



**Signina Capital AG
Water Infrastructure**

**Quarterly Water Report
Q2 2018**

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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.



II. Regional Market Information

News in Brief

- In June 2018 Canada Pension Plan Investment Board (CPPIB) to issue green bonds, becoming the first pension fund to do so
<https://globenewswire.com/news-release/2018/06/11/1519301/0/en/Canada-Pension-Plan-Investment-Board-to-Issue-Green-Bonds.html>
- A little known accounting policy has made the future of water and green infrastructure potentially a lot easier in the USA
<https://waternow.org/financing-the-future-of-water-infrastructure-just-got-a-whole-lot-easier/>
- A subsidiary of Spanish ACS Group lists EUR 750m green bond with a 1.875% interest rate maturing in April 2026. The proceeds are to be used for infrastructure projects, including desalination and hydropower¹
<http://www.ise.ie/Media/News-and-Events/2018/Subsidiary-of-the-Spanish-ACS-Group-lists-%E2%82%AC750m-green-bond-on-MSM.html>

Clearford Water

The Canadian company charts a path to profitability with renewed project finance commitment

Below are some segments from the recent GWI article published regarding Clearford²:

Listed Canadian systems integrator Clearford Water Systems has renewed a US\$100 million project finance facility linked to its decentralised wastewater treatment solutions. The agreement with Sustainable Water Investments Inc. (SWI) covers up to 100% of the capital cost of projects delivered under Clearford's P4P (Pay For Performance) model. The P4P concept was introduced in 2015 as a way of delivering decentralised wastewater treatment solutions to clients on a lowest lifecycle cost basis using a proprietary technology configuration and third-party capital.

"We spent a lot of time and energy focused on the municipal market, and that was a hard lesson for us to learn," admits Clearford Water's CEO Kevin Loiselle. "Most of our domestic sewage projects now are focused on new home developments, and with regard to industrial, we're focused on landfill sites."

The company's unique approach is centred on the proprietary Clearford One system, which uses a smart digester to remove solids from wastewater streams at the source, before conveying the remaining liquid stream through a small-bore HDPE sewer line to a decentralised treatment facility.

"You can't really treat water cost-effectively on an individual home basis, so you have to aggregate it to a size where a treatment plant can be efficient. In the North American context, we use packaged MBR plants, which we're in a position of manufacturing by ourselves after the acquisition of Koester Canada in November" mentions Loiselle.

Around one third of Clearford's sales are recurring revenues from Koester's existing reference base of O&M contracts, while another third comes from the sale of proprietary UV treatment systems. Loiselle expects the

¹ <https://www.spratings.com/documents/20184/4756601/Green+Evaluation+ACS+Servicios+Comunicaciones+y+Energ%C3%ADa+S.L.+Green+Notes/dec43260-d94e-4d8e-8136-7db5362acecd>

² GWI. Vol 19, Issue 5 (May 2018)



project-based business to show the strongest growth going forward, however, and is aiming to reach operational breakeven by the end of 2018, and to become profitable by the end of 2019.

“We very much are a systems integrator and we want to keep it that way, but we try to establish relationships with companies that bring us the leading edge in terms of technology,” he explained. By way of example, Clearford uses Anaergia’s Fibracast³ membranes in its MBR systems, switching to more robust Berghof membranes for its landfill leachate plants.

“We are very focused on the long-term performance of these plants and how we can reduce the operating cost. Our whole approach is looking at the lifecycle cost, because we expect to participate throughout the entire lifecycle.”

While Clearford has international references in Peru, Colombia and India, its near-term focus is likely to be on growing the business in North America. “I’m a big believer that the international stuff is going to be potentially huge, but we’re going to stick to our knitting and focus on the North American market in the next 24 months. We will likely chase the international opportunities after that.”

³<https://www.fibracast.com/>



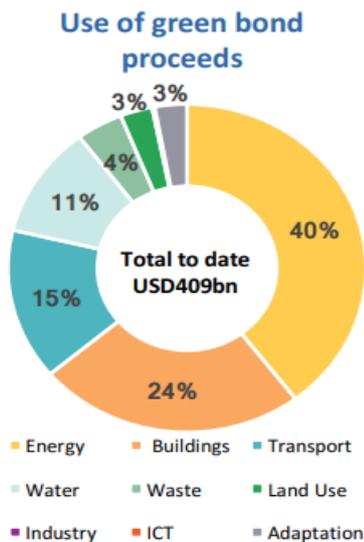
Green Bonds as a bridge to the UN Sustainable Development Goals⁴

The Sustainable Development Goals (SDGs) are a good collection of 17 global goals set by the United Nations in 2015. The goals are broad and somewhat interdependent, with each having a separate list of targets to achieve. Achieving all 169 targets would signal accomplishing all 17 goals. The aim is to achieve the goals and targets by 2030. These goals were developed to succeed the Millennium Development Goals which ended in 2015⁵.



Source: <https://sustainabledevelopment.un.org/?menu=1300>

Climate Bonds Initiative released the briefing paper explaining how and where Green Bonds are assisting in achieving the SDGs⁶. Green bonds have grown rapidly over the past decade with more thematic bonds now appearing. ICMA released a high-level mapping to the SDGs in June. This paper provides an outline such that market participants can evaluate the financing objectives of a given Green bond against the SDGs. The spreadsheet ICMA provides gives an even more granular look at the 17 goals giving all 169 targets⁷



Similar to the SDGs the use of the green bond proceeds are interdependent. This breakdown looks at the big picture of each section with climate being the overriding SDG which is affected by many of the other SDGs. As we are all aware our ecosystem and environment is delicate.

The complexity of the SDGs increases when we drill deeper. For example Food Production is an individual goal, however it is connected and impacts Life below Water, Life on Land as well as Water. Climate Action has an overriding theme, with all the SDGs being somewhat impacted by it.

⁴ <https://www.climatebonds.net/2018/06/green-bonds-bridge-sdgs-focus-sdg-6-7-9-11-13-15>

⁵ <https://www.un.org/millenniumgoals/bkqd.shtml>

⁶ <https://www.climatebonds.net/files/files/CBI%20Briefing%20Green%20Bonds%20Bridge%20to%20SDGs%281%29.pdf>

⁷ <https://www.icmagroup.org/green-social-and-sustainability-bonds/mapping-to-the-sustainable-development-goals/>



Climate Bonds Initiative investigated the SDGs and concluded so far that the biggest boosts from green bonds are to the following SDGs, providing direct benefits:

- **SDG6 (Clean Water and Sanitation)** – accounts for 11% of green bond issuances to date. An example is Cape Town's Certified green bond, which financed clean water and sanitation assets that are both low carbon and climate resilient
- **SDG7 (Affordable and Clean Energy)** – it remains the largest share of the green bond market (40%), though the share has fallen as the market has diversified over the last years. Nigeria's sovereign green bond for example allocated the majority of proceeds to renewable energy expansion
- **SDG9 (Industry, Innovation and Infrastructure)** – low carbon buildings are the second largest segment of the green bond market to date (24%), followed by low carbon transport (15%)
- **SDG11 (Sustainable Cities and Communities)** – many of the assets financed by green bonds are located in cities. Municipalities and city-linked entities, such as utilities and transport companies, are a significant issuer of green bonds
- **SDG13 (Climate Action)** – the rapidly growing green finance sphere is already providing capital for assets that simultaneously contribute to climate action and many of the other SDGs. In the green bond market the vast majority of use of proceeds to date is allocated to climate mitigation and adaptation / resilience, with only a small share allocated to other green assets, such as parks
- **SDG15 (Life on Land)** – a smaller share of green bonds (3%) is also financing sustainable forestry and agriculture, contributing to SDG15. Poland's sovereign green bond included sustainable agriculture, afforestation and conservation and restoration of natural habitat

The analysis and progress made by green bonds over the past few years has shown there is a framework for sustainability and returns in the market. ICMA continues to develop offering strong tools to enhance the green bonds framework.

The issuance of green thematic bonds continues to grow with the impact on other SDGs being a matter of time. The newer thematic bonds along with other similarly named bonds are signs of the sophistication and more targeted approach to the "green bonds initiative". There is still a strong belief with the momentum in the industry that the green bonds market can surpass \$1 trillion in 2020.

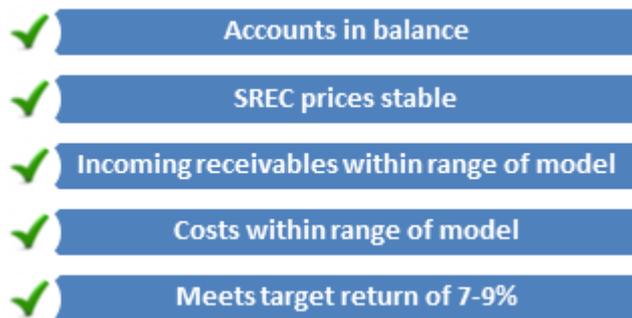


III. Ongoing Projects

Wastewater plant, NJ:

The energy creation for Q2 2018 was in line with expectations. The project is running smoothly with no issues to address. The energy year ended May 31 which means the process begins to sell the SREC's per the PPA contract.

- 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



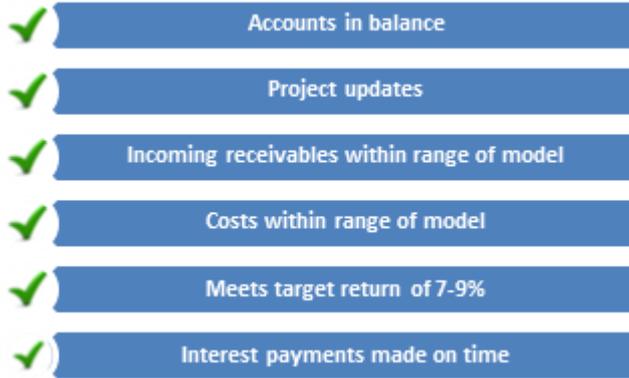
Sustainable Sewerage, Ontario

The last quarter has been similar to Q1. There continues to be a pipeline of opportunities to purchase operating sites. The more recent opportunities revolve around sites which are in need of upgrades or in areas of growing home counts. These provide great mid-term revenue streams at a discount. The market for upgrading systems is large in Ontario and the current climate suggests the more traction and contracts achieved the larger the pipeline becomes.

Clearford and Koester are beginning to see the synergies between the two companies. As complementary solutions opportunities appear in sites that are in need of upgrades and not only an O&M solution. UV Pure Generation 3 product should be released later this year. The Generation 2 product is installed in many sites; the new product should be more efficient and lower ongoing costs to the systems installed.

We were on site in June to see many of the sites. We saw the partnering companies providing the solutions. There is a lot of excitement surrounding the opportunity set with Koester and UV Pure in particular ready for growth in the coming year. The Fibrecast membrane factory provided insight into the latest developments within the waste water treatment plant technology.

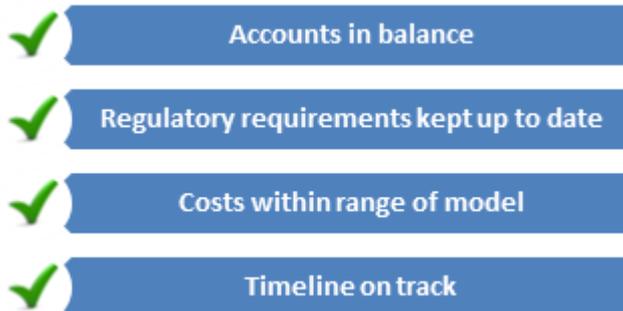
- Maintain monthly communication with Kevin Loiselle and Mark McGuire regarding projects
- Document any changes to the investment expectations



Hydropower, Illinois

Similar to last quarter there has been little to update. The site is still progressing but with a delay and smaller construction work has been conducted in the Q2 2018. The main development is that prices for electricity continue to trend upwards and we will explore further financing rounds on debt level, as financing the last round is very interesting with higher pricings. We are also conducting our market research with our electricity traders in order to establish, when it is the right time to lock in the current pricing.

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





IV. Latest Developments

Latest Actions

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

1. Similar to last quarter, the consolidation process in Canada for sustainable sewage solutions and operating contracts continues. There are many small contracts from small operators that could be available. Furthermore there are additional sites which need upgrading as well as operating. This creates an additional opportunity set with more due diligence necessary. There will be a higher emphasis on understanding the pipeline and growth of such areas to work out at what level the potential projects are financially viable.
2. The onsite due diligence visit in Ontario was very helpful in seeing the opportunity set. While the potential projects and contracts are described above there seems to be additional potential capacity across the border. Koester have targeted some regions in the US which could be appealing from a design and build perspective as well as operating contracts. This appears to be on the back of recent developments and is in very early stage of investigation
3. The new potential in Texas in a different sector remains: The oil and gas industry is booming in Texas but the tipping and dumping of the waste in the oil industry remains a big concern which is not overly addressed. There are many landfarms which act as landfill sites for the cutting and mud waste from the oil extraction procedures. Many sites do not do anything with the waste. However there is a growing trend to start recycling the waste (centrifuge can be used to separate the mud into water and hydrocarbons). This concept has great potential in recycling water and minimising waste; thus there are some site currently being investigated from both a conceptual basis and a financial viability basis.

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