KeyBanc Capital Markets

# Partnerships to Address Healthcare Energy Needs

## Decarbonization goals at the heart of energy transition

The healthcare sector plays a vital role in society, requiring reliable and uninterrupted access to energy resources to provide quality patient care. However, the sector's energy demands contribute significantly to environmental degradation and exacerbate climate change. In addition to increased energy demands, healthcare systems are also facing increased operating costs, limited revenue generation, and a deferred maintenance backlog.

To address these challenges, energy public-private partnerships (P3s) have emerged as a promising solution to achieve Net Zero and Energy Transition goals, combining the expertise and resources of the public and private sectors. This paper explores the concept of energy P3s through alternative project delivery in healthcare, examines their benefits and challenges, and provides case studies that highlight successful implementations. By fostering collaboration among key stakeholders, energy P3s can foster sustainable and resilient healthcare systems, ensuring a healthier future for all.

P3s involve one or more private sector experts (developers, asset managers, engineers) who come together to form a consortium that serves as the counterparty to a healthcare provider's project through a long-term agreement. Conceptually, these agreements allow for the transfer of design, construction, operating responsibilities, and certain risks to the private consortium in exchange for structured payments from the healthcare provider or rights to certain revenue streams associated with the project.

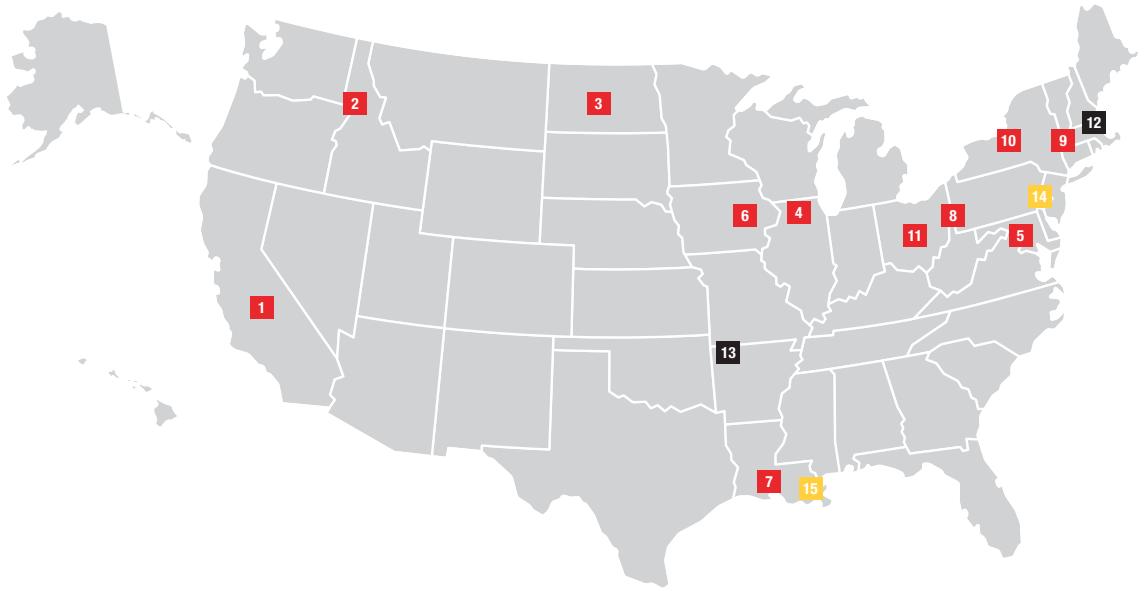
More and more public and private healthcare institutions have been making public commitments to meet aggressive decarbonization goals. These goals often take the form of Net Zero pledges—commitments by institutions to reduce emissions or sequester more carbon than they produce—before a certain date. Rather than purchasing carbon offsets, many institutions will need to make large investments in the Energy Transition or conversion of their district energy plants to use cleaner power generation technologies that produce less carbon.

While these pledges are bold and commendable, it can be difficult for many healthcare institutions to achieve these targets through existing energy operations. These targets are set in the wake of unprecedented inflation pressures, higher operating costs, and limited revenue-generation capabilities, as well as an ever-increasing backlog of deferred maintenance, limiting the efficiency of a healthcare system's energy consumption.

Healthcare institutions are increasingly partnering with the private sector to finance and deliver modernization projects crucial to meeting these Net Zero and Energy Transition goals while addressing deferred maintenance needs. Alternative project delivery allows healthcare institutions to use private sector expertise, innovation, and capital, to:

- Implement decarbonization efforts
- Mitigate risks including those related to future regulations
- Address critical deferred maintenance needs
- Reduce energy costs
- Achieve resiliency goals while preserving debt capacity for future projects

*Universities, university medical centers, and healthcare systems that have achieved Energy Transition through alternative project delivery.*




- Campus Energy
- University Medical Center
- Healthcare System

1 Fresno State
2 University of Idaho
3 University of North Dakota
4 Illinois Tech
5 Georgetown University
6 The University of Iowa
7 LSU
8 Duquesne University
9 WPI
10 Syracuse University
11 The Ohio State University
12 Harvard Medical School
13 UAMS
14 Jefferson Health
15 Ochsner Health System

## Key Learning Points in This Article

- Private partners can take responsibility for the generation and transmission of electrical energy, thermal energy, energy conservation measures, and Energy Transition.
- Healthcare institutions face unprecedented financial pressures from inflation, higher operating costs, and limited revenue generation capabilities, encouraging them to consider alternative project delivery for non-academic activities such as energy and utility services.
- Traditional delivery of and responsibility for energy services have left healthcare institutions exposed to a variety of risks that can have a significant cost and capital impact including future regulatory risk.
- The high cost of building, maintaining, and providing utility services makes alternative project delivery an attractive option for energy projects
- Finite traditional financing solutions have left many healthcare systems with significant deferred maintenance issues to address.
- Over 1,080 federal and private sector hospitals have set aggressive energy and sustainability goals that will require significant investment in updating existing infrastructure. Alternative project delivery can help institutions achieve ambitious carbon-neutral goals such as Net Zero carbon emissions.
- The private sector, including private equity, energy infrastructure contractors, and utilities operators see great potential in healthcare institution partnerships.
- Energy projects delivered through alternative transaction structures require a long commitment and shared risk, so healthcare systems should select potential private partners with care.
- Extreme weather events caused by climate change have highlighted the need for resilient, redundant, and reliable energy infrastructure.

## Powering Health: Upcoming Changes to Energy Systems

The impact of the COVID-19 pandemic and the significant rise of energy and labor costs during the past three years has been devastating to healthcare organizations' financials. Hospital operations have become more expensive as inflation has made materials more costly, from tongue depressors to MRI machines. Additionally, higher costs of living have compelled patients to delay elective procedures, which account for as much as 60% of hospital revenue[1]. While businesses in other industries can respond to economic turmoil by diversifying their revenue streams and reducing expenses, hospitals are limited in their responses due to their limited operational flexibility stemming from the complexity of their operations and the criticality of their missions.

Alternative project delivery can help healthcare institutions unlock value over the long term, even in economic downturns. This delivery model is regularly used by public entities, like hospitals, to outsource essential but non-core aspects of their operations to private businesses, enabling healthcare institutions to focus on their core mission. Additionally, capital generated through alternative project delivery can be redeployed by healthcare systems to further serve their operations or to fund new projects.

[1] Physicians Practice: Bringing normalcy back to elective hospital procedures, August 2020

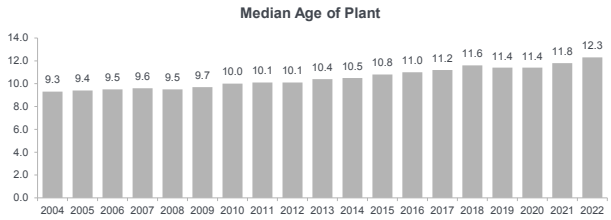
## Resiliency and the Cost of Downtime

Of utmost importance to university medical centers and healthcare institutions is improving the resiliency of utility plants. This is particularly true as campuses face climate change and resulting extreme weather events, which are capable of straining and even crippling a medical center's energy infrastructure. Resiliency, redundancy, and reliability can all be addressed in partnering with a private developer through an alternative delivery solution.

Interruptions in the function of healthcare facility utility systems are coupled with high costs, with an estimated $690,000 lost per outage[2]. In addition, the average cost for electronic health records systems experiencing downtime is $7,900 per minute[3], accounting for the impact of lost revenues and fines for HIPAA non-compliance. With healthcare infrastructure continuing to age nationwide, it is harder to guarantee the resiliency that is necessary to prevent utility outages in healthcare facilities, the large costs, and the life and death impacts that come with them. If healthcare systems invest in improving their infrastructure to become resilient to emergencies and outages, they can avoid these large costs that are at risk when operating under aged, non-resilient systems.

## Aging Energy Infrastructure and Workforce

The mean age of health system buildings is approximately 40 years, according to data produced by the U.S. Energy Information Administration, resulting in suboptimal energy efficiency, with many buildings requiring higher energy consumption than they would otherwise need. The majority of energy systems operating in health system




campuses today are either first- or second-generation systems, which can increase maintenance costs and challenge decarbonization plans. The average age of utility plants in American healthcare systems sat at 12.3 years in 2022, representing a more than three-year increase since 2004, according to Moody's data on hospitals in its rating universe[4]. This metric, displaying how well facilities have been kept up to date, can show how greatly healthcare facilities' performance scores can fall with outdated utility systems. In fact, hospitals with the lowest average age of utility plants (0–8.13 years) were found to finish 2.35 points higher in overall performance than hospitals with aged utility systems, according to the Health Care Management Review's hospital rankings. Therefore, it is imperative for healthcare systems to update their utility systems to improve energy efficiency and overall performance.

Similarly, the operational expertise to manage these facilities relies on an aging workforce. The private district energy sector has an increased emphasis on apprenticeship and internship programs to recruit the next generation of operation and maintenance professionals. To drive innovation and technological advancement, capable of achieving Net Zero goals at the campus-wide level, institutions will need to seek resources from the private sector.

[2] EATON Healthcare report: Powering healthcare - continuous uptime in the medical sector, 2019
[3] Summit healthcare: The cost of EHR downtime, July 2021
[4] Moodys.com: Municipal financial ratio analysis

## Climate Action Plan Commitments

Net Zero seeks to balance the emissions produced versus the emissions removed from the atmosphere. This lofty ambition requires public agencies and health systems to commit to making every effort to reduce emissions and invest in methods to counterbalance the emissions they do produce. The goal of achieving a Net Zero healthcare system today becomes further challenged when the age of many healthcare energy systems is taken into account.

When considering how to deliver on climate action plan commitments, university medical centers and health care institutions can take steps early on to evaluate their needs to reduce campus carbon footprints and improve efficiency. Using a de-carbonization roadmap can help institutions identify where they are today and how they can align their future needs with their overall long-term goals and objectives.

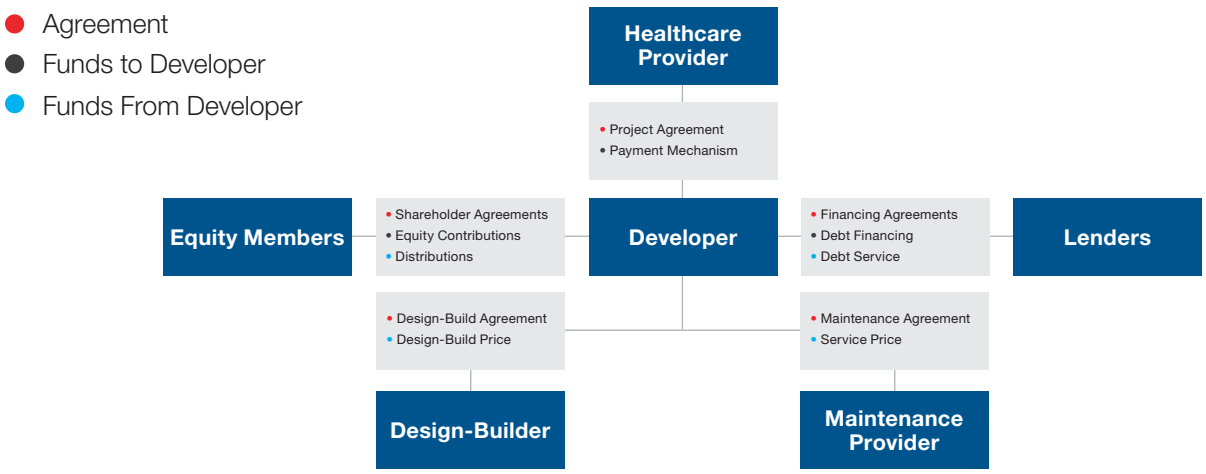
Institutions face many challenges when planning improvements to their existing energy systems. Often, university medical centers and healthcare systems face competing and conflicting priorities when programming a capital plan to address their energy system needs or even address deferred maintenance. Incorporating a comprehensive energy partnership with a private developer brings a holistic approach to capture the needs and priorities of the entire system, where sustainability becomes a key element. By collaborating on a decarbonization roadmap with a private partner, institutions can realize value through a comprehensive energy partnership, specifically designed for sustainability and achieving long-term goals and objectives.

## Alternative Delivery Solutions

Several universities and university medical centers have advanced alternative delivery solutions over the past decade. This has demonstrated the potential value of partnering with a private developer to deliver needed energy infrastructure capital improvements, optimize operations, and maintenance costs, and develop a path to reducing carbon emissions.

Healthcare systems can use the alternative delivery models employed by universities and university medical centers to incorporate private sector innovation, operational expertise, and redundancy. This can create a more resilient energy system and enable them to focus on providing world-class patient care.

Two delivery models are generally used for healthcare system energy transactions:



### Greenfield transactions

The infrastructure owner has a defined upfront capital project and private developers are responsible for designing, building, financing, operating, and maintaining (DBFOM) the central utility plant and energy infrastructure improvements over a 30-year operations term.

### Concession Model (Monetization)

A private developer provides an upfront payment to the infrastructure owner in return for the rights to operate, maintain, and make capital improvements to the utility system, over a long-term concession period, typically upward of 50-years. (Please note that hybrid options can also be used, and in general the details of each partnership can be tailored to suit the organization's needs.)

## Greenfield Model

In a Greenfield transaction, a consortium composed of multiple firms as outlined above is contracted to design, build, finance, operate, and maintain projects like these for approximately 30 years or more. In exchange for the costs and risks incurred, the private participant will receive periodic payments from the university as either an "availability payment" or a more typical arrangement with "capacity charges" (flat minimum payments for making the capacity available), and "demand charges" (variable payments based on energy produced).

FRESNO STATE

### Fresno State University Central Utility Plant Modernization

- Merdiam entered into a 33-year project agreement with Fresno State University in February 2021 for its Central Heating and Cooling Plant Modernization Project.
- The project scope comprises the design, build, finance, and maintenance (DBFM) for the Central Utility Plant and ancillary infrastructure, as well as the implementation of various energy efficiency upgrades across the campus.
- To finance the investment, the team structured a "sustainable development goals" (SDG) impact bond for $170 million directly linked to its ambitious objective to reduce by more than 30% of the utility system's energy consumption.
- KBCM served as Financial Advisor and Placement Agent to the consortium.

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|---|---|
| Delivery Model: Greenfield | Private Sector Partners: Merdiam, NORESCO |
| Concession Length: 33 Years | Concession: $170 Million |

## Concession Model

The Concession Model monetizes or optimizes a facility that's already built. Revenue from the existing asset is given a value that can be reflected in the form of an upfront payment to the hospital. These agreements also include the transfer of operating risk and capital maintenance risk away from the healthcare system and to the private partner, over a long-term contract typically upward of 50 years.

In addition to the benefits of transferring operating risk and receiving an upfront payment—which represents unrestricted funds to the healthcare system—the monetization model allows for continuous improvement to the existing energy system through a capital recovery model. Over the term of the contract, the private partner will perform pre-agreed and ongoing lifecycle, major maintenance, and support for the Energy Transition. Ongoing capital expenditures over the contract term are funded through a short-term revolving debt facility. The debt facility is drawn upon at a specified date, typically every five years from financial close, to fund pre-agreed capital expenditures over a rolling five-year term. Once a specified capital improvement is approved and completed, the private partner is reimbursed for work performed over a 20-year capital recovery period.


EASTERN MICHIGAN UNIVERSITY

### Eastern Michigan University

- CenTrio entered into a 50-year concession agreement in June 2021 with Eastern Michigan University for its energy concession project.
- Under the agreement, EMU will receive ~$115 million in an upfront concession payment and the concession will invest approximately $25 million in immediate capital improvements on the utility system. These upgrades are expected to generate nearly $1 million in energy savings per year.
- The university is expected to use the upfront payment to pay down certain debt and establish a strategic initiatives investment fund for the benefit of the university.
- KBCM served as Joint Lead Arranger Joint Bookrunner and Administrative Agent.

| | |
|---|---|
| Delivery Model: Concession | Private Sector Partners: CenTrio, Noresco |
| Concession Length: 50 Years | Concession: $115 Million |

## Financing Considerations

Using private capital under an alternative delivery solution can free up debt capacity at the project owner level and require the project owner to engage in a credit rating process. Through alternative project delivery, project owners can benefit from off-balance-sheet project debt financing, cost certainty, and additional unrestricted money upfront. Additionally, establishing third-party partnerships enables capital to be deployed faster and at a reduced risk to the project owner compared to traditional project delivery.

Sustainability projects require significant upfront capital, which can be difficult to source through traditional capital planning methods. Healthcare institutions facing competing and conflicting priorities may make slow progress toward achieving long-term goals. Collaborating with a private partner can ease the financial burden of traditional project delivery and allow healthcare providers to focus on their core mission.

## Lessons learned from Universities, Academic Medical Centers, and Military Installations

Universities, academic medical centers, and military installations have consistently used private capital and expertise to deliver necessary Energy Transition and sustainable utility system assets through alternative delivery solutions.

Over the years, key themes have come to light that healthcare institutions should consider in making more informed decisions on alternative project delivery:

- Past projects have been able to incorporate Inflation Reduction Act (IRA) tax credits into alternative delivery structures, enhancing project value.
- Energy Transition is top of mind for healthcare providers, so the concession model is of interest because it allows continuous improvements to the existing energy system.
- Greater focus on resiliency and risk transfer is important to private consortiums and project owners alike.
- The recent increase in interest rates is diluting the value of the upfront payment within the concession model, making it less appealing. Those values can improve with future reductions in interest rates.

When considering alternative delivery solutions, healthcare institutions can benefit from the lessons learned on past projects and make more informed decisions to deliver their Energy Transition and sustainability needs with a private partner. Additionally, project owners who have not previously considered alternative project delivery can use experienced advisors to navigate this process more efficiently, while focusing on their core mission.

## Conclusion

Alternative project delivery can help healthcare institutions reduce campus energy costs, provide dependable and well-maintained infrastructure, and meet ambitious sustainability and resiliency goals. Most important, these partnerships allow healthcare systems to focus their attention and limited capital dollars on their primary mission of improving patient care.

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