified equipment or products were going to take months instead of weeks, was not the exception. Most owners and contractors report that conditions forced them to work closely with each other, and the architects and engineers, to manage inflation and supply chain disruptions that were beyond their control.

Another way that inflation can cause defaults for contractors is the ripple effect on credit. Banks require that contractors meet certain levels of working capital or specific financial ratios as covenants on their lines of credit or business loans. Interest rates that doubled during the past year stressed these covenants, leaving less room for error. Bly recalls a subcontractor customer being forced to close its doors after being caught short by significant escalation in concrete prices for which the contractor had no escalation protection in its agreement. The loss triggered a default on its bank covenants, forcing the firm to close its doors when its credit disappeared.

"We are closely watching subcontractors that are leveraged with the prime rate more than doubling the last 15 months. Companies that are carrying a heavy interest burden are now carrying a lot more," says Bly.

Bly suggests that businesses review their credit facilities and get ahead of potential financing problems. He cautions that once a problem causes a loan default, the motivations of the



Source: Surety and Fidelity Association of America

contractor's bank will change.

"A business owner can get some head room on their covenants. Go to the bank before covenants are triggered. Let the bank know what's happening and ask for some relief. Businesses can provide more collateral or move to an asset-based loan to take pressure off the covenants," Bly suggests. "Once you are in workout at a bank it's a new ball game. The lender that you have a relationship with, that you golf with, does not have any say at that point. The people working on it are looking to get out of the loan, no matter how it happens. They care about the bank's assets not your business."

Surety agents report that, while conditions in the surety market are strong and underwriting has not changed, the feedback they get from insurers is that underwriters are bracing for a potential recession later in 2023. Most recessions catch the industry off guard to some degree, but insurers have been bracing for a downturn for months and, should one occur, underwriting is expected to tighten quickly. In that case, contractors could find the bonding spigot turned off.

"Where we are seeing challenges is for those contractors that are pushing the limits of their program, either seeking more capacity or stretching bonding support relative to their financial strength," says McCauley. "A year ago, that may not have been as much of a concern but now bonding companies are looking ahead 12 months and, with all these other factors, are becoming more frugal asking contractors more questions in those stretch cases."

Andrew Bly, assistant vice president at Alliant Insurance, notes that there are a couple trends that have appeared from Alliant's predictive analysis of 4,500 specialty contractors that suggest companies may be less resilient than in the past few years.

"Working capital in relation to backlog has deteriorated by about 25 percent from 2019 through the end of 2022. Working capital is not keeping up with backlog. Part of that is inflation. Part of that is PPP money being used while backlogs were still relatively high," Andrew Bly explains. "The other trend we noticed is that the largest single job as a percentage of a contractor's backlog has grown from about 18 percent to 28 percent during that same period. Subcontractors have a higher concentration of risk in one job in their backlog. This is due in part to material price escalation in addition to a growing number of larger project opportunities that we are seeing both locally and across the nation."

McCauley explains that underwriting caution about the coming year is materializing in the treatment of personal indemnification, which had been relaxed in the late 2010s. Waivers of personal indemnification happen when the perception of risk is low enough that the insurers do not ask for the financial guarantees from the owners of contracting businesses.

"Contractors were seeking personal indemnity waivers and sureties were much more willing to grant them ahead of the pandemic," he says. "That came to the to a halt with the pandemic but now we are seeing contractors coming back to the table with that request. The surety companies are more reluctant now to waive personal indemnification."

While the macroeconomic uncertainty is unsettling for insurers looking ahead in 2023, the volume of work underway and in the pipeline is a comfort to the construction surety industry. Veterans of the business see the rocks in the waters ahead, but also see how construction may avoid them.

"Demand for construction is through the roof. Now, there's funding in place for public construction through the infrastructure and jobs acts," notes Black. "With all the complications of the supply chain, the labor shortage, and material escalation, there is still tremendous demand for public construction. It's roads, bridges, and some school work."

"We are optimistic about 2023," says Jim Bly. "It will be interesting to see what the Fed does into the second quarter. The forecast we hear is for a recession in the later part of the year but right now things are pretty robust."

BEST PRACTICE

FOSTERING COLLABORATION AND INSPIRATION FOR A WORKPLACE CULTURE THAT DOESN'T EXIST (YET)

BY CHAD BURKE AIA, LEED AP AND ZACHARY ZETTLER AIA, LEED AP

The last decade has seen the emergence of what the Brookings Institute calls, "a new geography of innovation." Once sequestered in suburban research parks, in the last decade the most innovative companies and entrepreneurs are finding their way into more dense urban areas.

They're relocating in innovation districts, where they work in close proximity to other innovative companies, institutions, and researchers. In many cases, they're not only finding new neighbors, but they're forming new partnerships in shared workplaces. But drawing people together from across campus and from across multiple industries isn't easy. It's a new problem that requires a new solution.

Innovation + Workplace Cultures that Don't Yet Exist

How can architecture cultivate connections between researchers with different projects and backgrounds? How can it draw people together from across the university or from different institutions who have no experience working together? In short, how can architects create spaces that contribute to the emergence of new ideas?

Photo by Feinkopf Photography

One possible answer is "nothing." Kyle Hagerty suggests this in his provocative article, "You Can't Hack Innovation or Productivity with Office Design." "Cleverly designed office space is nice," he writes, "but we have to stop acting like building a prettier maze will help the mouse find the cheese faster." Hagerty's point is that worker/manager relationships are extremely important. That's true, and design can't substitute for mutual trust and support. Nevertheless, design can do a lot to foster or hinder healthy work relationships, especially when the space is bringing new people together for the first time.

We know the layout and design of a workplace can nurture or hinder the growth of relationships. In fact, Hagerty himself cites a statistic from Harvard Business School study showing that "contemporary open offices led to 70 percent fewer face-to-face conversations," because when people lack privacy, they tend to create it by popping in earphones or avoiding eye contact. This shows that open space does not mean automatic connection, but it doesn't illustrate that workplace design is unimportant. Rather, it means that we have to pay attention to the nuances of how, where, and when those connections are forged.

Workplace design is especially important for the kinds of interdisciplinary innovation hubs that are popping up on and off college campuses across the country. Whether you look at MIT's Stata Center or Iowa State University's Student Innovation Center, something these spaces have in common is that they are intended to form new partnerships – partnerships between public and private institutions, between students and professionals, and between researchers in different disciplines.

Many of these spaces also involve rotating research teams, which will make their home there for one to five years before relocating. In this situation, architects find themselves designing for a team and workplace culture that doesn't yet exist. This makes the design especially important in setting the tone for an incoming cohort of not-yet-coworkers. It needs to create the spaces necessary to support their work, inspire curiosity and imagination, enable relaxation and wellbeing, and foster collaboration.

If undifferentiated, open space doesn't foster creative collisions, then what kind of spatial strategy does?

Digital Futures Points the Way

The design for University of Cincinnati's Digital Futures develops a strategy to meet this challenge. Bringing some of UC's most future-forward research teams together with industry partners and colleagues from across the university, Digital Futures develops a multipronged strategy for fostering collaboration and nurturing breakthroughs.

Varied Work Postures + Opportunities to Connect

Organized around "neighborhoods" of lab space and social hubs, Digital Futures gives researchers a choice of how to work—focused and quiet, social, sitting, or standing. Allowing for varied work postures, this enables researchers to choose the place appropriate to their current task and mood. If researchers need privacy, they have it (especially in their labs which are arrayed around the exterior of the building). If they need a change (or a break), they have options for that too. They can work in a coffee shop on the first floor, in the pocket park just outside, or in the more private lounges on the upper floors, where they're likely to run into someone working on intersecting problems.

Putting Research on Display

By putting ongoing research on display within social hubs and in a gallery on the main floor, the building creates opportunities to connect disparate lines of investigation. It invites conversation between members of different research teams. Without denying researchers the opportunity and space needed for heads down work, shared resources—VR studios, computer labs, and other specialized amenities—draw investigators together and invite dialogue. Unlike the open office, where people erect ad hoc walls to create privacy, this highly differentiated yet flexible space creates richer opportunities to connect.

Photo by Feinkopf Photography

Making Room for Relaxation (and Breakthroughs)

It is also worth underscoring some of the opportunities for relaxation that are integrated into the design. Whether it involves a cup of coffee in the main floor café, a stroll through the gallery, or a nap on one of the couches in the upper floor lounges, the building also enables researchers to take a step back from their work. Cognitive science has shown what we've long intuited: Downtime is essential to intellectual breakthroughs. Archimedes' "Eureka!" moment came in the bath. Newton's came in a garden. Those at Digital Futures might happen in the little pocket park just outside or while a researcher lets her eyes scan over the abstract patterns on the wood panels that wrap the building's core. Inspiration is unpredictable, but its patterns are familiar.

Photo by Feinkopf Photography

Looking Beyond Design

While we don't share Kyle Hagerty's dim view of what design can accomplish, it is important to stress that a shift in workplace collaboration is only effective if it is supported by leadership. Design can help shift expectations, but it won't resolve underlying problems with workplace culture on its own unless supported by leadership. Taking the time to explain the workplace's design and model the behavior it is intended to support goes a long way to contributing to the success of the space.

Understanding that Digital Futures was very different from the spaces that its researchers were coming from, UC's leadership team has been proactive in showing the building's inhabitants how to use the space, through tours, sharing a "user's manual" for the building's amenities, and by example.

A building might not be able to "hack" innovation, but it can create the right conditions to foster connection and innovation. BG

Chad Burke is the director of commercial and workplace at GBBN. He can be reached at cburke@gbbn.com. Zachary Zettler is GBBN's director of higher education. He can be reached at zzettler@gbbn.com.

INDUSTRY & COMMUNITY NEWS

The Master Builders' Association (MBA) and Construction Advancement Program awarded a $10,000 scholarship to University of Pittsburgh School of Engineering's Construction Management/ Civil Engineering Program student Cain Pfoutz. Scholarships were also awarded for safety and for apprentices working as plasters, tapers, and carpenters with the Master Interior Contractors Association. Pictured from left at its annual membership meeting are Jennifer Landau, scholarship winner Cain Pfoutz, Brooke Waterkotte from Easley and Rivers, and TEDCO's Jim Frantz.

The Master Interior Contractors Association scholarship winners (from left) Cameron King, Eric Rock, Wyatt's Fred Episcopo, and Kevin Dubos.

(From left) Bob McCall, MBA safety director, safety scholarship winner Jacob Brand, and Mascaro's Rick Bowers, MBA Safety Committee chair.

(From left) Sam Riehs, Lorenzo Sciulli, and Brandon Rupert from Mosites Construction at the MBA Annual Membership Reception.

(From left) PenTrust's Jamey Noland, JLL's David Thor, Chad Chalmers from Wildman Chalmers Design, and John Robinson from PJ Dick at the NAIOP Ski Outing at Seven Springs on Feb. 3.

Katelyn Andreassi from Red Swing Group (left) and Jamison Vernallis from Landau Building Co.

PJ Dick Executive Chairman Cliff Rowe (left) was awarded the James Kling Fellowship Award by the AIA-MBA Joint Committee at the February 23 MBA Evening of Excellence at Acrisure Stadium. Picture with Rowe are Regis Claus of the Mechanical Contractors Association, and Carson Publishing's Kevin Gordon (right).

Scott Tovissi from BXBenefits (left) with Rich Yohe from Easley and Rivers.

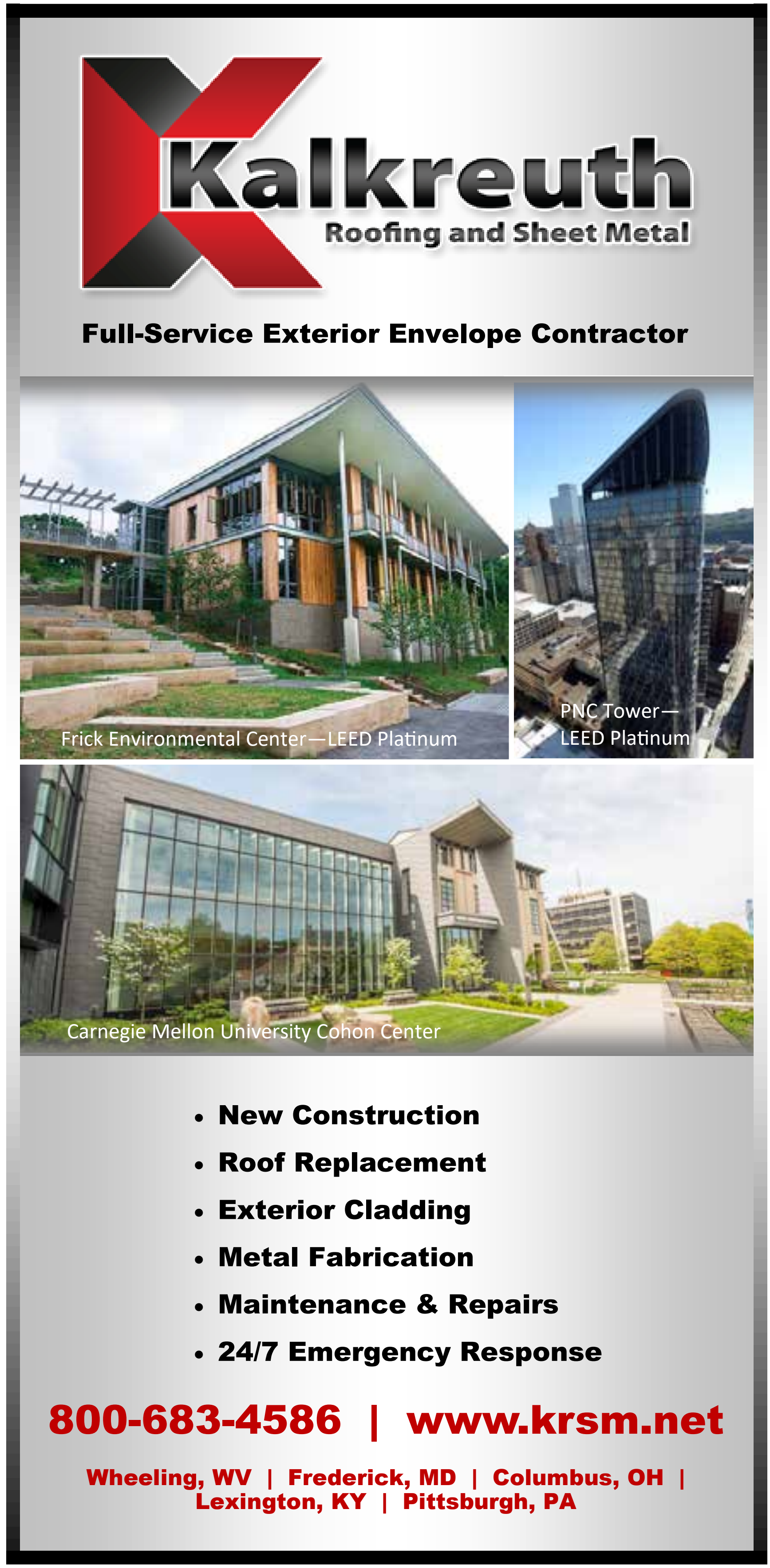
(From left) Rycon's Miranda Anderson, Amy Konieczka, and Shawna Sumlin.

(From left) Bill Waterkotte from the Eastern Atlantic States Regional Council of Carpenters, PBX's Del Walker, and Building Excellence Awards judge Ray Vogel.

(From left) Emily Stein, Kayla Benton, and Dan Engen from DRAW Collective.

Justin Bruce (left) and Adam Smith (right) from Bruce & Merrilees flank Justin Ross from Milwaukee Tool Co.

(From left) AIMS Construction's Catherine Donahue, Casey Mehall, and Steve Turner.



(From left) Rycon's Nate Green with David DiTullio, and Charles Modro from Civil & Environmental Consultants.

(From left) Kristen Busse, John Paul Busse, Abigail Busse, and Monica Stanton from F.J Busse Company.

(From left) Amity McClelland from Bluestone Communications, Josh Garcia from Wayne Crouse Inc., Graybar's Vinny Cherico, and Stefan Longo with Bongiorno & Associates.

(From left) Michael Gallet, Katie Kiska, Kelly Harrington, and David Heath from Gateway Engineers.

(From left) MBA Executive Director Dave Daquelente, Adam Ramsey from JLJI, Wade Lipscomb from Triple 3 Construction, and John Farabaugh from Centerpoint Painting Systems.

(From left) Jennifer Horvath from Design Group, AHN's Ryan Krumenacher, and Alyssa Kunselman from Mascaro Construction.

Juan Williams from Williams Bridge Beam Construction (left) and the MBA's Lance Harrell.

(From left) Myles Massery, Toni Adebayo, and Ed Massery from Massery Photography.

(From left) Susan Jansen from MCF Architects, Rachel Sweetland from AE Works, and RIDC's Kelsey Kanspedos.

Carnegie Mellon's Mike Kelley (left) and Kyle Gloff from Oxford Development.

Dustin Giffin from Giffin Interior (left) and Ryan Schlaegle from Schlaegle Design Build.

AWARDS & CONTRACTS

Landau Building Company was selected to deliver preconstruction services to Sewickley Presbyterian Church for the sanctuary improvements project. The project architect is The Design Alliance.

Landau Building Company is working in partnership with Vincentian and Perkins Eastman on the complete transformation of Vincentian Schenley Gardens, a residential Personal Care Home for older adults located in Oakland. The project includes the creation of cutting-edge intergenerational spaces and integrates authentic environmental sustainability throughout the building.

Landau Building Company was chosen to complete the cleanroom expansion project for a life sciences company in Pittsburgh, PA. The project was designed by Jacobs.

Landau Building Company has started construction on the second floor Skilled Nursing Unit project at WVU Medicine Fairmont Medical Center. HED is the architect.

Landau Building Company and Paradigm are the design-build team for the Starbucks renovation project at WVU Medicine Ruby Memorial Hospital.

Penn State University chose **Jendoco Construction Corporation** as construction manager for the $4.5 million Harmony Hall Bathroom Renovations at its Beaver Campus in Center Township, Beaver County. The architect is WTW Architects.

PJ Dick is providing CM at risk services for phased interior renovations at West Virginia University Medicine's Ruby Hospital. The project generally consists of heavy remodeling of existing spaces within Ruby on levels two, four, and six; the addition of new dock spaces; and the build-out of existing shell space on POC-6.

PJ Dick is providing CM at risk services for third floor renovations for Duquesne University's $4.5 million Gumberg Library. The project includes selective demolition of existing interior construction to accommodate renovation, and the renovated space will accommodate twenty group learning rooms, informal study and resource space, and infrastructure and code-related updates.

PJ Dick has been selected as the construction manager for the construction of a new building to house the program of the Pressley Ridge Day School. The scope includes demolition of existing facilities, construction of new school and possible new road/campus entry.

AIMS Construction was selected by Carnegie Mellon University as general contractor for the $2 million Hamerschlag Hall 1200 Wing renovation. The architect is GBBN. AIMS is also the general contractor for the bell tower restoration at Hamerschlag Hall. PWWG Architects is the architect.

St. Clair Memorial Hospital awarded a $1.2 million contract for pharmacy renovations to **AIMS Construction**. The architect is RM Creative.

Beaver County Corporation for Economic Development selected **Uhl Construction Co.** as general contractor for the $1.3 million Beaver Hub for Innovation Venture and Entrepreneurship (B-HIVE). Hayes Design Group is the architect for the project, which is an adaptive re-use of a vacant building on 7th Street in Beaver Falls, PA being developed in conjunction with Penn State Beaver, Geneva College and Community College of Beaver County.

Allegheny Health Network hired **Turner Construction Co.** to perform the first phase of programming preconstruction services for the new medical office building at AHN Forbes Regional Hospital in Monroeville, PA. IKM Inc. is the architect.

Mascaro was selected to construct the new $25 million, 52,600-square-foot terminal building at the North Central West Virginia Airport in Bridgeport, WV. The architect is Tran Systems.

Mascaro's Client Services Group was awarded the TriState Capital 11 Stanwix 19th Floor Renovation.

Rycon's Special Projects Group continues fit-out work within the historic Strip District Terminal. Recent projects include a $922,000 virtual reality experience, Sandbox VR and a $3.1 million Novo Asian Food Hall, which will feature seven distinct food stalls run by locally owned established Pittsburgh businesses.

In Sewickley, PA, **Rycon's** Special Projects Group is the general contractor for Morgan Stanley's 15,200 square foot, $2.9 million branch build-out which is expected to achieve LEED Silver Certification.

Rycon's Special Project's Group is the CM at-Risk for the new $1.5 million Kura Revolving Sushi Bar in the South Side Works, which serves sushi by conveyor belt.

Rycon's Special Projects Group will soon begin building a 14,900 square foot, $3.5 million indoor gun range in Kansas City, Missouri.

Rycon's Special Projects Group is responsible for the extensive mechanical and electrical upgrades and concrete work, vital to the owner's program, at an industrial plant in Eighty-Four, PA.

Rycon's Building Group is the CM-at-Risk for the new $65 million, 11-story multi-family residential development for Radnor Property Group. The scope includes a partial below grade mechanical floor, amenity, and residential units at ground level, and 216 apartments.

Rycon's Building Group was awarded a $21.6 million contract to renovate the University of Pittsburgh's Litchfield Towers Eateries, the largest dining facility on campus.

At Ross Park Mall, **Rycon's** Building Group was selected for the transformation of a 148,000 square foot vacant anchor store into a Dick's Sporting Goods House of Sport, a new concept that combines their retail store with a multi-sport experience.

In Whitestown, Indiana, **Rycon's** Building Group will construct a new $5.4 million, 49,000 square foot store for Dick's Sporting Goods.

Massaro Corporation was the successful contractor on the $4.6 million 13th floor renovation for at the UPMC Western Psychiatric Institute and Clinic in Oakland. The architect is CPL Architects.

Highmark awarded a contract to **Massaro Corporation** for the renovations to the 18th floor of its offices at 120 Fifth Avenue. The architect is Designstream LLC.

Carnegie Mellon University selected **Massaro Corporation** as construction manager for its $3.5 million Frew Street Site Utilities project.

Team Rahal selected **Dick Building Co.** as general contractor for its new Bobby Rahal Volvo dealership in North Strabane Township. Dean Hess Architect is the architect for the 27,575 square foot new facility.

Baldwin-Whitehall School District awarded **Caliber Contracting Services** a contractor for general construction for the Whitehall Elementary School Capital Improvements. HHSDR Architects & Engineers is the architect for the project.

Caliber Contracting Services was the successful contractor on Penn State's $718,8000 HUB Cow and Cookie Renovation at the University Park Campus in State College, PA. The architect is Hoffman Leakey Architects LLC.

JLL awarded a contract to **A. Martini & Co.** for renovations to the 14th floor at its Tower Two-Sixty offices. The architect for the 11,000 square foot build-out is DLA+ Architecture & Interior Design.

A. Martini & Co. was the successful contractor on the new $3.3 million Chase Bank branch in East Liberty. The architect for the 3,300 square foot new facility is David Allan Youse Architect.

A. Martini & Co. was awarded a contract for the Duquesne Club Renovations Phase 2. The project involves improvements to the club's library, wine storage area, rest rooms, and the Duquesne Room. Chambers is the architect.

FACES & NEW PLACES

With 16 years at **Turner Construction**, **Drew Kerr** has been promoted to vice president, general manager. Since joining Turner, he has held roles in various departments, including Procurement, Interiors/Special Projects, and Business Development. Additionally, he is an active member in the Pittsburgh community, serving on the Western PA Board of the March of Dimes, the Pittsburgh Regional Alliance steering committee, and a governor of the Board for the General Contractors Association of PA.

David Laudermilch joined **PJ Dick**'s Mid-Atlantic office as a project manager. He spent the past four years with Poole Anderson Construction serving as a project manager. Before that, he was a marketing and business development coordinator/project manager with GES Automation Technology/Edwin L. Heim. He graduated from West Virginia University with a degree in strategic communications.

Bill Eayre joined **PJ Dick** as project manager. He earned his bachelor's degree in civil engineering from Cornell University and comes to PJ Dick with 10-plus years of commercial construction experience, primarily in healthcare.

Jim Martin joined **PJ Dick**'s Mid-Atlantic office as a project manager. Jim has 33 years of experience and has held a range of positions from architectural designer/draftsman to construction project manager to vice president of multi-family. Jim earned his Bachelor of Architecture from Spring Garden College.

Project Superintendent **Tim Diercksen** joined **PJ Dick**'s Mid-Atlantic office. He began his career installing shingles on roofs and worked his way up through the ranks to his field supervisory role today.

Senior Project Manager **Mike Conroy** was hired by **PJ Dick**. Mike is joining the Whiting Turner-PJ Dick team at the UPMC Presbyterian Hospital project, overseeing the electrical scope of work. He previously owned his own business, Right Electric.

Chris Dann joined **PJ Dick**'s Pittsburgh International Airport Terminal Modernization team as an envelope superintendent. He served as an envelope superintendent in recent years for two other companies in Omaha, Neb., before moving back home to the Pittsburgh area. He holds multiple degrees: a BA in Russian studies, a BA in intelligence studies, and a MA in marriage and family counseling.

Ryan Vaz joined **PJ Dick** full-time as an estimator. He served as a project engineering intern during the summer of 2022 at Carnegie

Mellon University's Scaife Hall project, and he was previously a senior architect in India. He received his Master of Science in Architecture–Engineering–Construction Management (MSAECM) from Carnegie Mellon University as well as a Bachelor of Architecture.

Ryan Ernst joined **Mascaro's Client Services Group** on January 16 as a project manager. Ryan is a Civil Engineering graduate from the University of Pittsburgh with nine years of experience in the construction industry.

On January 16, **Colm Spillane** joined **Mascaro** as a project engineer. Colm is a committee member for the MBA Young Constructors and a Civil Engineering Technology graduate of the University of Pittsburgh at Johnstown.

Jacob Walker is a recent graduate of the University of Pittsburgh where he earned his bachelor's in Civil Engineering. He joined **Mascaro** as a project engineer on January 16.

Mascaro's director of human resources, **Jamie Gildersleeve** was named to the board of directors for the Pittsburgh Human Resource Association (PHRA),.

Alyssa Kunselman, director of business development at **Mascaro**, became the secretary on the board of directors for NAIOP Pittsburgh.

The **Rycon** Pittsburgh office welcomes **Zuzana Ashwell** as project coordinator within the Building Group.

The **Rycon** Pittsburgh office is pleased to welcome back, **Alec Hanley**, Penn State University alumnus, as project manager with the Building Group.

Lucas Heakins and **Mike Septak** joined **Rycon's** Self-Perform Concrete Division as project managers.

Rycon announced as of January 1, 2023, **John Sabatos** is now the chief executive officer, replacing co-founder **Todd Dominick**, who retired December 31. **Kevin Montez** takes on the position of chief operating officer.

Landau Building Company welcomes **Nicoletta Harrington** as Project Manager. "Nicki" has been involved in the construction industry since 1982, working for developers, building management firms, architects, and general contractors throughout the Pittsburgh region.

Melissa Fasching has been promoted to administration assistant for **Landau Building Company** having recently joined as receptionist earlier in 2022. Melissa has over 35 years of experience in executive operational leadership roles, including 27 years in the construction and home improvement industry.

Derek Thompson has joined **Landau Building Company** as project engineer. Derek is OSHA 30 certified and is currently working on several healthcare projects in PA and WV.

MBA MEMBERSHIP

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Raymond A. Volpatt, Jr., P.E.
Volpatt Construction Corporation

Vice President and Treasurer
Michael R. Mascaro
Mascaro Construction Company, LP

Secretary/Executive Director
David D. Daquelente

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F.J. Busse Company, Inc.

Alexander G. Dick
Dick Building Company

Domenic P. Dozzi
Jendoco Construction Corporation

James T. Frantz
TEDCO Construction Corporation

Jeffrey C. Landau
Landau Building Company

Anthony F. Martini
A. Martini & Co.

Steven M. Massaro, Past President
Massaro Corporation

David P. Meuschke
Burchick Construction Company, Inc.

M. Dean Mosites
Mosites Construction Company

Jodi L. Rennie
Turner Construction Company

Clifford R. Rowe, Jr.
PJ Dick Incorporated

John W. Sabatos
Rycon Construction, Inc.

Fredrick T. Episcopo (MICA President)
Wyatt, Inc.

GENERAL CONTRACTORS

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AIMS Construction
The Albert M. Higley Company, LLC
Allegheny Construction Group, Inc.
Burchick Construction Company, Inc.
Caliber Contracting Services, Inc.
Carl Walker Construction, Inc.
Dick Building Company
DiMarco Construction Co., Inc.
E&G Development, Inc.
F.J. Busse Company, Inc.
Facility Support Services, LLC
FMS Construction Company
Fred L. Burns, Inc.
Independence Excavating, Inc.
Jendoco Construction Corporation
Kokosing Industrial Incorporated
Landau Building Company
Mascaro Construction Company, LP
Massaro Corporation
McCrossin
Menard USA
Mosites Construction Company
Nicholson Construction Company
PJ Dick Incorporated
Rocky Bleier Construction Group
Rycon Construction, Inc.
Shannon Construction Company
Spartan Construction Services, Inc.
Stevens Engineers & Constructors, Inc.
TEDCO Construction Corporation
Turner Construction Company
Uhl Construction Company
Volpatt Construction Corporation

SPECIALTY CONTRACTORS

A Crane Rental, LLC
A. Folino Construction, Inc.
A. J. Vater & Company, Inc.
A.C. Dellovade, Inc.
ABMECH Acquisitions, LLC
ACE Lightning Protection Inc.
Advantage Steel & Construction, LLC
All Crane Rental of Pennsylvania, LLC
Alliance Drywall Interiors, Inc.
Amelie Construction & Supply, LLC
Amthor Steel, Inc.
Brayman Construction Corporation
Bristol Environmental, Inc.
Bruce-Merrilees Electric Co.
Bryan Construction, Inc.
Burke & Company, LLC dba S.P. McCarl & Company
Century Steel Erectors Co., LP
Centerpoint Painting Systems, LLC.
Clista Electric, Inc.
Cost Company
Costa Contracting, Inc.
Cuddy Roofing Company, Inc.
D-M Products, Inc.
Dom DeMarco Construction, Inc.
Donley's Concrete Group
Douglass Pile Company, Inc.
Easley & Rivers, Inc.
East Coast Metal Systems, Inc.
EMCOR Services Scalise Industries
Fay, An i+iconUSA Company
Ferry Electric Company
Flooring Contractors of Pittsburgh
Franco Associates
G. Kidd, Inc.
Gaven Industries, Inc.
Giffin Interior & Fixture, Inc.
G.O. Services, LLC
Gregori Construction, Inc.
Gunning, Inc.
Geo. V. Hamilton, Inc.
Hanlon Electric Company
Harris Masonry, Inc.
Hatzel & Buehler, Inc.
HOFF Enterprises, Inc.
Howard Concrete Pumping, Inc.
Hunt Valley Environmental, LLC
J.J. Morris & Sons, Inc.
JLJI Enterprises, Inc.
Kalkreuth Roofing & Sheet Metal, Inc.
KELLER North America
Keystone Electrical Systems, Inc.
Kirby Electric, Inc.
Kusler Masonry, Inc.
L & E Concrete Pumping Inc.
Lighthouse Electric Company, Inc.
Limbach Company, LLC
Lisanti Painting Company
Marsa, Inc.
Massaro Industries, Inc.
Master Woodcraft Corporation
Matcon Diamond, Inc.
Maxim Crane Works, LP
McCrossin Foundations, LLC
McKamish, Inc.
Mele & Mele & Sons, Inc.
Mohawk Construction & Supply, Inc.
NAES Power Contractors
Nathan Contracting LP
Noralco Corporation
Paramount Flooring Associates, Inc.
Phoenix Roofing, Inc.
Pittsburgh Interior Systems, Inc.
Precision Environmental Company
RAM Acoustical Corporation
Redstone Flooring, LLC
Renick Brothers Construction Co.
Richard Goettle, Inc.
Right Electric, Inc.
Ruthrauff | Sauer, LLC
Saint's Painting Company, Inc.
Sargent Electric Company
Schindler Elevator
Schlaegle Design Build Associates, Inc.
Schnabel Foundation Company
Specified Systems, Inc.
Spectrum Environmental, Inc.
SSM Industries, Inc.
Swank Construction Company, LLC
T.D. Patrinos Painting & Contracting Company
Tri-State Flooring, Inc.
W.G. Tomko, Inc.
W.O. Grubb Steel Erection, Inc.
Wayne Crouse, Inc.
WGM Contractors, LLC
Wright Commercial Floors
Wyatt, Incorporated

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CLOSING OUT

MULTIPLE CHOICE: WHAT AN ALL-OF-THE-ABOVE ENERGY POLICY DELIVERS

BY MICHAEL HUWAR

The power players emitting a constant surge of support for one energy source versus another can take a breather from the endless debate: There is, in fact, no one right answer.

From reliable standbys like natural gas to more weather-dependent renewables, the options available to power our lives are a diverse bunch. With so many options available, selecting a single energy source is impossible.

So, we don't narrow our options down to one. Instead, we open ourselves up to greater possibilities. An "all-of-the-above" energy policy acknowledges that no single energy source can meet the country's growing demand for reliable, affordable energy.

Natural gas, solar, hydro, wind, and nuclear power all play a part in providing sufficient power to support energy independence and to improve environmental stewardship. To understand the importance of energy independence, look at the energy crisis in Europe -- a result of policies that reduced domestic production of natural gas and tied entire countries to dependence on Russian supplies. As the war with Ukraine grinds on, European countries are enduring a winter with restricted energy reserves and serious concerns for the safety of their citizens.

Gas is So Much More than a Bridge Fuel

Environmentalists and many policymakers and politicians like to refer to gas as a bridge fuel – a gateway to an all-renewable energy portfolio. But natural gas continues to be much more than that – in fact, for many, it is a lifeline. At Peoples, we're excited to play a critical role in the future of energy in our region by delivering clean, reliable, safe, and affordable natural gas to our residential, commercial and industrial customers, while investing in infrastructure improvements and energy innovations that will serve both our economic and environmental needs.

Compared to the newer energy alternatives, natural gas is a low-cost energy source for the modern consumer. The pricing structures and business models within the renewables market simply aren't viable for most households today.

Renewables are also incapable of meeting energy demands, making natural gas an ongoing necessity. Gas-fired power plants can start up virtually immediately, unlike coal or nuclear. There are renewable-centric places – California, Texas, Michigan, to name a few -- with aging and increasingly fragile energy infrastructures that have come dangerously close to failing or have experienced significant outages recently. To counter these risks, gas is always there to step in and supersede the inherent limitations and intermittency of wind and solar technologies.

What's more, innovation in the natural gas industry aligns our environmental goals with society's economic interests, offering further evidence that discussions of clean versus dirty energy are becoming increasingly irrelevant. Notable promises of this are gas-to-hydrogen and carbon capture technologies, both of which position gas as highly viable in generating power as well as manufacturing processes.

The Keystone of Opportunity

Significant investments in natural gas research are yielding commercial applications of continuously cleaner power system solutions. Local examples of advanced gas technology include the Pittsburgh International Airport's microgrid, hydrogen fuel cell research and combined heat and power systems.

With the Marcellus Shale below our feet, Pennsylvania boasts the second-largest natural gas reserve in the world. Across the commonwealth, we are strategically positioned to deliver consistently cleaner, reliable, and less expensive power to households, businesses and manufacturing through our natural gas resources. While Winter Storm Elliott wreaked havoc on power grids across the country just a few months ago, regions like Pittsburgh with robust natural gas infrastructure were able to weather the rapidly plummeting temperatures and extreme conditions.

In Pennsylvania, our ability to fuel-switch from older coal-burning plants to newer, more efficient natural gas facilities has already played a significant role in reducing air pollutants, including carbon emissions. The natural gas sector further enhances the quality of life for Pennsylvanians by creating and stabilizing tens of thousands of well-paying jobs not only at the supplier level, but also in renewables, manufacturing and countless other downstream industries and businesses.

These substantial benefits give elected officials ample reasons to support the natural gas industry, along with renewables and nuclear power, in their policymaking.

The Dangers of an All-Renewable Portfolio

Take a quick look back at Texas last winter, California over the past summer, or Europe right now. These troubled areas and their near-exclusive reliance on renewables demonstrate the error in eliminating gas and nuclear sources from the energy mix. Renewable energy sources face real challenges, including a high initial cost of installation, lack of infrastructure and lack of affordable power storage. Stable, proven, and trusted, natural gas meets U.S. energy demands without the uncertainty and risk that come with renewables.

Working out the energy landscape of the future will involve trial and error, anticipation, and disappointment, wins and losses. Only by exploring and developing the full range of resources and technologies available will tomorrow's energy grow ever cleaner, more affordable, reliable, and resilient.

As we open ourselves up to those opportunities, natural gas is the constant -- an essential element in the clean energy formula.

Michael Huwar is the president of Peoples Natural Gas and is co-chair of Pittsburgh Works Together.

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