

February/March 2020

A Publication of Dorsey & Whitney's Development and Infrastructure Industry Group



DIG

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Dorsey & Whitney LLP Development and Infrastructure Industry Group Co-Chairs: Jocelyn Knoll and Marcus Mollison

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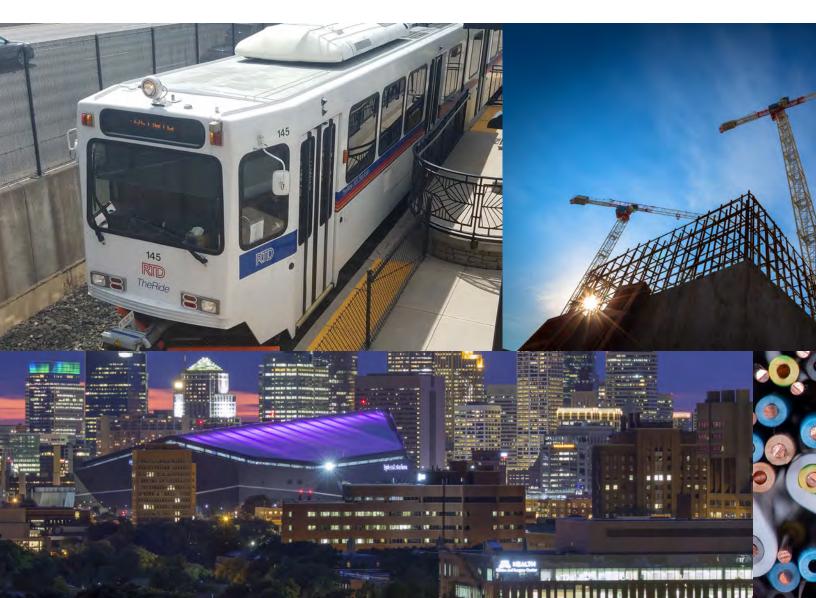
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contents

- 7 A Note from the DIG Co-Chairs
- 8 Revitalizing Downtown Denver

 RTD's Innovative and Successful Approach to Economic Development by Diana Parks
- 11 Virtual Power Purchase Agreements – All I Do is Win-Win-Win by Zeviel Simpser and Paul K. Beck

- 14 Recycling Urban Land: Building Cities of the Future Through Public-Private Partnerships by Jay Lindgren
- **16 Rising from the Ashes** by Marcus Mollison
- 20 Fair Winds and Following Seas Bring New Energy to U.S. by Jocelyn Knoll



23 Power Plants Retired as "Uneconomic" May Still Hold **Significant Value** by Zeviel Simpser and Paul K. Beck





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A Note from the DIG Co-Chairs

Dorsey & Whitney lawyers and staff around the globe help clients in nearly all industries achieve their business goals. Development and Infrastructure is one of the industry sectors in which Dorsey has the greatest depth and breadth and the most remarkable history of client successes.

Dorsey's Development and Infrastructure Industry Group or DIG includes more than 130 lawyers from multiple disciplines who represent public, private and governmental clients in all phases of their projects.

We decided this year was the time to dig into our experience and share some of what we have learned working on innovative development and infrastructure deals. This inaugural issue of DIG compiles some of our most intriguing work and creative financing structures involving projects from around the world that serve a broad range of purposes.

We feel privileged to have spent our careers working with leaders in an industry that is literally building, re-building, powering and connecting our world. We are proud to share our experiences, and those of our DIG colleagues, with you.

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Revitalizing Downtown Denver – RTD's Innovative and Successful Approach to Economic Development

by Diana Parks

In 2008, the Regional Transportation District (RTD), the agency responsible for multi-modal transit for the Denver metropolitan area, undertook a visionary and innovative approach to revitalizing its downtown Union Station, promoting livability in the area, and providing easy access and user-friendly public transit to downtown Denver. The effort included the involvement of multiple public stakeholders working together in a concerted effort toward economic growth goals using a balance of multiple sources of public funds, tax increment funding, private investment and partnering, and longterm operation and maintenance contracts with private partners. The results have far exceeded feasibility studies and expectations. Denver's Union Station and multimodal Transit Center are not only a huge success in their own right, but have spurred the economic development of the entire surrounding area, including improvements that enhance public access to the popular 16th Street Mall area and the Convention Center. The centralized transit hub has facilitated increased ridership in all modes of public transit, resulting in less vehicular congestion and

emissions. The project has also resulted in economic growth in formerly desolate areas around the commuter rail train stations.

RTD bought the Union Station historic building, along with the 19.1-acre Union Station site in 2001 with a vision to develop the site as a multi-modal hub integrating light rail, commuter rail, Amtrak, buses, taxis, shuttles, buses, and pedestrians.

In 2008, the Denver Union Station Project Authority was formed among RTD and other public stakeholders to rebuild the historic building and develop the surrounding 50-acre Union Station site. In July 2014, the historic building opened as a 112-room boutique hotel with 18,000 square feet of retail and restaurants on the ground floor and a 24/7 main hall for public access.

The new 22 bay underground bus concourse and Amtrak rail station opened in May 2014, with first-inkind commuter rail service commencing in April 2016. Regional bus service and a free circulator bus also can be accessed from the Transit Center.

The Historic Union Station Building and Train Hall

In 2011, a private developer group was awarded the right to develop, maintain, and operate the historic building through a competitive RFP process. The developer has a 99-year lease of the building and is responsible for all capital maintenance, with RTD having rights to certain levels of revenues. This innovative, long-term lease approach draws much needed private investment and expertise in the development of critical public infrastructure, with a built-in incentive for the developer to build a high quality project with low capital maintenance requirements and a long life cycle. Access to the trains behind Union Station is via a stunning white canopy, which is illuminated at night.

Private Site Development

The Denver Union Station Project Authority contracted with a private, master developer to develop and operate private buildings on the surrounding Union Station site. This resulted in approximately 19 other newly constructed buildings within the Union Station site consisting of hotels, condos, grocery, retail, restaurants, office, parks, and parking. Successful development of the Union Station site surrounding the transit facilities and historic building was critical to repaying the public debt for the overall project. Currently the revenue significantly exceeds the projected forecasts, with the 2017 absorption of the (i) office and retail square footage reaching three times the high-end projections, (ii) hotel rooms at 700 above projections; and (iii) residential units exceeding projections by 100%.

Eagle P3 Project

In 2012, RTD awarded a \$2.2 billion Design, Build, Finance, Operate and Maintain (DBFOM) concession agreement to a private developer team under a competitive RFP process for the Eagle P3 Project. The Eagle P3 Project is a first-in-kind commuter rail project in the United States consisting of three lines, rolling stock, and a maintenance facility. The project connects Denver International Airport to Union Station via a 23-mile electric rail corridor (aka the University of Colorado A-Line). Passengers board the train directly from a platform outside DIA for the 35-minute ride into a thriving urban hub complete with upscale restaurants, hotels, residences, and office towers. This is about half the time it takes for the drive in heavy traffic. The project also includes two commuter rail lines serving local suburbs for convenient commuter access to and from downtown Denver.

In a matter of eight years, Denver has transformed itself from a highly auto-dependent city to a thriving, livable, downtown urban environment with all the modern amenities of a high-tech city. The ability and willingness of RTD and its local stakeholders to use the innovative P3 model, with private, long-term partners for this infrastructure was the critical piece in enabling this transformation in such a short period of time. Dorsey & Whitney is proud to be a partner to RTD for the delivery of the Eagle P3 Project. ■

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DEVELOPMENT AND INFRASTRUCTURE ADVICE FROM THE GROUND UP.

More than 130 Dorsey lawyers comprise Dorsey's Development & Infrastructure Industry Group, representing public and private entities in all phases of their projects - from planning, designing, developing, financing, and constructing to owning, operating and resolving disputes. With a depth of knowledge and talent across multiple disciplines, Dorsey uses its resources to help clients navigate the legal, financial, business, and political complexities and nuances that move projects forward.







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10

DIG February/March 2020

Virtual Power Purchase Agreements – All I Do is Win-Win-Win

by Zeviel Simpser and Paul K. Beck

In recent years, the use of Virtual Power Purchase Agreements ("Virtual PPAs") has increased significantly as more companies seek to expand their investment in renewable energy, and renewable developers grow to meet the rising demand. In 2018, non-utility corporations signed renewable energy contracts-both traditional and Virtual PPAs—for nearly 6.5 GW of renewable energy capacity¹. This is the equivalent of over 20 million photovoltaic solar panels or nearly 2,700 utility-scale wind turbines².

Many of these contracts were spearheaded by large corporations with significant energy needs, such as Facebook, Microsoft, AT&T, Walmart, and others. Unlike traditional PPAs, Virtual PPAs can be used by companies that don't necessarily have large, concentrated load centers like technology companies or college campuses. Indeed, Virtual PPAs can be a powerful tool for meeting the twin goals of boosting renewable energy development and meeting "green" goals demanded by customers and shareholders, by providing renewable developers with access to project financing and providing renewable energy credits to buyers. However, Virtual PPAs are often misunderstood, and despite their advantages they do pose risks for both renewable developers and corporate buyers that can be significant if not properly managed in the deal documents.

Background on Virtual PPAs

The first thing to understand about Virtual PPAs is that they are not actually contracts for the purchase of power at all. Rather than an energy contract, a Virtual PPA is a financial agreement whereby, in the most common structure, a corporate customer ("Buyer") agrees to pay to a renewable energy developer ("Seller") a set price per MW for all of the energy produced by a renewable energy facility; the Seller then sells the power at market rates and passes the gains to the Buyer, along with the renewable energy credits ("RECs") generated by the facility. If the market price is below the agreed-to price in the Virtual PPA, the Buyer must make up the difference, such that

the Seller always obtains its set price per MW of power generated. Critically, the price floor provided by the Virtual PPA allows the Seller to obtain financing to develop the renewable energy project by guaranteeing a set price for the output of the facility regardless of market conditions.

Stated differently, the Buyer in a Virtual PPA is not buying energy from the Seller, only RECs, and the Virtual PPA has nothing to do with the cost the Buyer pays for the energy it uses in its facilities. The Buyer must still obtain its energy from other sources such as a utility, the wholesale market, or a traditional PPA. This means the Virtual PPA is not a means of controlling the cost of energy of the Buyer, but it can serve as a hedge—if the Buyer obtains its energy in a competitive market at a floating price driven by wholesale price changes and if the power facility with which it has a Virtual PPA is in the same market, then if the cost of energy rises in that market, the Buyer's increased cost of energy will likely be offset in part by reduced payments it pays to the Seller or the increased payments it receives from the Seller under the Virtual PPA. Likewise, if dropping energy prices in the wholesale market increase the amount the Buyer must pay to the Seller under the Virtual PPA, that cost will likely be offset in part by reduced payments it pays for the energy it consumes. The offsets will not be perfect, a factor driven by mismatches in timing and locational pricing differences caused by transmission congestion. There may be no offsets at all if the Buyer is in a traditional utility market or if the power project is in a different region.

"Virtual PPAs can be a powerful tool for . . . boosting renewable energy development and meeting 'green' goals demanded by customers and shareholders"

Advantages of Virtual PPAs

A Virtual PPA has many advantages over a traditional PPA, under which a buyer agrees to purchase and take

See Renewable Energy Buyers Alliance Deal Tracker, available at: https://rebuyers.org/deal-tracker/. U.S. Department of Energy, "How Much Power is 1 Gigawatt?" (Aug. 12, 2019), available at: https://www.energy.gov/eere/articles/how-much-power-1-gigawatt



VIRTUAL POWER PURCHASE AGREEMENTS (continued)

delivery of the entire offtake of a generating facility. In a traditional PPA, the load must be located in the same Regional Transmission Organization/Independent System Operator ("RTO/ISO") area as the generating facility, and the buyer must generally contract with third parties (i.e., a transmission provider) to coordinate delivery of the energy onto the grid. By contrast, in a Virtual PPA, the Buyer doesn't take the actual power from the Seller, so the generation can be located anywhere, as long as it is in an organized market where the energy can be sold at wholesale prices. For this reason, most renewable energy development pursuant to Virtual PPAs is in competitive markets where wind and solar resources are abundant, such as the Southwest Power Pool ("SPP") and the Electric Reliability Council of Texas ("ERCOT").

Additionally, unlike a traditional PPA, a Virtual PPA has reduced regulatory risk because the agreement does not require approval from the Federal Energy Regulatory Commission ("FERC"), since the Buyer is not actually taking any power from the Seller. FERC approvals can be time consuming and costly, particularly if there are complications surrounding the delivery of the offtake or if the Buyer is unfamiliar with FERC requirements. While this regulatory risk is minimized with a Virtual PPA. Virtual PPAs are subject to Dodd-Frank regulations on commodity swaps, as discussed below.

Risks of Virtual PPAs

Despite their advantages over traditional PPAs, Virtual PPAs can pose risks for both renewable developers and corporate buyers. Buyers under Virtual PPAs, for example, will be subject to swings in energy prices, which can happen for many reasons. In some markets, such as ERCOT or the California Independent System Operator ("CAISO") market, energy prices can go negative in times of high renewable output and low demand (e.g., on sunny, windy days when renewable penetration is particularly high). Unlike traditional PPAs in this situation, the Buyer would have to pay the fixed price under the Virtual PPA plus any additional negative price that was paid into the market by the Seller. Buyers in those circumstances often protect themselves by insisting on the right to curtail production from the project, but at the cost of paying the Seller for the lost production, plus, in the case of wind projects taking advantage of production tax credits ("PTCs"), the after tax value of the lost PTCs. And, of course, a curtailed project isn't producing RECs. However, the market in Virtual PPAs has generally accepted a floor price of \$0 for the variable market price (regardless of actual market prices) meaning the Buyer never has to pay more than the agreed fixed price for each MWh of energy produced by the project.

Wind and solar power are intermittent and seasonally variable, and as additional renewable energy is put into production, downward pressure on energy prices can result in large, variable, and unpredictable expenses, an unwelcome development for most companies. Structuring properly hedged Virtual PPAs will only become more important to limit adverse impacts as renewable projects continue to build out in high-wind and high solar insolation regions.

Other Key Considerations for Buyers

Most companies that are "Buyers" in the Virtual PPA context do so because they want to obtain RECs in order to meet corporate sustainability goals or to comply with customer- or shareholder-imposed renewable energy goals. However, companies must use caution when making so-called "green" claims, for example, that a product is made with 100% renewable power. The Federal Trade Commission ("FTC") has published detailed, if slightly outdated, regulations on these "green" marketing claims, known as the Green Guides. For renewable energy, the FTC Green Guide states that a marketer should not make an ungualified renewable energy claim, if electricity derived from fossil fuel is used to manufacture any part of the product or service, "unless the marketer has matched such non-renewable energy use with renewable energy certificates."³ As an example, the FTC rules state that claims such as "made with wind power" would be interpreted by consumers as implying that the product was made with 100% wind energy, and thus are deceptive if the product is only made with 50% wind energy. As a result, Buyers in Virtual PPA transactions should be careful not to factor the Virtual PPA into their renewable calculations until the RECs actually begin to come in from the project. Merely signing a Virtual PPA, or a traditional PPA for that matter, does not in itself allow the Buyer to claim that energy as part of its portfolio until the project is actually supplying the Buyer with the energy or RECs.

Other Considerations for Sellers

As noted above, Virtual PPAs are subject to regulation as swaps by the Commodity Futures Trading Commission ("CFTC") under Dodd-Frank⁴⁴. Typically, Sellers assume the burden of complying with the CFTC reporting requirements that come with swap regulation. Additionally, the parties should be aware the fixing or guaranteeing of a minimum output of the renewable energy facility can trigger regulation as a derivative rather than a swap, which brings with it more detailed and burdensome regulation and accounting treatment.

The parties to a Virtual PPA should also negotiate the treatment of other revenue streams that the Seller may derive from the project, such as capacity payments, compensation for providing ancillary services, and other considerations.

What Does the Future Hold?

Virtual PPAs are attractive both to renewable developers and corporate customers that are seeking to green their energy portfolios. However, the nature of these agreements is rapidly evolving. For example, some parties are now developing hybrid Virtual PPAs, whereby a wind and solar project will be paired together in a single agreement in order to take advantage of complementary production curves. Additionally, the expansion of utilityscale energy storage raises very interesting questions surrounding the pricing of the Virtual PPA and how RECs are generated. Given the rapid evolution of Virtual PPAs, there are risks associated with these agreements to both parties. These risks can be appropriately managed and allocated, but the contracts must be carefully drafted to avoid future disputes.

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Ib CFR § 260.15(a).
 Seeurity-Based Swap, "Security-Based Swap," and "Security-Based Swap Agreement"; Mixed Swaps; Security-Based Swap Agreement Record Keeping, Joint Final Rule, 77 Fed. Reg. 48,207 (Aug. 13, 2012).





Recycling Urban Land: Building Cities of the Future Through Public-Private Partnerships

by Jay Lindgren

Urban regions are growing. In the last generation, more people worldwide live in metropolitan areas than in more rural settings. Downtown core areas are seeing growth that was unheard of a generation ago. Many forces are driving this trend.

The rapid change in transportation alone is poised to catapult the next level of change. According to the Urban Land Institute, 31% of our downtown commercial cores are devoted to parking. Currently, there are four times as many parking spaces as cars in America. And, the average automobile spends 95% of its time sitting.

Ride sharing has already started to change this use pattern. I am a Baby Boomer, and I readily use my Uber app for everything from getting to the airport to a night on the town with my wife. So what happens when autonomous vehicles become efficient, safe, affordable and trusted? What happens when I can call a self-driving vehicle to my suburban home for my daily commute? For one thing, I will not need an expensive parking spot near my office. And neither will thousands of other people. That one-third of our downtown land used for parking will become ripe for redevelopment. And this change will happen faster than we think. We need to only think about how quickly the horse became an outmoded transportation model after thousands of years. In one generation the car took over, and the horse became irrelevant... and even prohibited.

Redeveloping urban land is an efficient use of a limited, valuable commodity. I like to think of it as "Land Recycling." Market forces will drive this opportunity. But, so will community plans and visions. It will take



5th Avenue New York City 1913



5th Avenue New York City 1900

government and private developers working together to achieve a shared vision.

Redeveloping land is inherently more expensive than building in a green field. Yet, people will want to occupy these newly available urban places. And the communities in which this occurs will care about what it looks like and how it works as a whole.

Beyond urban planning, this will mean new infrastructures and other desired public amenities (e.g., urban green space). How will a developer, appropriately focused on per foot construction costs and a viable development pro forma, make these deals work?

The short answer is by partnering with the local government to "capture value" from the newly created urban project. This "value" can then be used to help pay for the extraordinary cost of building the project, including public infrastructure and amenities.

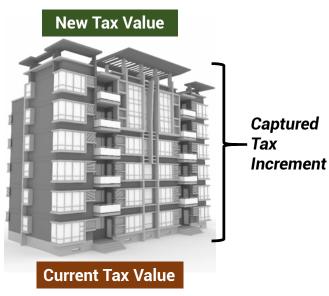
This is not a new concept. Tax Increment Financing ("TIF") is a common tool in many states. TIF captures the value of new real estate taxes created by a valuable project and provides a revenue stream that can be monetized to pay for qualified redevelopment costs. Most typically, these funds are used for (1) demolishing outdated building, cleaning up the site and making it development ready, plus (2) building public infrastructure that will serve the new project and the area that it serves.

Structuring TIF is often complicated. It is not without controversy to capture a portion of property taxes that otherwise would benefit general government programs. But, keep in mind two things. First, the "shared vision" of the community likely would not happen because of the extraordinary costs. Do we want a swath of decaying, underutilized old parking ramps? Second, TIF is usually for a set period of time (say, 10 - 25 years). During that time, most governments get the tax dollars they were expecting before – then get a significant increase in the end.

TIF typically is not about a "government handout." It may be a public subsidy of sorts, but I think of it as more a partnership – the public and private sectors working together toward a common goal. In most jurisdictions, TIF is about filling a "gap" in a developer's financial pro forma that is caused by extraordinary costs of redevelopment. Without the use of the increment, the "shared vision" would never be realized. The old parking ramp might sit there for a long time – getting more blighted. Or, perhaps, something else would get built, but it would likely be smaller, less efficient and not meet as many community needs.

Put on your urban planner hat. Think about all the parking garages in your City's downtown area. What should they become in the future? Think about a wide suburban street with four lanes of traffic and two or four turning lanes. What if this required just one lane in each direction for autonomous vehicles and one in each direction for traditional vehicles? How should we recycle that land and how should we pay for what is next? The future of cities is changing rapidly. Get ready for a wild ride.

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Rising from the Ashes

Minnehaha Academy's Remarkable Recovery from Catastrophe and Tragedy

by Marcus Mollison

By all accounts August 1, 2017 was an ordinary late-summer day at Minnehaha Academy's Upper School campus in Minneapolis, Minnesota. Teachers, administrators and staff prepared for the approaching new school year, and the school hosted its typical summer camps and programs. No one could have imagined how different the world would be in less than 24 hours.

At 10:23 a.m. on Wednesday, August 2nd, a seismic explosion, heard and felt for many surrounding city blocks, rocked Minnehaha's Upper School and completely leveled its two primary buildings, which had stood as landmarks on the western bank of the Mississippi River for more than a century. The blast was caused by a natural gas pipe leak related to a routine gas meter relocation. Shortly thereafter, students, parents, alumni and the rest of the country were shocked to witness live on local television and CNN the uncontrolled flames and smoking rubble. In the hours that followed, the tragic news spread that two beloved members of the Minnehaha family, receptionist Ruth Berg (47) and custodian and alumnus John Carlson (82), had lost their lives and that numerous others had sustained serious injuries.

In the immediate wake of the explosion, the prayer services and the memorials, school leaders, many of whom themselves were suffering from concussions and other physical traumas, were confronted with the stark reality that the high school fall semester was set to begin in less than three weeks and that crucial, existential decisions regarding Minnehaha's long-term future also would quickly need to be addressed. Of course none of these critical determinations had been at all contemplated prior to the accident.

The story that unfolded in the days, weeks and months that followed was nothing short of astonishing, drawing from the resilience, determination, faith and vision of Minnehaha's administration, faculty, board, students, parents and countless supporters and partners. Against the odds, the Upper School opened its fall semester a mere 33 days after the disaster at an improbable, yet perfectly designed and customized temporary location. And incredibly, only two years after the devastation, Minnehaha dedicated and opened a sparkling, state-ofthe-art facility, returning to its historic location on the western bank of the Mississippi River.





Minnehaha Academy Upper School Campus Before August 2017



Temporary Upper School Campus in Mendota Heights



Pillar Raising Ceremony August 2, 2018



New Upper School Under Construction

Adequately detailing the challenges experienced and the dedication and efforts required to achieve these outcomes within the context of the difficult time constraints involved would require at least a book. Nevertheless, what follows is a brief chronology of some of the critical decisions and inflection points that allowed Minnehaha to survive and thrive during the trying interim period between August 2017 and August 2019, and that have charted the school's course for its second century.

"Together We Rise" - August 5 through September 5, 2017:

Within days after the accident, Minnehaha adopted the "Together We Rise" campaign for the reestablishment of its Upper School. The most urgent problem facing Minnehaha Academy in the explosion's aftermath was the imminent 2017-18 school year and the welfare of its 350 high school students. There was no easy or obvious temporary location, and the board and administration considered and toured many diverse alternatives and locations. What was clear was that a site needed to be settled upon immediately. Within a week, school leadership opted to pursue a location in the Mendota Heights suburb of the Twin Cities. Although situated in a suburban office park, requiring substantial interior demolition, a complete interior overhaul as well as a conditional use permit from the City, the building's relative proximity to Minnehaha's upper and lower campuses and the fact that its most recent tenant was a for-profit local college made it the best solution.

Once selected as the location, the existing building lease required termination, a new lease had to be negotiated, and numerous property use-related restrictions needed to be resolved or approved. Under normal circumstances, finalizing these contracts and matters reasonably could be expected to take 4 to 8 weeks. In this case, however, the lease was fully negotiated in less than 36 hours and fully executed on the morning of August 17th, less than 12 hours later. The existing lease simultaneously was terminated. The same morning that the lease was signed, general contractor M.A. Mortenson immediately commenced the demolition and remodeling inside of the building.

For the next 19 days, Mortenson and its contractors literally worked 24 hours a day/7 days a week redesigning and transforming the vacant premises into not merely a functional or acceptable high school facility, but into a truly exceptional temporary home for the Minnehaha student and teachers, with updated technology and every space, room and wall uniquely customized to incorporate Minnehaha's history and values. Few could have imagined the amazing results that were achieved to the building in less than

RISING FROM THE ASHES (continued)

three weeks. The Mendota Heights campus served Minnehaha's needs well during the two interim school years.

The City unanimously approved the school's interim use permit on August 24th , and the entire Minnehaha administrative staff moved into a set of temporary office trailers located on the front lawn of the school's lower school campus, located 1½ miles south of the Upper School on West River Parkway in Minneapolis, where they resided until the completion of the reconstruction.

Accelerated Strategic Planning - September 2017 through December, 2017:

Long-term strategic planning for private schools and other similar institutions invariably involves many years of market studies, planning, research and committee input and decision making. Minnehaha's board and leadership simply did not have this luxury. Generational strategic decisions for the school's future and trajectory had to be made over a period of only a few months. In October, the school made the crucial decision to retain Tegra Group as its owner representative. Throughout



the redevelopment, Tegra served Minnehaha as its indispensable ally and partner.

"Within days after the accident, Minnehaha adopted the 'Together We Rise' campaign for the reestablishment of the Upper School."

With Tegra's counsel, and after an RFP process, Minnehaha selected Cuningham Group as its design consultant and architect. Based largely on the loyalty, dedication and performance demonstrated on the Mendota Heights project, the school selected Mortenson as its design-builder for the upper campus redevelopment. During this period, the outside portions of the newer additions of the upper campus that were salvageable were sealed-off and protected for winter conditions. Following lengthy NTSB and other accident and site-related investigations, debris removal and building demolition finally began in December.

Design and Approvals – January 2018 through May 2018:

Designing an educational campus for the next 100 years is a daunting task under any circumstances. Doing so without notice and under stringent deadlines is a challenge of entirely different order of magnitude. Despite these limitations, throughout the first half of 2018, Minnehaha's leadership devoted important time and resources marshalling input from faculty, students and the community in designing and redesigning the new campus. Simultaneously, the redevelopment team diligently worked through the Minneapolis Planning Commission and City Council processes, and the school formally launched its capital campaign. Compounding the completion timing issues were construction commencement delays caused by various objections and appeals from neighborhood constituencies.

Construction – June 2018 through August 2019:

Original time constraints compounded by the aforementioned approval delays left Mortenson with an acutely compressed project schedule with virtually no



float time. Mortenson, Tegra and Cunningham teamed with Minnehaha to maintain the tight critical path schedule for the August 2019 fall semester opening. In addition to winning the AIA Minnesota Honor Award for its design, the new Upper School incorporates stateof-the-art construction, environmental and educational technology, reuses bricks and other building materials from the destroyed 1912 and 1922 buildings and pays thoughtful respect to the lives lost and injured on August 2, 2017.

Project Milestones

- Late June 2018: Groundbreaking; Building Permit; Construction Commencement
- July 2018: Footings and Foundation Work Commences
- August 2, 2018: One Year Remembrance and Pillar Raising Ceremony
- Early October 2018: Closing on Project Financing
- October 21, 2018: Installation of Final Steel Beam, Signed by the Class of 2019

• August 21, 2019: 2019-20 Upper School First Day of School

As the years pass, the memories of the remarkable circumstances surrounding this project will inevitably fade. But the students who lived through these challenging years of tragedy and triumph will keep alive the story of the dedication, sacrifice and vision of Minnehaha's leadership and community.

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Editor Postscript: It has been a distinct privilege for Marcus Mollison and other colleagues at Dorsey & Whitney to partner with Minnehaha Academy as its legal counsel on a pro bono basis throughout the entirety of its two-year journey to continue its educational mission at its interim location and to redevelop this outstanding Minneapolis institution for the next 100 years.

Fair Winds and Following Seas Bring New Energy to U.S.

by Jocelyn Knoll

"A great wind is blowing, and that gives you either imagination or a headache." - Catherine the Great

The future is robust for the burgeoning offshore wind farm industry, especially in the United States. Compared to our European friends, the United States has been slow to embrace the power of offshore wind farms. But the Block Island Wind Farm, located off the coast of Rhode Island, successfully brought offshore-generated wind power to the U.S. market. Completed in 2016, Block Island Wind Farm is the first operating U.S.-based offshore wind farm. Together, Block Island's five turbines, located just over three miles offshore, generate 30 megawatts (MW). While Block Island is the only offshore wind farm generating power in the U.S. currently, there are at least 40 projects in various stages of development. The U.S. coastal waters and the Great Lakes provide fertile areas for these farms and opportunities for developers, engineers, contractors, manufacturers, and suppliers. Simply put, the United States is wind-rich. The University of Delaware's Special Initiative on Offshore Wind has forecasted that U.S. offshore cumulative installed wind capacity could grow to 16 gigawatts (GW) by 2030, enough energy for over 11 million homes. And in early 2018, the United States issued its first comprehensive Offshore Wind Master Plan.

Many coastal states, including New York, New Jersey, Massachusetts, Connecticut, Maryland, Rhode Island, Virginia, California, Oregon and Hawaii, support the development and growth of offshore wind farms. The eight states that form the Great Lakes region of the U.S. also present opportunities for offshore wind development. These states are Minnesota, Wisconsin, Michigan, Illinois, Indiana, Ohio, Pennsylvania and New York. The first Great Lakes offshore wind development is planned for Lake Erie, eight miles from the City of Cleveland's shores; the project is moving toward final permit approval. States like California and Hawaii have adopted 100% renewables portfolio standards and carbon reduction policies, which are creating fair winds for the creation of new offshore lease areas. This in turn is accelerating competition at U.S.-based offshore wind lease auctions

The University of Delaware has estimated the development and construction of offshore wind farms in the U.S. holds out the realistic possibility of an almost \$70 billion CAPEX revenue opportunity to businesses in the U.S. offshore wind supply chain on the Atlantic Seaboard by 2030. The 800 MW \$2.8 billion Vineyard Wind project, located over 15 miles off the coast of Massachusetts,





and the 90 MW South Fork Wind Farm project, located 35 miles east of Montauk Point in New York, are the most advanced in terms of completing state permits and site surveys and obtaining power purchase agreements. The Bureau of Ocean Energy Management (BOEM) is reviewing the projects' construction and operations' plans. While Vineyard Wind anticipates a commercial operation date of 2022 for the first 400 MW of its 700 MW project, construction has not yet started as a result of BOEM's decision last year to determine the cumulative effect on commercial fishing of building multiple wind farms in the region. In addition to the operational Block Island Wind Farm, there are at least 20 wind farm projects in various stages of development in the New England and mid-Atlantic region, including the 816 MW Empire Wind and 880 MW Sunrise Wind projects, both located off Long Island. New York state officials' goal is to have the combined 1,700 MW farms in operation by 2024. Together, the Empire Wind and Sunrise Wind projects are expected to bring more than 1,600 project-specific jobs, 16,746 ancillary jobs, and \$3.2 billion in economic activity. Empire and Sunrise anticipate using staging, operations and maintenance facilities on the Hudson River. Not to be outdone by its neighbor, in late 2019, New Jersey's governor issued an Executive Order mandating his State to increase its offshore wind procurement to 7,500 MWs by 2035. This means more than half of New Jersey's electricity needs must be satisfied by yet-to-be constructed offshore wind projects.

While most of the U.S.-based offshore wind farms activity is focused on the East Coast, at least 10 projects are in development on the West Coast. In October 2018, BOEM published a Call for Information and Nominations for companies interested in commercial wind energy leases within three proposed Call Areas off of central and northern California. Fourteen companies responded. These three Call Areas span approximately 687,823 acres and could support up to 8.4 GW in offshore wind-generated energy. In August 2019, Monterey Bay Community Power and Castle Wind LLC entered into a memorandum of understanding for a Power Purchase Agreement for the 100-wind turbine Castle Wind Offshore project. BOEM is preparing to auction leases for this site and other sites off the California coastline in 2020.

Unlike the turbines planned for the East Coast, which are anchored by bottom-fixed turbine foundations, the waters off of California and other western coastal states are too deep for these conventional foundations. Instead, the turbines must float, forming so-called floating wind farms. To date, the only large-scale floating farm in operation is Hywind, built off the coast of Scotland. The developer of that farm, Norway-based Equinor, has the development rights for the Empire Wind project in New York and has expressed interest in using its expertise in building offshore floating wind farms to develop floating farms off California's coast. Before that happens, however, the cost to construct these floating wind farm platforms must fall significantly through improvements in technology and other efficiencies.

FAIR WINDS AND FOLLOWING SEAS (continued)

Finally, while offshore wind in the United States presents many exciting opportunities for the construction and energy industries, and is strongly supported by most U.S. coastal state governments, the current Administration's reluctance to enthusiastically embrace this new industry has presented regulatory challenges in Washington. Specifically, in the second-half of 2019, the Interior Department ordered BOEM to carry out a "cumulative impacts analysis" of the offshore wind power projects along the East Coast. As of December 2019, BOEM said that it expects to issue its draft Environmental Impact Statement in early 2020. Undoubtedly, BOEM's study will delay the start of construction of the Vineyard Wind and Mayflower Wind projects and possibly other East Coast offshore wind projects. But once BOEM competes its study, releases its report and the developers and local government units address its concerns (and assuming there are no other Federal-imposed obstacles), there will be a flurry of construction activity along the U.S.'s coasts and a significant, long-term boom to the economy.

Dorsey & Whitney LLP is proud to work with the individuals and companies who are leaders in the global offshore wind market and pioneers in the development of the U.S. offshore wind industry. ■

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Power Plants Retired as "Uneconomic" May Still **Hold Significant Value**

by Zeviel Simpser and Paul K. Beck

The United States is currently in the midst of a generational shift in electricity generation away from the coal-fired power plants that powered the 20th Century and toward cleaner and less-costly renewable and natural gas options. The U.S. Energy Information Administration reports that over 500 coal-fired power plants shut down between 2007-2018, and dozens more are planned for retirement in the next decade.¹ While some of these plants had reached the end of their useful lives, the combination of a sustained period of low natural gas prices, a reduction in cost for renewable alternatives, and a flat demand curve have pushed many coal plants into retirement earlier than planned. Much ink has been spilled about the impacts of these coal retirements on reliability, energy security, and energy prices. But while these plants may have been "uneconomic" in the sense that they could not compete for dispatch with lower-cost resources, the facilities themselves still hold material economic value for utilities in the form of considerable land holdings, access to transmission and transportation infrastructure, water rights, and other ancillary infrastructure. Additionally, retiring coal plants are often located in communities with skilled labor forces that have a strong interest in keeping jobs and investment in the community and will be willing partners in redevelopment of the properties.

Faced with a deluge of shuttering power plants, many utilities may not fully appreciate or capitalize on the value that these assets retain even after closure. This article discusses how the typical land and infrastructure assets that are necessary for operation of a coal-fired power plant can be valuable assets for a utility upon closure. Rather than divesting these shuttered facilities for pennies on the dollar, utilities can leverage these assets to spur redevelopment that will produce far greater benefits for investors, ratepayers, and surrounding communities. In this article, we examine specific examples of how utilities across the country have extracted value from closed and closing power plants through redevelopment of the

sites using the land and infrastructure in place, including case studies of redevelopment efforts in Minnesota and Pennsvlvania.

The Death of Coal

As many commentators and energy executives have noted, coal-fired generation is falling victim to cheaper gas and renewable alternatives across the country. PJM Interconnection recently reported that 24 coal plants in the PJM region were uneconomic in 2018², and Pacificorp recently told shareholders that 13 of its 22 coal plants are more expensive than alternative options³. The age of coal's dominance over the United States' electricity

"The facilities themselves still hold material economic value for utilities."

generation profile has rapidly come to an end over the last decade, and it does not appear headed for a comeback. According to the U.S. Energy Information Administration, coal made up 27.5% of U.S. electricity generation in 2018, and has been overtaken by natural gas as the top resource⁴. Of the total 23.6 GW of new capacity additions expected by EIA in 2019, 98 percent are wind, solar, and natural gas resources, and over half of the scheduled capacity retirements in 2019 are coal plants⁵.

"Uneconomic" But Still Valuable

Many retired coal plants have been repowered as natural gas facilities, but most are simply left in place and maintained in closure status or put up for sale. One study found that of the 72 GW of coal capacity retired in the 2008-2016 period, only 13GW (18 percent) had been converted to other fuels⁶. While coal-burning facilities may no longer have value as generation assets in many parts of the country, they may hold considerable value as assets for redevelopment if the utility can address legacy waste and remediation issues. Coal-fired power plants typically have some combination of the

https://www.eia.gov/todayinenergy/detail.php?id=37817; https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_6_06 https://www.utilitydive.com/news/market-monitor-3-gw-nukes-12-gw-coal-uneconomic-in-pjm/550548/

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https://www.eia.gov/todayinenergy/detail.php?id=37952 https://www.ucsusa.org/sites/default/files/attach/2017/09/A-Dwindling-Role-for-Coal-fact-sheet.pdf



POWER PLANTS RETIRED (continued)

following resources, making them particularly suited for redevelopment for industrial or manufacturing uses:

- Considerable buffer lands surrounding the facility that can be subdivided and sold;
- Access to high-quality power and interconnection infrastructure;
- Access to transportation infrastructure in the form of roads, rail, waterways, or a combination of the three;
- Access to other energy infrastructure such as natural gas pipelines;
- Water intake and discharge infrastructure and permits; and
- A large workforce of tradesmen, engineers, and other skilled workers.

As any large industrial user or manufacturer is aware, each one of these assets provides substantial value to a potential new facility. Virtually all coal plants are located on rail spurs or a major waterway or both, making them uniquely well-suited for manufacturing facilities that require large amounts of raw material inputs and access to markets. In at least one case, a former coal plant is being redeveloped into a deepwater port facility.⁷ Further, many commercial and industrial uses require access to high-quality power or interconnection capacity, including renewable energy assets and data centers, as discussed further below. And in many parts of the country, the water rights and water intake and discharge infrastructure present at many coal plants are undervalued assets that can be reused by industrial users that require cooling water for their processes. Coal plants typically have the permits and infrastructure required for non-contact cooling water appropriation and/or discharge, which are required for many heavy industrial and manufacturing uses.

An Offshore Life Raft

The prospect of offshore wind development on both the Atlantic and Pacific coasts presents a perfect example of these factors at work. The Brayton Point Power Station, a 1,600MW coal-fired power plant in Massachusetts that operated for 50 years, ceased operations in 2017 and is now being demolished, remediated, and converted into a planned "logistics, manufacturing, and support center for offshore wind and other industries."⁸ The site's deepwater port, significant substation and interconnection infrastructure to a regional grid, access to land-based transportation, and proximity to offshore wind leasing areas make it a valuable site for redevelopment. Indeed, the offshore wind developer Anbaric has already applied to ISO-New England for a 1,200MW HVDC interconnection to the existing substation located at the power plant.⁹ Local politicians in New Jersey are seeking similar fortunes for the B.L. England Generating Station, a coal-fired peaker plant which was shuttered on May 1, 2019. The Danish company Ørsted holds an offshore wind lease in the area and is considering using the station, or the nearby retired Oyster Creek nuclear plant, as sites to connect its proposed Ocean Wind project to the grid¹⁰. Both Brayton Point and B.L. England were the last coal-fired power plants to operate in their states, but have the potential to be put to beneficial reuse in a new industry. On the Pacific coast, the City of Morro Bay, California has signed

⁷ https://forsiteinc.com/news/progress-made-on-dismantling-of-b-c-cobb-power-plant/

 ⁸ http://www.braytonpointcommercecenter.com/
 9 http://anbaric.com/anbaric-files-to-connect-1200mw-of-offshore-wind-to-brayton-point/

¹⁰ https://www.pressofatlanticcity.com/news/press/cape_may/what-s-next-for-b-l-england-plant-site-first/article_e1a700d4-51d0-5d62-9f39-a606b008f6b5.html

a Memorandum of Cooperation with Trident Winds, a company which is seeking to develop a floating wind project 33 miles offshore. The City owns a cooling water outfall structure-formerly used by a 650MW gas-fired power plant on the coast that was decommissioned in 2013-that could be used to connect offshore wind projects to the PG&E substation at the former plant.¹¹ In each of these cases, the local communities are eager to put these sites back to work in the face of job losses and decreased tax revenue.

Location, Location, Location

As noted above, coal plants are typically located in areas with excellent access to transportation infrastructure. In addition, many retiring or closed power plants are located in rural or exurban communities that will actively assist and participate in redevelopment efforts in the face of the loss of jobs or tax revenue associated with power plant closures. Two case studies of how to work creatively with these communities are presented later in this article.

Some older coal-fired power plants are located in what are now densely populated urban communities. This brings with it inevitable conflict with fenceline communities, but if and when the plants shut down, multiple cities have shown that these facilities can be redeveloped for a variety of uses. Visitors to Austin, Texas will be familiar with the imposing façade of the Seaholm Power Plant, which burned coal for nearly four decades before being shuttered in the late 1980s. The historic plant is now home to a mixed use office and retail space occupied by a health-care software company.¹² In Lansing, Michigan, the former Ottawa Street Power Station, constructed in 1939, is now the LEED-certified headquarters of an insurance company after the federal, state, and local governments chipped in incentives to remediate and redevelop the site. Developers have announced plans to redevelop the former Delaware River Generating Station, in Philadelphia's Fishtown neighborhood, into a restaurant and event space. And earlier this year, a development company announced plans to replace the Fisk and Crawford Generating Stations, built in the early 20th century on the south side of Chicago, into a data center and distribution facility, respectively. This trend has also spread internationally. the

Battersea Power Station, an imposing presence on the banks of the River Thames in London for nearly 100 years, is currently in the process of being redeveloped into an upscale residential, office, and shopping center.

Remediation Challenges Remain

While this article does not address this issue in depth, the remediation challenge for many former coal plants cannot be ignored. The Tennessee Valley Authority ("TVA")

"Even in death, for coal, there can be new life."

recently estimated that, depending on the site, the cost of excavation and removal of coal ash from on-site disposal facilities to landfills would cost between 270 and 2,200 percent more than simply maintaining a facility in closurein-place status.¹³ Given the significant costs, it is an open question whether utilities can or should remove coal ash and other waste to landfills, given the sticker shock customers would see if and when these costs are rate based. On top of these environmental costs, many coal plants that are retired early leave behind millions of dollars in stranded costs that customers will pay for decades after the plants close. For example, the closure of the Pleasant Prairie coal plant by We Energies in Wisconsin will leave behind nearly \$1 billion in stranded costs over the next two decades¹⁴. However, some communities and companies are developing innovative solutions, including building photovoltaic solar arrays atop a reclaimed coal mine,15 atop a coal ash landfill,¹⁶ or on-site at retired coal plants.¹⁷ These uses mitigate many remediation challenges while capitalizing on abundant interconnection capacity and facilities already in place. In other cases, such as with Brayton Point discussed above, the entity that purchases the site for redevelopment completes remediation itself.

The balance of this article discusses two examples of how utilities can take proactive and innovative approaches to repurposing retiring coal plants with the assistance of partners in the local, state, and federal governments.

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POWER PLANTS RETIRED (continued)

Case Study 1: Sherburne County (Minn.) Data Center

The Sherburne County Generating Station ("Sherco") is a three-unit conventional steam turbine coal power plant, first placed into operation in 1976. The plant has a combined capacity of over 2,200 MW, making it by far the largest single power generation facility in the state. Units I and II of the Sherco Plant are wholly owned by Northern States Power, doing business as Xcel Energy,¹⁸ and Unit III is co-owned by Xcel Energy and a cooperative of municipal utilities.19

In October 2015, Xcel Energy announced plans to retire Units I and II in 2023 and 2026, respectively. Mindful that the Sherco Plant employs hundreds of people and provides three-quarters of the tax base of the town of Becker, where it is located, Xcel Energy committed to exploring ways to use the existing infrastructure at Sherco to bring new development to the area in the wake of the plant's closure. In addition, Xcel Energy announced plans to replace a portion of the lost generation capacity at Sherco with a new combined-cycle gas plant.

As Xcel Energy put it in a recent filing before the state Public Utilities Commission, their plan was to "mindfully transition a coal-plant environment into a less carbonintensive, business-oriented area that creates new jobs" and increases capital investment.²⁰ To bring this plan into reality, Xcel Energy partnered with the Minnesota Department of Employment and Economic Development



("DEED") to certify buffer properties for development and actively market them to in-state and out-of-state companies. As a result of this process, Xcel Energy has entered into agreements with Google to construct a new data center campus on the Sherco property, powered by 100 percent renewable energy procured by Xcel Energy.

From Google's perspective, the Sherco site is appealing because its data center can use the high-quality power infrastructure in place, the cooling water intake and discharge infrastructure and authorizations for the Sherco plant, and a welcoming community that is eager for economic development in the face of the impending retirements of Sherco Units I and II. For similar reasons, Google is currently developing data centers at other former coal-fired power plants around the country, including the TVA's former Widows Creek coal plant in Alabama.²¹

Case Study 2: Mitchell Power Station (Pa.)

The Mitchell Power Station is a former coal-fired power plant located in Washington County, Pennsylvania, approximately 18 miles south of Pittsburgh. The plant, which is currently owned by First Energy, shut down in 2013 and has remained vacant ever since. However, the plant retains valuable assets including access to road, rail, and waterway transportation infrastructure, access to a major natural gas transmission line, and a total of 856 acres of land, including approximately 4,900 linear feet of riverfront on the Monongahela River.

In 2018, using grant funding from the U.S. Department of Commerce's Partnerships for Opportunity and Workforce and Economic Revitalization (POWER) Initiative, First Energy and the Pennsylvania Department of Community and Economic Development ("DCED") issued a "Playbook" for redevelopment of the 856-acre site.²² Using these funds, as part of developing the Playbook, DCED ordered a Phase I Environmental Site Assessment of the entire property and an estimate of the costs of abatement and demolition on the site.

The Mitchell Power Station is centrally located in a region of growing natural gas activity due to the development of the Marcellus and Utica shale formations. As a result, the Playbook found that natural gas supply chain industrial

- Note: the authors represent Xcel Energy on a variety of matters, including the redevelopment of the Sherco site. All views expressed are those of the authors alone. https://www.xcelenergy.com/energy_portfolio/electricity/power_plants/sherburne_county_(sherco) Petition for Provision of Electric Service, Docket No. E002/M-19-39 (Jan. 10, 2019). 18 19

- https://www.tva.gov/Newsroom/Press-Releases/Google-Chooses-TVA-Site-for-Next-Data-Center https://newsinteractive.post-gazette.com/coal-plants/162086-PlaybookFINAL-03212018comp-3.pdf

uses were a logical fit for the site. Specifically, the Playbook proposed three alternatives for potential uses of the Mitchell Power Station site. The first option is to locate one or two large plastics, chemicals, or other natural-gas intensive manufacturers on the site, because they could readily access a steady supply of natural gas from the Mariner East Pipeline as well ethylene and polyethylene from nearby ethane cracker facilities in the area. This alternative envisions developing the inland buffer areas as heavy industrial facilities and utilizing the power plant site along the river operating as a transport terminal. The second alternative proposed by the Playbook would create an industrial park on the inland buffer lands of the facility, without redeveloping the power plant site along the river. Again, the site's access to a robust power supply as well as road and rail make it an attractive site for light manufacturing and assembly related to regional supply chain and markets. The third alternative proposed in the Playbook would be to develop the current power plant site along the Monongahela River as a riverfront manufacturing facility. This would be ideal for a manufacturer that requires direct connections to rail and river access as well as a robust power supply and the potential for connection to the existing Mariner East Pipeline.

Ultimately, the Playbook concluded that the third option was the most financially viable without the need for public subsidies. It also concluded that this option would create more than 1,400 new jobs and over \$2.4 million in annual tax revenue. The other two alternatives, while requiring some public subsidy, would create 8-9,000 new jobs and \$12-13 million in new tax revenue. The Playbook recommended redeveloping the power plant site in the near term and work to develop the inland buffer sites, including remediating coal ash disposal areas, over the longer term. The Playbook then set forth a series of actions for First Energy and DCED to take to ensure that the site is "Ready-To-Go" when they take it to the marketplace, including cultivating support among community stakeholders, implementing a workforce strategy, developing a permitting strategy, and designing and identifying funding for any needed improvements to the site so construction can begin immediately upon signing an agreement for the site.

Importantly, the DCED noted that the Playbook for the Mitchell Power Station was the first in what it expects will be several "Playbooks" on closing or closed coal-fired power plants in Pennsylvania. Given the impacts that these plant closures have on employment opportunities in their host communities, it is important for the state and utilities to work together to identify potential opportunities for these sites and develop a plan to approach the market.

Conclusion

While many utilities and states have put thought and effort into how to transition retired coal plants and buffer lands to new uses, more can be done to redevelop and leverage these assets. Creative repurposing of these facilities helps the surrounding communities retain tax base and jobs, and ensures utilities can derive value for their ratepayers from what would otherwise be stranded assets. While they may no longer be viable competitors in the electricity markets, legacy coal plants have access to high-quality power, electric and transportation infrastructure, and strong labor forces that make them ripe for redevelopment. As more states and utilities begin to think creatively about this issue, the range of redevelopment options for retiring coal plants will only expand. Even in death, for coal, there can be new life.

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