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Water Infrastructure

Quarterly Water Report
Q4 2019

I. Current Project Descriptions

Wastewater plant, NJ: A New Jersey-based Wastewater Treatment Plant where original funds were partly used to mount solar panels to increase energy efficiency of the plant, lower costs over time, and provide energy to the local municipality. The state of New Jersey requires electricity suppliers to secure a portion of their electricity from solar facilities located in NJ, creating a natural market for Solar Renewable Energy Credit (SREC) trading credits. The project not only reduces the plant's energy consumption but also improves its overall efficiency. We can surely extend our reach in this area and currently look at a broader investment opportunity in the same sector.

Sustainable Sewerage, Ontario: The Sustainable Sewerage market in Ontario currently undergoes a significant change when it comes to consolidation and strong demand for renewal of existing plants. Amongst others we are working with a public company which has developed a technology providing sewage collection and water treatment. It offers an all in one solution which is both cheaper to install and operate than traditional systems. The existing projects are all government linked and work closely with municipalities and we are currently working towards a PPP pipeline for its sewerage system. The provincial regulations regarding sewerage mean that many municipalities are required to change/install systems in the coming years. We have been implementing the first parts of the portfolio of existing projects and we will continue to implement more under the same framework. The constant diversification increased the security for the investors but also allows us to further reach into this market. The investment model has not changed, but the reach within Ontario has become broader.

Hydropower, Illinois: A lock and dam hydroelectric water power project located on the Illinois River. The site has obtained a FERC License (expires 2061) and is finalising development. Once the site is connected and producing energy it will provide power to the local municipalities and income will be generated by the power purchase agreement in place.

Industrial Re-use of Water, California: The project is a carbon capture and mineralization project based in Pittsburg, CA. The project will capture both wastewater and CO_2 emitted from a gas-fired power plant and combine these with locally sourced demolished/returned concrete as a process input material to produce several different "CO_2 sequestered" and "up-cycled" aggregate products for use by Bay Area businesses, governments and consumers in a wide range of low-carbon, high-value concrete mix designs. The wastewater and steam will be obtained from either the local power plant or from the sanitation district that can provide wastewater and the ammonia needed from their treatment plant which is located adjacent to the plant. As a result either method will use recycled water, which is legislatively supported in California. The whole process revolves around reusable and recyclable products. The carbon dioxide mitigation, waste water usage and demolished concrete process input provide a process producing recycled aggregates while reducing carbon dioxide.

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II. Regional Market Information

News in Brief

- Aqua America's Pennsylvania Subsidiary Reaches Agreement with DELCORA to Purchase Municipal Wastewater System Serving Approximately 500,000 People
  https://www.businesswire.com/news/home/20190917006130/en/Aqua-America%E2%80%99s-Pennsylvania-Subsidiary-Reaches-Agreement-DELCORA

- Hell or high water in the Permian Basin?
  https://www.woodmac.com/news/feature/hell-or-high-water/

- What you need to know about hydropower
  https://earth911.com/eco-tech/what-you-need-to-know-about-hydropower/

KKR and XPV Water Partners Form New Platform to Promote Water Quality[1]

KKR, in partnership with XPV Water Partners, today announced the formation of a wastewater treatment platform with the goal of creating the leading provider of end-to-end nutrient management solutions for municipal and industrial wastewater treatment facilities. Through the foundational acquisitions of Environmental Operating Solutions, Inc. ("EOSi") and Nexom, Inc. – two providers of nutrient management technologies – the platform aims to address nutrient contamination of water globally by building a diversified and growing portfolio of leading solutions.

Over the past 50 years, agricultural runoff from increased use of fertilizers, stormwater runoff from more development and rainfall, and wastewater effluent from municipal and industrial plants have combined to produce a concentration of nutrients in downstream water bodies. Excess nutrients can cause eutrophication and subsequent toxic algae blooms, resulting in loss of aquatic life, human health concerns and other environmental and economic damage. The Environmental Protection Agency has named nutrient pollution "one of America's most widespread, costly and challenging environmental problems," with 53% of rivers, 71% of lake acres, 79% of estuary square miles and 98% of great lakes shoreline miles classified as impaired.

"We are pleased to be working with XPV to scale solutions to water pollution. XPV is a thought leader in the water sector with deep connectivity across key stakeholders. Together, we are focused on expanding this platform to promote water quality," said Robert Antablin and Ken Mehlman, Co-Heads of KKR Global Impact.

"The challenges associated with nutrient management are compounding every year. We view the formation of this platform as a game-changing next step in our strategy: to build a global end-to-end supplier of the products and services that municipal and industrial operators need to solve nutrient management challenges. We look forward to continuing this journey with the EOSi and Nexom teams, alongside KKR, to help drive the next phase of growth of this exciting new platform," said David Henderson, Partner, XPV Water Partners.

The platform is the fifth investment out of KKR's Global Impact strategy, following investments in Burning Glass, KnowBe4, Ramky Enviro Engineers Limited and Barghest Building Performance. Over the last decade, KKR has been a leader in driving and protecting value throughout the firm's private markets portfolio through thoughtful Environmental, Social and Governance ("ESG") management, as well as measuring and reporting on performance to the public and investors.

[1] https://www.businesswire.com/news/home/20191203005263/en/

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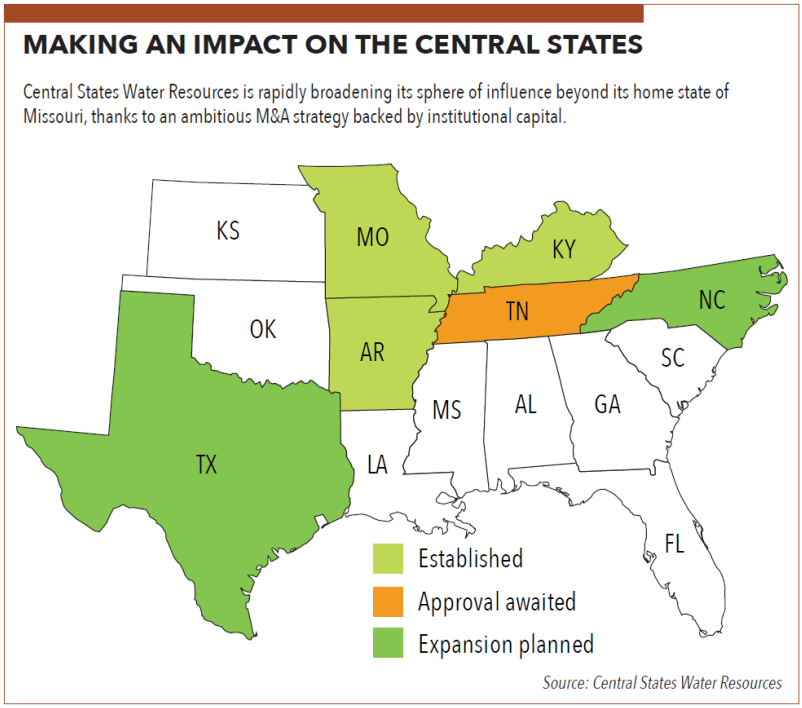
Making the case for micro-scale consolidation[2]

Central States Water Resources has a refreshing approach to bringing small private water systems back into compliance. It has ambitious plans to expand beyond its historical franchise area

Below is the main text from a GWI article which emphasises the roll up strategy underway in the US for the many water and wastewater sites that are out of compliance sites. Signina spoke with them in 2017.

Last month's announcement that Central States Water Resources[3] had closed on the purchase of a series of small water utilities in Arkansas and Kentucky[4] offered a rare glimpse into an ongoing nationwide consolidation effort to bring sub-par water systems into compliance.

From its base in St. Louis, Missouri, CSWR has been actively acquiring small, distressed water systems in its home state since 2014, and has plans to expand its footprint into Tennessee, North Carolina and Texas:



"We're a private solution to a very public problem," said CSWR president Josiah Cox. "There are all these small, disparate, typically rural water and wastewater systems, and a lack of investment has caused these utilities to be in distress. The vast majority of the systems we're buying are cash-negative, and have major, immediate investment needs."

While the idea of a private water utility mopping up distressed systems is not new – Aqua America was doing it in North Carolina as far back as 2004, using an acquisition incentive account sanctioned by the state Utilities Commission – the kind of systems that CSWR pursues typically fall under the radar of the bigger players.

"We're not afraid of really small things, and these are not big enough to really attract the attention of the big investor owned utilities. In a lot of ways, small water and wastewater systems are more difficult than larger installations, because there's no redundancy built in. It's also very difficult to find good operators, especially in rural areas, and so we have to build a lot of resiliency into our operations," he explained.

CSWR typically pursues troubled, privately owned systems serving fewer than 8,000 connections, which have failed a standard EPA viability test either on a technical, managerial or financial basis. By building

[2]GWI December 2019
[3]https://www.centralstateswaterresources.com/
[4]https://www.businesswire.com/news/home/20191120005983/en/Central-States-Water-Resources-Acquires-Arkansas-Based-Water

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state-by-state databases of potential targets, the company is able to pursue multiple adjacent acquisitions in parallel, frequently consolidating these into a single filing with the relevant state regulatory commission.

Once a deal has been approved, the company works to bring the acquired system into compliance in order to demonstrate a tangible service improvement before going in for a rate increase. While Cox acknowledges that there is always pushback from local residents on rate hikes – one recent example involved raising rates by 1,100% from an unfeasibly low base – he is unafraid to tackle the issue head on.

“The largest challenge we face is explaining to the public that when you have a system that’s 40 years old and has had no major investment, and you’re currently paying $10 a month, rates need to go up in order to provide a safe and reliable service. We are very upfront that when we purchase a system, it’s necessarily going to entail higher rates, but you want customers to see real improvements in their service before a rate increase comes.”

CSWR’s ambitions received a major boost last year when it secured financial backing from Sciens Capital Management, joining other consolidation platforms such as Undine (backed by Ridgewood Infrastructure) and Nerro Supply (backed by BlackSwan Water Resources). With an addressable market estimated to number thousands of systems, Cox is confident that his no-nonsense approach will not only help to bring troubled systems into compliance, but will provide a steady return on investment.

“In five years’ time, we want to be the number one investor in utility for servicing small communities in the United States – that’s our goal. We like what we do, and it’s great to work at a place where you know you’re doing the right thing for people, even though sometimes they don’t understand it.”

Below is a list of other firms currently using the same strategy to roll up small systems (researched by GWI):

SELECTED SMALLER REGULATED WATER UTILITY ROLL-UPS IN THE UNITED STATES

With over 50,000 targets to choose from, it is no surprise that there are a raft of private companies actively rolling up small water systems in the US. Not everyone is taking the same approach.

Utility	States active	Ownership	Strategy	Pop. served
Central States Water Resources	MO, AR, KY, TN*	Sciens Capital Management	Targets small, distressed systems	27,000
New England Service Company	NH, MA, CT	Publicly traded on OTC market	Building scale in core Eastern states	9,392**
Undine Texas	TX	Ridgewood Infrastructure	Targets small, privately owned systems, often with significant challenges	
NW Natural Water	ID, WA, OR, TX*	Parent company listed on NYSE	Acquires well-run systems in the Pacific NW; moving into Texas	62,000
Pluris LLC	TX, AL, FL, NC	Brian Pratt	Targets small, often non-compliant systems	50,000
Ni Pacolet	SC, FL	Pacolet Milliken	Sold Texas operations to SouthWest Water in 2016	45,400
Nerro Supply	TX	BlackSwan Water Resources, LLC	Targets small systems around Houston & Bryan; sale process to Undine underway	3,200**
Integra Water	AL, NC	John McDonald	Focus on Southeastern US and Gulf Coast	-
NineStar Connect	IN	Community-owned co-operative	Multi-utility co-operative mopping up water systems in Indiana	800**

** Decision from state regulator pending* *** Connections* *Source: GWI WaterData*

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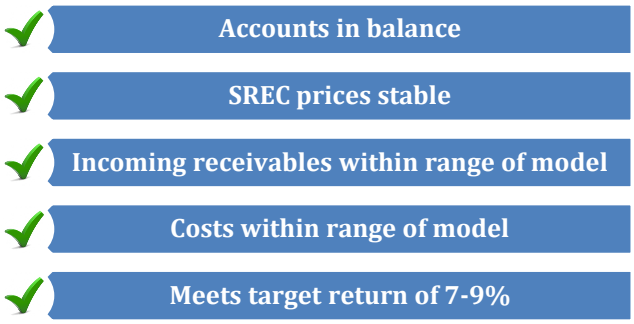
III. Ongoing Projects

Wastewater plant, NJ:

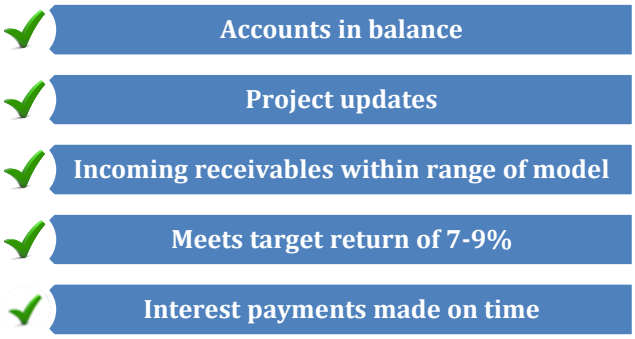
The plant continues to operate as expected. The winter months usually provide less energy due to weather conditions but nothing out of the ordinary is expected. The current contract remains in place with a potential new SREC contract from July 2020 onwards being pursued in the coming months.

- Monitor PPA component
- Monitor SREC eligibility and prices on the market (1 SREC for every 1000 kW-hours of electricity produced)
- Monitor regulatory shifts in clean energy incentive programs (RPS) and timelines
- Document any changes to the investment expectations
- Online monitoring of the solar power as well



Sustainable Sewerage, Ontario

The fourth quarter continued with the continuation of the ASI consolidation with a look to the future pipeline and the synergies within the operations. The number of projects and size has led to opportunities at a larger scale which were not possible before. The articles regarding KKR & CSWR show the market consolidation approach to the current issues in the market tie in closely to this strategy.



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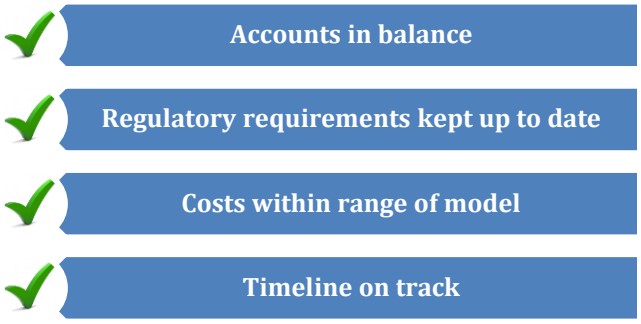
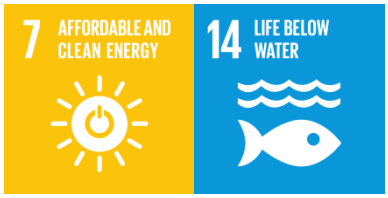
Hydropower, Illinois

The PPA discussions are on the fore-front of our efforts and at the same time, we also deliver material for larger buy-outs interests. While pricings remain challenging, we see a long-term plan in place that will unlock two more dams as well. We continue to believe that even without a firm PPA term sheet, we can continue to advance the project accordingly.

- Maintain monthly communication with onsite project manager
- Document any changes to the investment expectations
- Monitor the financial reporting, cash flows and accounts

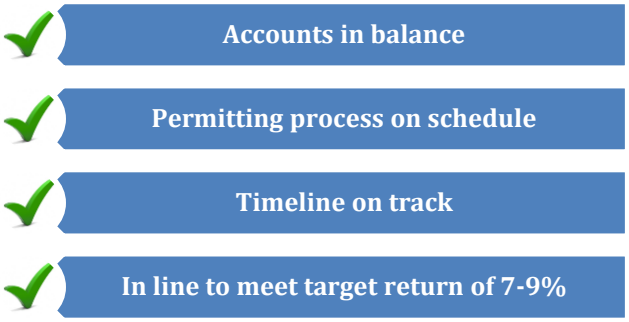




Industrial Re-use of Water, California:

The project concept and technology continues to receive a lot of traction. Brent Constantz of Blue Planet spoke at the Green Building Festival[5]. He explained how construction concete is key in the climate change fight explaining the project's advantages[6]. The site has received its permits and is near the construction phase to test some product on a small scale before increasing the project size as expected.

- Maintain monthly communication with project team
- Document changes and delays to the permitting process



[5] https://sbcanada.org/conferences/green-building-festival-2019/
[6] https://sbcanada.org/conferences/green-building-festival-2019/

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IV. Latest Developments

Latest Actions

There are three main areas where exciting future developments are occurring:

1. The Canadian pipeline remained strong leading to potential opportunities of larger scale and other industries relating to waste water. Sectors such as organic waste and dewatering are also being investigated as a result.

2. The need for water solutions in various water reuse or recycling markets continues to be of long term interest. As a result we see opportunities in the oil and gas industry and in the food and beverage market which are some of the largest consumers of water. This space, while having many long term players, is still somewhat new with the stricter regulations and so will be investigated cautiously.

3. The US trip was fruitful. Not only did the visit include the current sites, some potential projects were seen. Meetings led to future potential pipeline especially in the water reuse and the hydropower sectors

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