SIGNINA CAPITAL AG

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Water Infrastructure

Quarterly Water Report
Q3 2019

I. Current Project Descriptions

Our latest ICMA Green Bond Report is available upon request

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.

US Water Treatment, 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.

II. Regional Market Information

News in Brief

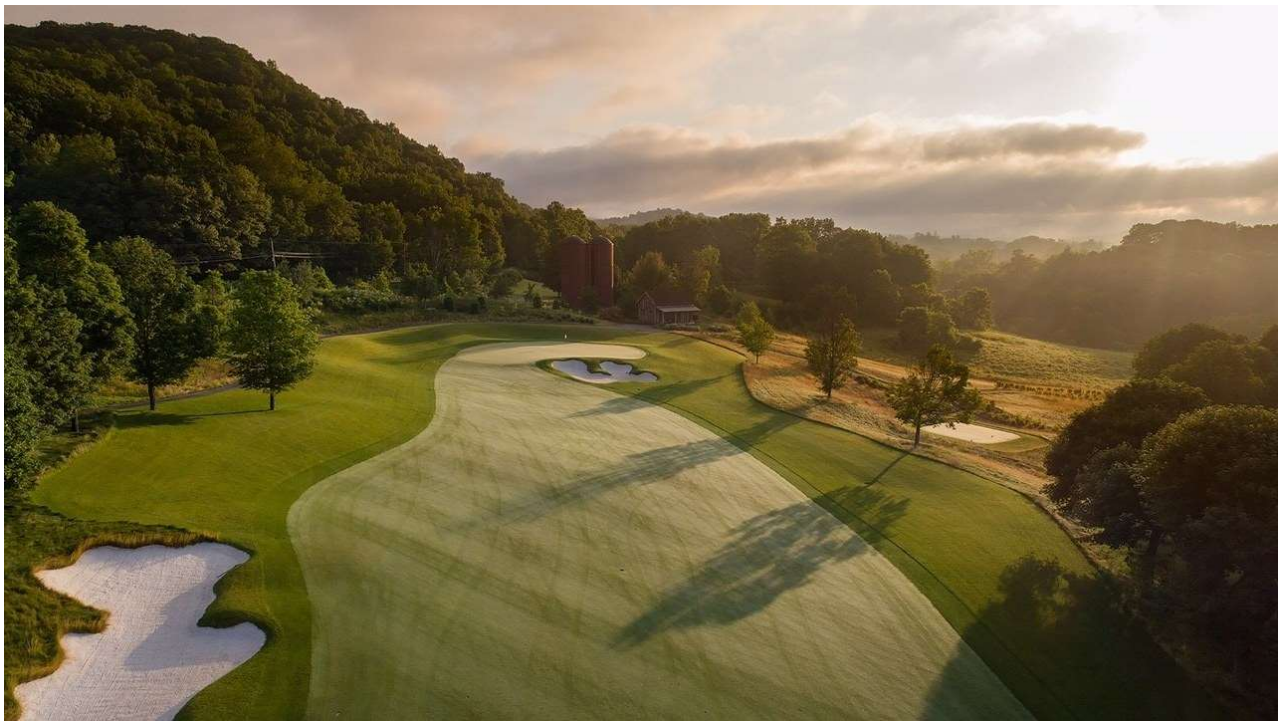
- The Carlyle Group, VICO Infrastructure to invest in U.S. water infrastructure
  https://www.waterworld.com/municipal/drinking-water/infrastructure-funding/article/14036511/the-carlyle-group-vico-infrastructure-to-invest-in-us-water-infrastructure

- Antelope Water Management Announces Open Season on Two Produced Water Recycling Facilities in the Permian Basin
  https://www.prweb.com/releases/antelope_water_management_announces_open_season_on_two_produced_water_recycling_facilities_in_the_permian_basin/prweb16432877.htm

- EPA, federal partners, release draft of national Water Reuse Action Plan
  https://www.waterworld.com/municipal/wastewater/reuse-recycling/article/14039643/epa-federal-partners-release-draft-of-national-watereuse-action-plan

Silo Ridge Development[1]

The development uses the waste water treatment plant system designed by one of our partners. The project is located on 800 leafy acres in New York's Hudson Valley. The site was developed by luxury real-estate mogul Mike Meldman. The article describes the nature of the luxury development.



An aerial shot of a fairway at Silo Ridge

[1] https://www.architecturaldigest.com/story/silo-ridge-field-club

Relating One Water to the U.N. Sustainable Development Goals[2]

The United Nations Sustainable Development Goals aim to address global issues that affect people around the world, regardless of status, wealth, race or beliefs. These goals have a similar holistic view to the U.S. Water Alliance One Water Roadmap

The availability of affordable, clean freshwater for potable use, food production and industry appears to be a major hurdle to quality of life in much of the developing world. To address this global challenge, the U.N) released its Sustainable Development Goals (SDG's) in 2015 as discussed in the last quarter report.

Concurrent with the UN efforts on addressing global sustainability, the U.S. Water Alliance in 2016 released "One Water Roadmap: The Sustainable Management of Life's Most Essential Resource." [3]

The U.S. Water Alliance in its 2017 "One Water for America Policy Framework" included a visualization of the multiple, interactive aspects and benefits of the Alliance's One Water approach[4]:

The U.N. SDGs are designed to guide sustainable development in even the poorest places on Earth where poverty, hunger and lack of education are a way of life. Many of these basics have been largely, but not completely, achieved in the U.S. where One Water was developed.

When it comes to sustainable management of water resources and the consequential benefits to the local economy, local community, and local ecosystems, the two programs–U.N. SDGs and One Water–are virtually identical.

Below maps the One Water approach relative to the global U.N. SDGs particularly regarding water. The fundamental basis for One Water (and SDG #6) is a realistic inventorying of:

- The community's available water resources
- Current and forecast uses of water
- The triple bottom line analysis of cost and benefit of the existing and proposed uses of the water resources
- All waters have potential uses and benefits, but possibly at costs exceeding the values of the benefits

The One Water approach aims to balance the overall costs and benefits to the community and its environment, including:

- Direct water cost
- Direct wastewater treatment and disposal/reuse costs (thus, the "sanitation" element of SDG #6)
- Collateral costs and benefits resulting from water use and wastewater production.

<u>One Water in the Real World</u>

A community in the Pacific Northwest is under growth pressure, but freshwater is becoming scarce and wastewater treatment is becoming expensive because growing evidence shows nutrients in treated wastewater being discharged to the ocean are causing problems for the environment. Traditional planning involves three silos filled with problems: water supply problems, wastewater treatment and disposal problems,

[2] https://www.wwdmag.com/relating-one-water-un-sustainable-development-goals
[3] http://uswateralliance.org/sites/uswateralliance.org/files/publications/Roadmap%20FINAL.pdf
[4] http://uswateralliance.org/sites/uswateralliance.org/files/publications/One%20Water%20for%20America%20Policy%20Framework%20Executive%20Summary.pdf

and environmental mitigation problems. The One Water approach to planning integrates all water-related problems by considering:

1. Available water resources in the greater community area;
2. Water use needs and benefits; and
3. The toll of institutional/financial, social, and environmental costs

A potential solution involved piping the nutrient-rich effluent inland to irrigate existing farms. The farms could reduce their use of river water so the riverine ecosystem improves, allowing the community to remove raw potable water from the river just before it enters the ocean. The community required new development to use treated wastewater for all non-potable reuse as economically feasible (SDG #6). The quantity of treated wastewater discharged to the water body is reduced materially (SDG #14).

This One Water approach addresses community growth objectives (SDG #11), benefits farmers who are under pressure to reduce use of river water (SDG #8), benefits the river, and benefits the natural environment (SDG #6). A triple bottom line analysis was recommended to quantify costs and benefits of an effluent distribution system and a new water resource for farmers. That analysis then was compared to the approach of upgrading wastewater treatment to meet new requirements to determine the appropriate solution.

Therefore One Water and the U.N. SDGs have the same goals of creating:

- Thriving local economics;
- Healthy ecosystems; and
- Communities that are a better place to live for all

As communities embark on sustainable water resource planning, keeping in mind both One Water and U.N. SDGs with the foregoing message is critical. Leveraging U.N. SDGs as a framework for assessing wider benefits from water initiatives and projects will help the U.S. water industry get buy-in from a wider audience, as well as global companies seeking to locate facilities in sustainable communities.

Canada Infrastructure Bank aims to replicate its first water sector funding commitment[5]

The Can$20 million debt package for a small water system concession in Ontario alleviates concerns that the Canada Infrastructure Bank's big-ticket mandate would leave water by the wayside. Is the model replicable?

Canada Infrastructure Bank (CIB) has made its first commitment to the water sector, following its formation last year as a crown corporation designed to encourage private infrastructure investment. In July, the bank agreed a Can$20 million (US$15 million) debt commitment for a water and wastewater concession being developed in the Township of Mapleton, ON. The senior secured credit facility will cover up to 60% of the estimated Can$30 million capital cost required over the life of the concession, with the remaining 40% to be supplied by the winning concessionaire in the form of equity.

Mapleton is planning to contract a private sector concessionaire under a regulated utility-style arrangement to operate its water and wastewater systems and manage capital improvements, which include a wastewater treatment pilot and a new pump station. An RFP has been issued to six shortlisted teams, with award expected in the first quarter of 2020. If successful, it will be the first full-system water utility concession adopted in the Canadian water sector.

While respondents are not required to tap the CIB commitment, the bank's president and CEO Pierre Lavallée is confident that a low-cost debt facility will be an attractive proposition for the private sector.

According to an assessment of the proposed Mapleton concession conducted by PwC, the involvement of the CIB will reduce the financing cost for the project and provide the concessionaire with greater flexibility in drawing down capital over the contract term. The contract model will involve Mapleton's council taking on the role of a regulator, in which it will be responsible for setting water and wastewater rates, considering any capital expenditure requests, and determining an allowed rate of return on the rate base, which will comprise the Township's water and wastewater system.

The Township will retain ownership of the assets, as well as the responsibility for billing and collecting rate revenue, which will be remitted to the concessionaire. While beneficial to Mapleton, the CIB's involvement in a relatively small-scale project is ostensibly a departure from its mandate to leverage billions of dollars in investment by 2030.

The traditional government funding approach in Canada requires local entities to front a portion of a project's capital costs alongside provincial and federal funds. Faced with a provincially imposed debt ceiling, however, Mapleton was proactively looking for alternative investment approaches that would not impact its debt capacity.

The project shows the need for public private partnerships to implement the upgrades required for many of the small water and waste water sites. The initiative of the CIB is a start to address the smaller side of the market which is where many of the projects we look at sit. There is additional information on the project and CIB's vision at the project announcement on the CIB website. [6]

[5]GWI August 2019

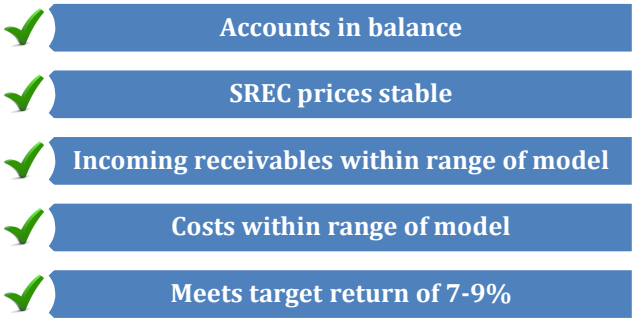
[6]https://cib-bic.ca/en/cib-announces-up-to-20-million-investment-commitment-in-mapleton-water-and-wastewater-project/

III. Ongoing Projects

Wastewater plant, NJ:

The energy created over the summer was as expected. The payment for the SREC contract was made in July as expected. The current contract has an additional year on it and so the expectation is another strong year for the asset. Potential new SREC contracts for July 2020 onwards will be pursued in the new year.

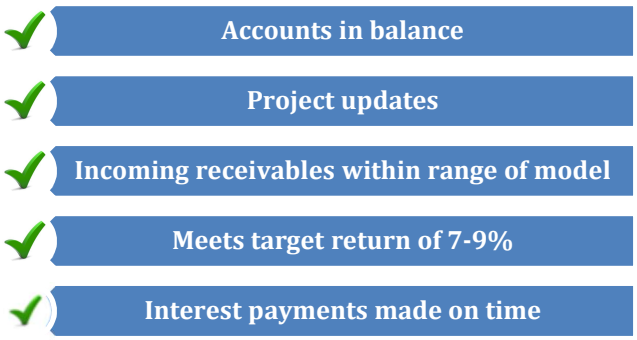
- Monitor PPA component
- Monitor SREC eligibility and prices on the market (1 SREC for every 1000 kW-hours of electricity produced)
- Monitor regulatory shifts in clean energy incentive programs (RPS) and timelines
- Document any changes to the investment expectations
- Online monitoring of the solar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



Sustainable Sewerage, Ontario

The third quarter has seen the consolidation of the 60 plus ASI projects acquisition with the other projects. By having over 150 sites there becomes significant scale and synergies within the operations. There continues to be additional opportunities in the sector, and as always there are long lead times for any potential additional purchases.

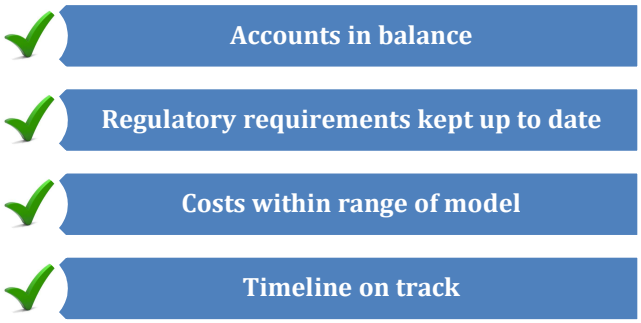
The regulatory and environmental compliance in Ontario continues to have an impact on the Province. Until the last quarter there had not been any significant change to the emphasis of these of these regulations. However with the CIB taking an active interest in the Mapleton site (see article above) there is now active involvement from government entities to assist in solving the waste water problem in Ontario. With Mapleton being relatively small in size it will be a test case paving the way for future opportunities.

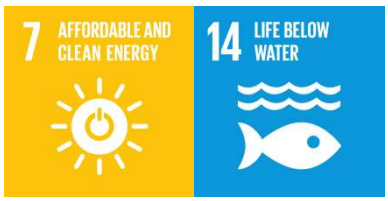


Hydropower, Illinois

The summer months continued to have little progress from a construction perspective. The PPA discussions have heated up in the past few months to the point where a PPA should be struck in the coming months with a solid off-taker. While there was hope a PPA could be struck in the summer months the continued talks create optimism that it can be struck soon. A PPA term sheet should trigger accelerated positive progress in the coming months.

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

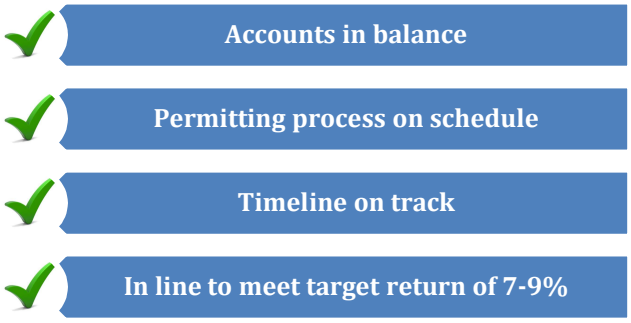




US Water Treatment, California:

The project concept and technology continues to gain interest from some large counterparties for the use of the aggregate product. The team continue to finalise the permitting process for the development phase of the project which would lead to the production of some aggregate. Once some is produced this would lead to potential large contracts from some large organisations who have been closely following the project. The next interest rate is due in Q4.

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



IV. Latest Developments

Latest Actions

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

1. Following on from the ASI project purchase not only has the pipeline remained strong but it has led to potential opportunities of larger scale. The scale also leads to opportunities in areas which were previously not cost efficient in the past.

2. The need for water solutions in various water reuse or recycling markets continues to grow. 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. Various hydropower deals remain of interest but are slow moving with long lead times.

4. The US trip is planned for October and will comprise of visits to all plants and potential projects. This will consist of various water reuse facilities, hydropower sites and US waste water treatment sites.

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