



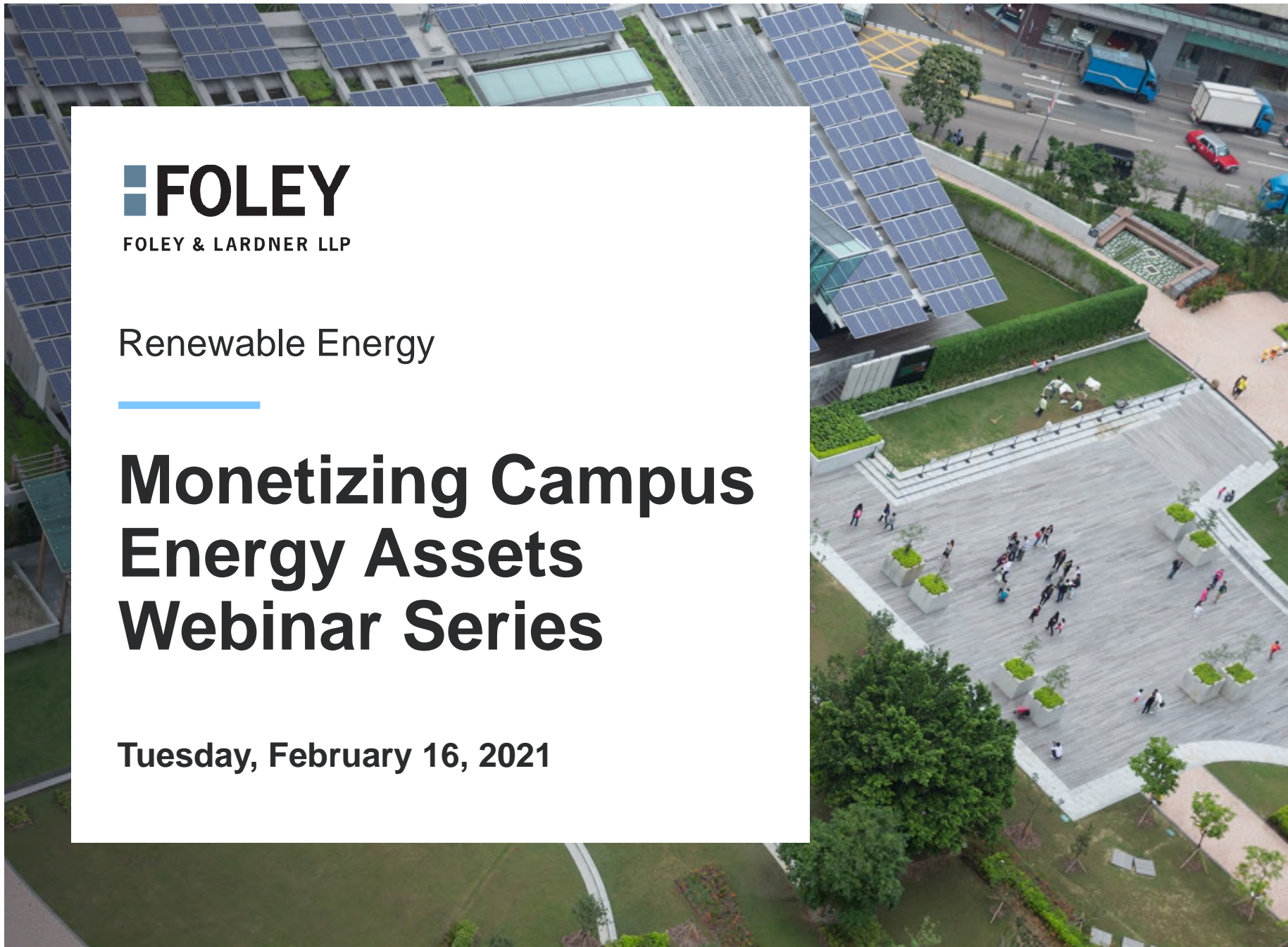
FOLEY & LARDNER LLP

Renewable Energy

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# Monetizing Campus Energy Assets Webinar Series

Tuesday, February 16, 2021



# Speakers | Contacts



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# Agenda

- Value of Outsourcing Energy Infrastructure
- Recent PPP Deals
- Duquesne Case Study
  - Interconnection
- Upfront Payments
- Deal Structure / Agreements
- Structural comparisons
- Key Risks



# Ratings Agencies / Analysts on Outsourcing Energy Infrastructure



“A number of universities have entered into utility concessions in the last year, evidencing more interest in Public-Private Partnerships (PPPs) to replace or improve aging infrastructure...The PPP structure provides external funding for capex, helping to keep additional debt off university balance sheets, and transfers some of the project’s infrastructure renewal and operating risks away from the university to third parties. Universities also benefit from outsourcing noncore functions to concessionaires that possess greater technological experience and expertise.”

“Utility-related assets and systems remain poised for increasing PPP use as universities grapple with aging infrastructure while seeking to address various energy efficiency goals. Over the past three years, several universities have monetized existing utility assets and turned over the operation, maintenance and rehabilitation of systems to a private partner through a long-term hybrid PPP arrangement.”



An alternative structure cited by skeptics of the OSU and Iowa model is the agreement reached last year between Duquesne University and Clearway Energy Group, a Global Infrastructure Partners (GIP) portfolio company.... “We just didn’t think, financially, it made sense to have some 40-year liability on our balance sheet,” said Duquesne Associate Vice President for Finance and Business Russell Grunebach... “So we did our darndest, if you will, to structure this as a true sale with a service agreement and not a lease.”

# Higher Education Energy Infrastructure PPP-style Deals - Value Proposition

- Energy infrastructure PPP-type deals generally viewed as credit neutral to positive by rating agencies.
- Transaction value generated by partnering with sophisticated parties providing current and future energy technologies, combined with the use of third-party capital for improvements.
- Significant up-front payments from partner

## Recent Public-Private Partnerships with US Higher Education Institutions

University	Status	Upfront Payment Amount
The Ohio State University	Financial Close July 2017	\$1.165 billion
Duquesne University	Financial Close May 2019	\$102 million
University of Iowa	Financial Close March 2020	\$1.165 billion
University of Idaho	Financial Close December 2020	\$225 million
University of Maryland	RFQ Short list	TBD
Louisiana State University	Pre-RFQ unsolicited process	TBD
University of Alabama	Exploratory; board not supportive	TBD
Iowa State University	RFP for Advisor Services	TBD
University of Louisville	Selected EY as advisor	TBD



# Case Study – Duquesne University



Central combined heating, cooling and power plant supplies the campus with steam, chilled water, and about 85% of electricity needs.



- Includes a gas fired turbine with a heat recovery steam generator, three gas-fired steam boilers, six chillers (three absorption, two centrifugal, one ice-making centrifugal chiller with ice storage, and four cooling towers located adjacent to the platform)
- Facility constructed in 1967 and modified in 1997 with its conversion to a co-generation facility (constructed/operated by NORESKO under a sale-leaseback structure); expanded in 2014.



# Duquesne University-UPMC Interconnection



- Clearway acquired Duquesne University's Campus Energy Center for \$102 million in a credit-neutral off balance-sheet, P3 transaction
- **System Characteristics**
  - 5 MW CHP generation
  - 181,000 lbs/hr steam capacity
  - 7,150 tons chilled water
  - N+1 reliability with interconnection with Energy Center Pittsburgh Uptown



- Clearway Thermal designed, financed, and built a state of the art district energy facility and distribution system for UPMC Mercy Hospital in Pittsburgh's Lower Hill district
- **System Characteristics**
  - 150,000 lbs/hr steam capacity
  - 8,250 tons chilled water capacity
  - 7.5 MW electricity generation capacity

Clearway is currently interconnecting DU's Campus Energy Center facility with Clearway's plant serving UPMC Mercy Hospital, enhancing efficiency, resiliency, and backup generation for both customers



# Deal Economic Fundamentals: Upfront Payments

	Ohio State	Duquesne	Iowa State	University of Idaho
Yearly Payment	\$45 MM	\$5.6 MM	\$35 MM	\$7.6 MM
Escalation	1.50%	1.50%	1.50%	1.50%
Up Front	\$1.165 BB	\$102 MM	\$1.165 BB	\$225 MM
Operating Budget	\$6.8 BB	\$303 MM	\$948 MM	\$277 MM
Payment as % of operating budget	0.66%	1.86%	3.69%	2.76%

Partnership deal is based on % of operating budget allocated to the structure



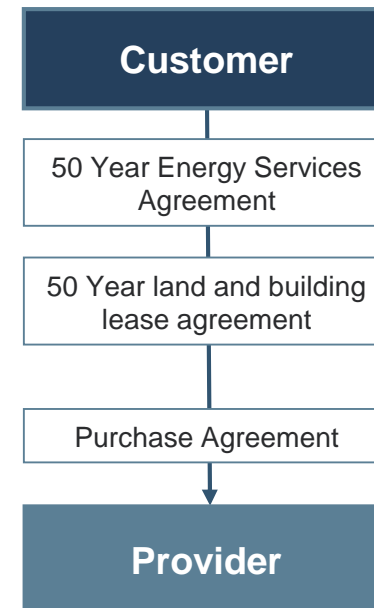
# Deal Structure / Agreements

## Form of Agreement – Purchase & Sales Agreement

Type	Definition	Details
Capacity Charge	40-Year term & indexed to inflation	Mix of Debt & Equity for both investor returns
O&M Charge	Operational charge to client to cover expenses for plant operations	Trailing 3 Year average of actual plant costs & indexed to CPI
Consumption Charge	Covers inputs necessary to generate energy; typically, a pass-through	Pass Through Charges (Fuel, Water, Chemicals etc.)
Capex Charge	Major Maintenance funding for capital spend for the asset over its lifetime & future expansion	Capital provided by school and CAPEX risk managed by Clearway with appropriate contingency for risk transfer

### Key Commercial Agreements

- Purchase Agreement
- Energy Services Agreement
- Site Lease Agreement/Easement



# Ohio/Duquesne Deal Structure Comparison

## Form of Agreement – Purchase of Assets

Type	Definition	Ohio State- Concession	Duquesne – Sale of Assets
Capacity Charge	Consists of a mix of debt & equity to provide appropriate returns to both set of investors	50-Year term & Indexed to inflation	40-Year term & Indexed to inflation
O&M Charge	Operational charge to university to cover operational expenses for plant operations	Trailing 3 Year average of actual costs, starting with the university's costs & CPI adjusted	Fixed based on historical costs and indexed to CPI
Fuel/Consumables Charge	Covers inputs necessary to generate energy; typically a pass-through	Pass Through Charges (Fuel, Water, Chemicals etc.)	Pass Through Charges (Fuel, Water, Chemicals etc.)
Capex Charge (Variable fee)	Major Maintenance funding for capital spend for the asset over its lifetime & future expansion	<ul style="list-style-type: none"> <li>50/50 Debt/Equity on capital investments</li> <li>ROE = formula based on 5 states approved ROEs for public utilities</li> <li>ROD= Baa US Corp Investment Index Rate</li> </ul>	Capital provided by school and CAPEX risk managed by Clearway with appropriate contingency for risk transfer

Ohio State University deal is reflected on balance sheet as debt. Duquesne deal is off Balance sheet. This resulted in a gain on assets for the university & comes with a high CAPEX Charge.

# Key deal risks

Public-Private Partnership-style arrangements aim to transfer risk from campus owners to third-party providers. Select key risks are outlined below:

Key Risks	Risk Mitigation
Design Risk – The risk that the design of an infrastructure asset will have a negative impact on construction or future operations	Third-party expertise in designing utility projects to deliver value for a large fleet of energy assets.
Construction Risk – Issues encountered during construction phase of a project, such as cost overruns, building material defects, construction delays, planning regulations, structural integrity issues with existing infrastructure, technical deficiencies, health risks and worksite accidents	Utilize large EPC providers in the US and local expertise. Execute projects from conceptualization to COD, including permitting. We have a strong safety culture and exemplary statistics to back it up.
Availability Risk – The risk that the infrastructure will not provide sufficient services because of management issues, failure to meet the required quality or asset availability standards, etc.	Identify operators with high levels of reliability and deep experience in providing reliable energy to critical infrastructure (hospitals, universities, government agencies & research campuses).
Demand Risk – The possibility of a discrepancy between initial expectations and the amount of service actually required or consumed by the users	Service agreement structures typically incentivize providers to reduce energy usage, maximizing value and aligning incentives for both parties
Operational and Maintenance Risk – Post-construction risks that occur when the infrastructure or public facility becomes operational, for example: increases or shortages of materials, increases in labor costs, damage as a result of natural disasters, costs related to deferring maintenance, and obsolescence	Operational excellence is critical, with ongoing proactive maintenance, investment and well-managed redundancy vitally important.
Financing Risk – The risk that the required funding for the project will not be obtained or will be obtained but at interest rates that prevent the project from achieving its expected benefits.	Engaged financial advisors and experienced service providers can reduce the risk of financial non-closure



An aerial photograph of a modern building with a large courtyard. The building features a prominent glass and steel structure with a central atrium. The roof is covered in solar panels. The courtyard is paved with light-colored stone and contains several large planters with greenery. People are walking in the courtyard. In the background, there is a street with cars and a blue bus.

# Questions?

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An aerial photograph of a modern building with a large courtyard. The building's roof is covered in solar panels, and there are several green roofs. The courtyard has a paved area with people walking and a grassy area with trees and planters. The text "Thank You" is overlaid in the center.

# Thank You

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