

**SIGNINA CAPITAL AG**

**WATER INFRASTRUCTURE  
QUARTERLY REPORT – Q1 2023**



### **Waste Water, Mt. Holly, 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 private 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.

### **Greenhouses, Virginia**

A lot of the groceries produced in the USA are transported across the country and come from regions with little water (such as leafy greens which are still 99% field grown in the US). This creates high costs and carbon footprint along with a lack of consistency for fresh produce. The greenhouses today can control the environment to produce fresher quality produce, utilizing less water, is local and sustainable. The project will be developed in Virginia for the local market.

### **Industrial Re-use, Blue Planet, California**

The project is a carbon capture and mineralization project based in Pittsburg, CA. The company captures both wastewater and CO<sub>2</sub> emitted from a gas-fired power plant and combines these with locally sourced demolished/returned concrete as a process input material to produce several different "CO<sub>2</sub> 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 is obtained from the local power plant and the ammonia needed from their treatment plant 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.

The company is in its last stage of raising a mix of debt and equity, before reaching commercial viability in 2023. We are involved in the last debt round, but also on the equity side for bespoke advisory clients.

### **Hydropower, Marseilles, 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.

### **Hydropower, Braddock, Pennsylvania**

A lock and dam hydroelectric water power project located on the Monongahela River, Pittsburgh. The site has obtained a FERC License (No. P-13739) with a 5.25MW capacity and is finalising development. The site, once producing energy will provide power to the local area with income being generated via the sale of the energy.

## **CURRENT PROJECTS**

The start to the year has continued to be as uncertain as the end of 2022. Inflation retreating slowly and rates continue to rise to temper it further. Recession fears remain but the emphasis regarding the global drive towards SDGs and cleaning the world is stronger than ever.

In the water sector the merger of Xylem and Evoqua aims to consolidate the market, much of which we have been expecting the last couple of years. While this deal is on a grand scale, there will be plenty of consolidation in the sector on the smaller scale which will go unnoticed by the mainstream media.

Greenhouses and Blue Planet continue to be at the forefront of the ESG movement from different angles. The farm in Virginia has received public attention from the Governor and hopes to be the start of multiple sites in the region. The advantages of greenhouses are very apparent and the savings on water towards traditional agriculture amount to about 85-90%.

The UN Water Conference occurred in New York on 22-24 March<sup>1</sup>. It was the first UN water conference in 46 years with the aim to get back on track with SDG 6, to ensure access to water and sanitation for all by 2030. In conclusion of the conference it was seen as: "Historic UN conference marks watershed moment to tackle global water crisis and ensure water-secure future<sup>2</sup>" with commitments made by Member States, Multilateral Banks, the Private Sector and NGOs.

# REGIONAL MARKET INFORMATION

## NEWS IN BRIEF

**Napier-Reid, provider of water and wastewater treatment systems, joins Axius Water.**

<https://www.businesswire.com/news/home/20230221005874/en/Napier-Reid-provider-of-water-and-wastewater-treatment-systems-joins-Axius-Water>

**Bike ride through UK's new super sewer.**

<https://www.bbc.co.uk/news/av/science-environment-65093688>

**Sewage entered rivers and seas on average 825 times a day last year.**

<https://www.bbc.co.uk/news/science-environment-65099906>

**Volkswagen Group steps up activities in North America – Canada chosen as location for first overseas gigafactory of its battery company PowerCo SE.**

<https://www.volkswagen-newsroom.com/en/press-releases/volkswagen-group-steps-up-activities-in-north-america-canada-chosen-as-location-for-first-overseas-gigafactory-of-its-battery-company-powerco-se-15615>

## XYLEM MAKES \$7.5BN BET ON GLOBAL INDUSTRIAL GROWTH<sup>3</sup>

**The union of Xylem and Evoqua has been a long time coming. The portfolios are highly complementary, but will the whole be a greater than the sum of its parts?**

The ultimate verdict on the success of Xylem's \$7.5 billion takeover of Evoqua will depend on how effectively the companies can capitalise on the global growth opportunities presented by the union of two highly complementary portfolios. While the deal offers an international route to market for Evoqua's products and services – and gives Xylem a long-awaited leg-up into the industrial market – the on the ground realities of knitting together the two portfolios into a coherent, profitable whole will inevitably be rather more nuanced.

**“The \$140 million of projected cost synergies generates a very strong economic rationale, and there are clear complementarities in terms of end-markets and geographies, and also between product services and solutions,”** summed up Xylem's chief strategy officer Al Cho. **“There are some really attractive areas where having access to Xylem technology can help Evoqua take out costs and lower the risk of providing outcome-based services and guarantees to their end-users.”**

Evoqua CEO Ron Keating, who is expected to leave the business following the completion of the acquisition in the middle of this year, is also upbeat. **“We treat water at the point of source, and Xylem products take it to the point**

of use – by combining the two operations, there’s a tremendous opportunity to provide a more holistic application around the full value chain of water.”

While Evoqua famously claims to have service technicians available within two hours of 85% of the North American population, the challenge has always been how to replicate that model internationally. “ISS [Integrated Solutions and Services] is 100% North America, and that’s our largest business. I’ve always said for us to be able to go international with ISS, we’d have to have a footprint and a network to grow from, and that we would get that through acquisition,” said Keating. “We’ve been able to grow our industrial customer base by providing them with a guaranteed quality and quantity of water on an out-sourced basis. It took a lot of work for us to make sure customers in North America understood the value proposition, and I think sharing that in the international markets will be something that will occur over time – it’s not an overnight transformation,” he cautioned.

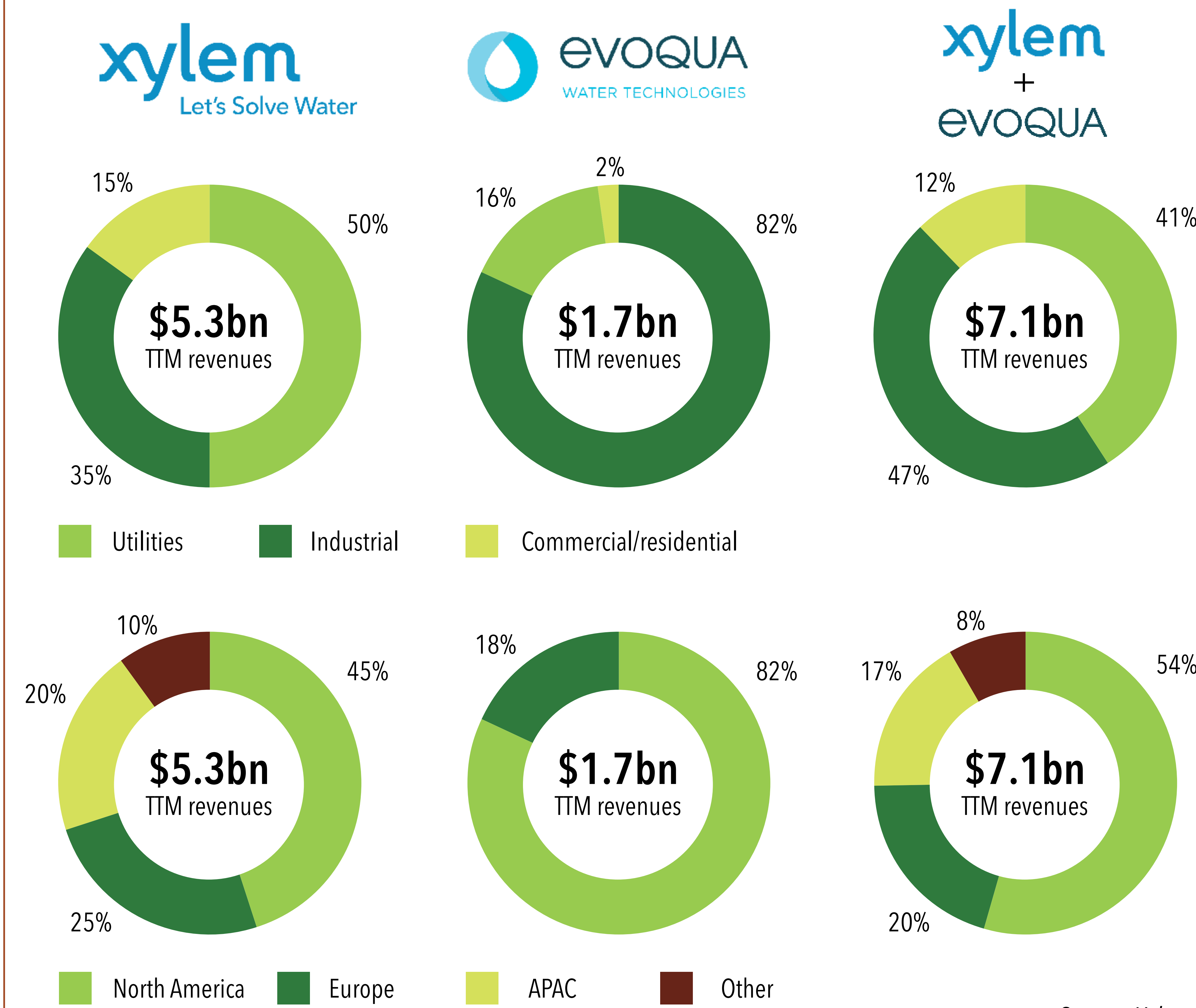
**Keating believes, however, that there is still a lot of runway for expansion within North America. “The market we serve is \$16 billion globally, and \$10 billion of that is in the US. Out of that \$10 billion, \$6 billion is industrial, which is where our ISS business plays very heavily. If we can get customers to outsource what they insource, that would double the size of that market.”**

Evoqua has invested heavily in digitising its service offering to maximise efficiency in the field, providing customers with 24/7 water quality monitoring solutions backed up by service technicians who can prevent operational downtime by trouble-shooting problems when, or even before they occur. By implementing its digital Water One offering across multiple installations

within a service area, the company can optimise its operational offering by doubling the number of calls its service technicians can make in a day.

### BIRTH OF A NEW GLOBAL WATER GIANT

The fusion of Xylem and Evoqua will create a \$7.1 billion-a-year player with considerable reach in the industrial and municipal markets. Revenue synergies could take longer to play out.



Source: Xylem

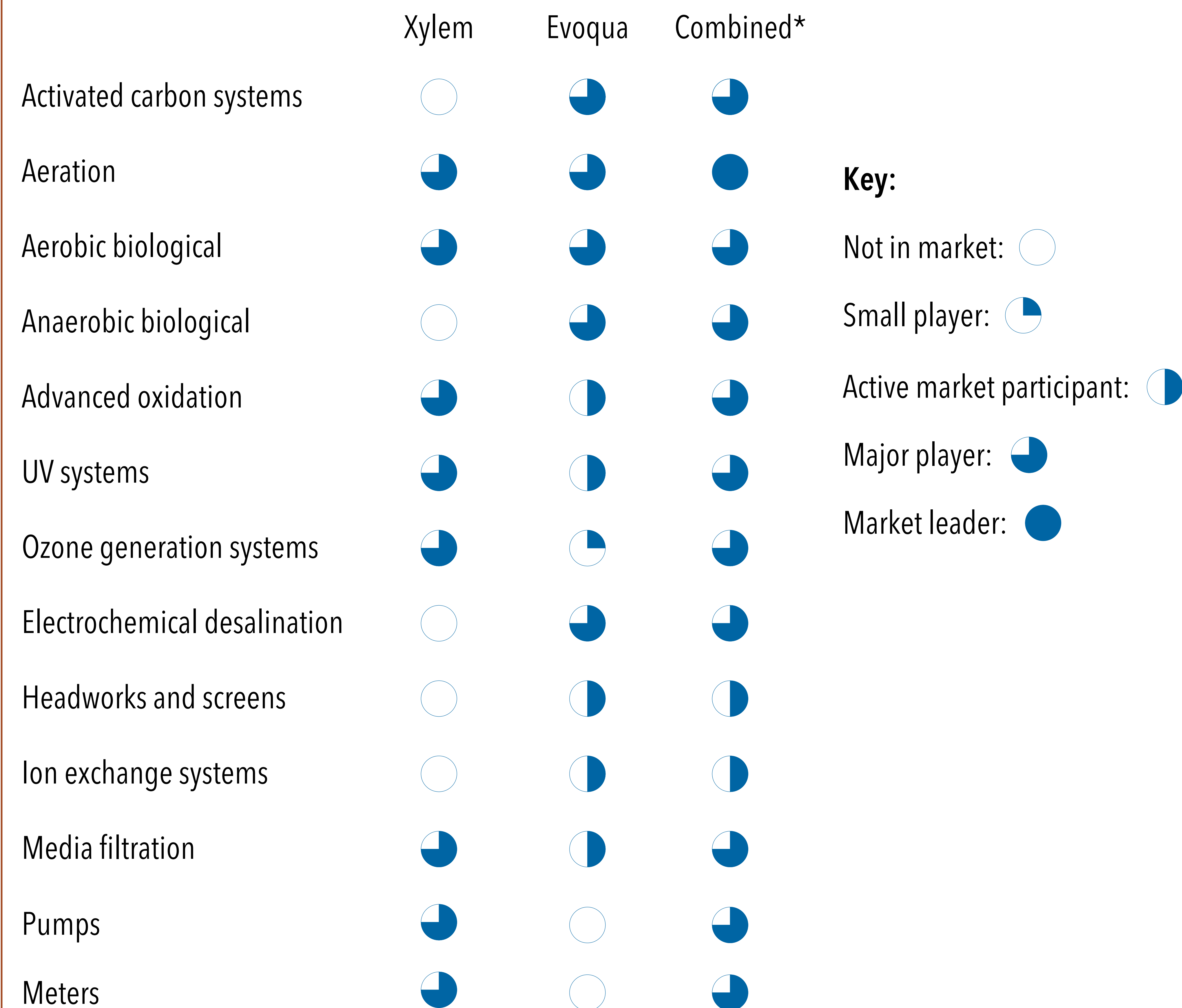
Although Evoqua has made Water One the centrepiece of its digital strategy, it has not built connectivity into its product suite to nearly the same extent as Xylem has done through its Xylem Vue offering. “Evoqua has a products business that they are looking to digitise, and those are capabilities that Xylem can help bring to the table,” observed Cho. “Their services offering integrates very nicely with many of our connected solutions, and the opportunity is there for an even broader integration of the digital fabric to help customers create more visibility and control over the efficiency and risk in their operations.”

**The combined company believes it can achieve \$140 million of run-rate cost synergies within three years of the deal closing. These cover traditional support and procurement functions, as well as increased utilisation of manufacturing facilities, vertical integration (Evoqua is already a significant buyer of Xylem pumps for use in its treatment applications), and optimisation of office space.**

Revenue synergies will take longer to play out, but there is, for example, clear potential to accelerate the sales of Evoqua’s PFAS treatment solutions through Xylem’s municipal channel in North America. “When you co-locate people and they learn more about what each other does, they can make customers aware of what the combined entity can do,” Cho concluded. “This is a very propitious moment to create a transformative platform for solving water issues.”

## WHERE DO XYLEM AND EVOQUA PLAY IN WATER TECH?

The combined company is well positioned in a number of key technology verticals. The carbon reactivation business will be sold off, but the structure of the merger leaves plenty of optionality to expand the portfolio.



\* GWI estimate based on provisional scope of combined entity

Source: GWI

## WATER: PRICING IS THE KEY TO EQUITABLE ACCESS<sup>4</sup>

Heavy manufacturing and agricultural users should pay more per unit to nudge them to reduce their own consumption.

**Despite a wet winter, water shortages are set to persist in the south-west of the US. States such as Arizona and California have an opportunity to show how to allocate access to water equitably. At present, their squabbling highlights self-interest and wastefulness partly responsible for the problem.**

Water is the most vital of natural assets. Supplies are under growing pressure because of climate change, population growth and unchecked consumption. Nearly one-fifth of humanity lives in stressed river basins. These include some 40mn people across seven US states and Mexico who rely on the 1,450-mile-long Colorado River.

Demand vastly outpaces supply. Lake Powell and Lake Mead, the largest reservoirs in the US, are just 23 and 29 per cent full respectively. Negotiations between states on consumption cuts are at a stalemate. Incredibly, households in Phoenix pay less for water than those in rain-soaked cities like Seattle. The typical charge was \$12.22 a month for water in 2018, compared to \$59.30 in Seattle, according to Circle of Blue, a charity.

Differential pricing of water per gallon would make a lot of sense. Basic household supplies would be cheap to reduce regressive impacts. Cost would rise above a fixed threshold to encourage conservation. The average American uses 156 gallons of water per day. That is more than twice

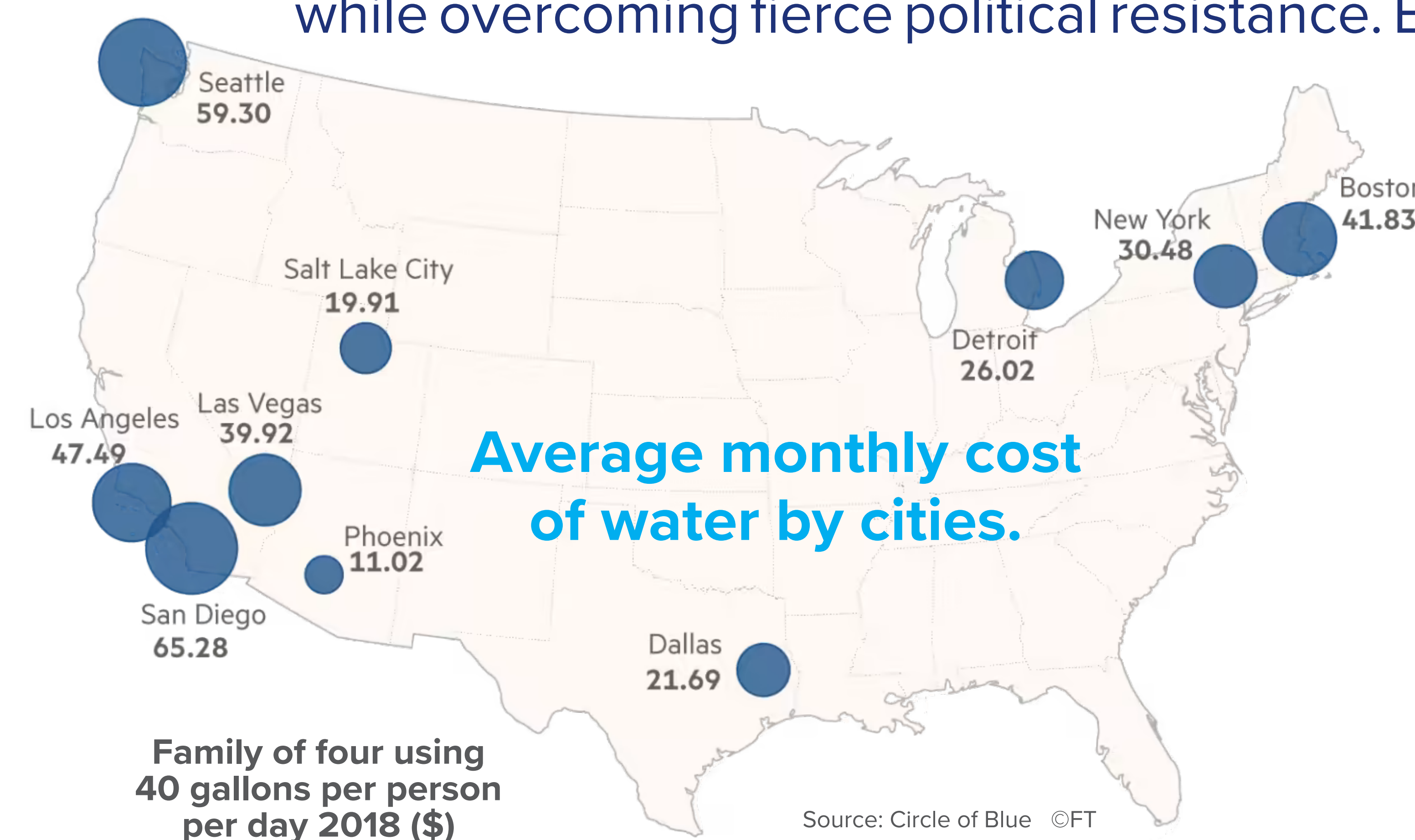
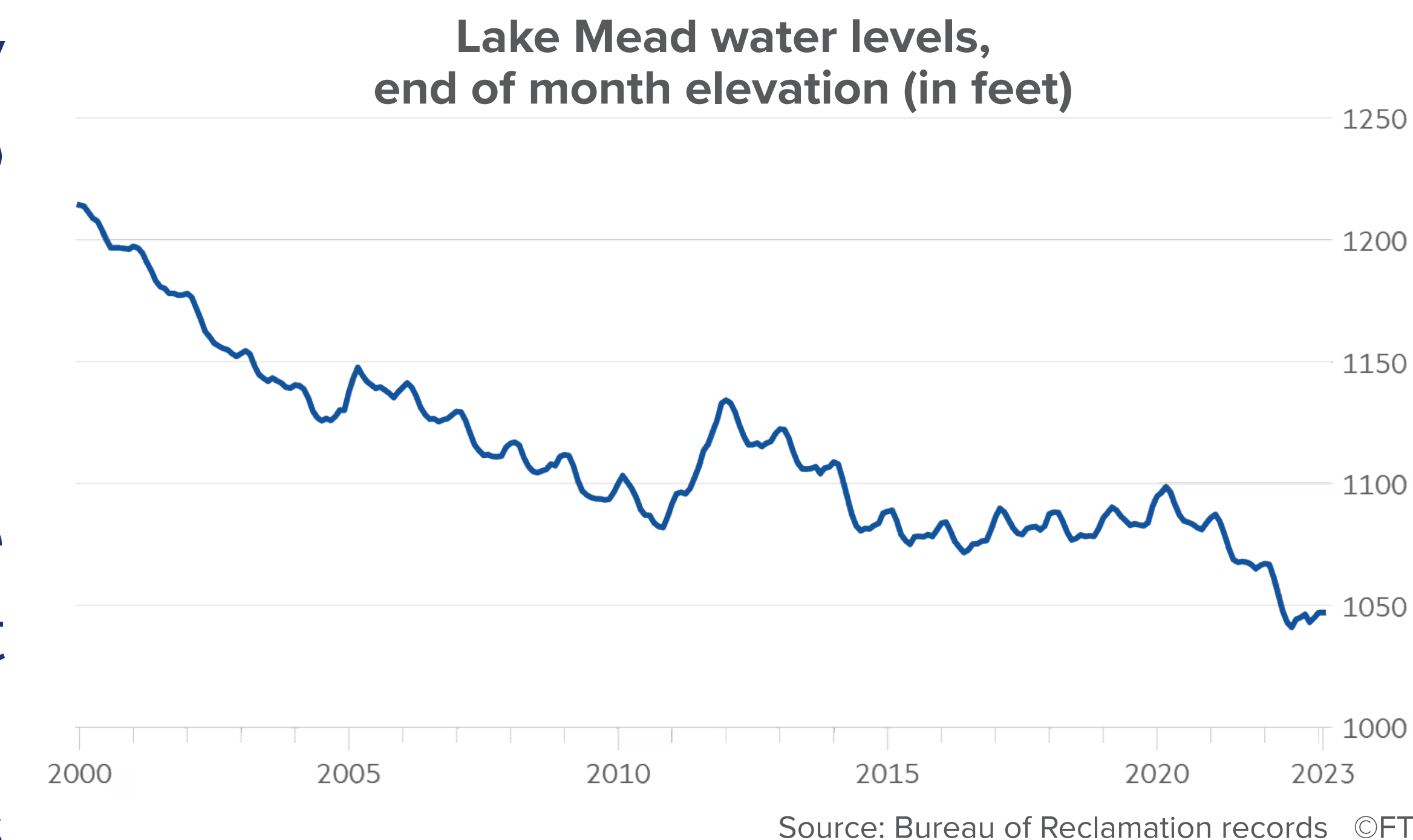
the average in France. Heavy manufacturing, leisure industries and agricultural users should pay more per unit, nudging them to reduce their own consumption.

In Arizona, agriculture generated less than 2 per cent of the state's gross domestic product of \$420bn in 2021. Yet farming consumes about three-quarters of the water in the state. Low-cost water have even attracted the likes of Saudi food giant Almarai. Its subsidiary Fondomonte has been buying and leasing land across western Arizona. Lax groundwater laws allows it to pump unlimited water to grow alfalfa, which it exports to feed cows 8,000 miles away back home.

Anomalies like this show that the US's legacy system of water allocation is failing. Creating a fair water pricing scheme for a whole river basin would be tough. Reformers would need to create monitoring and trading systems while overcoming fierce political resistance. But in a world where water

scarcity is growing, this would be a better way of allocating the resource than a free-for-all.

### Drying out: American's largest reservoir drops to new lows.



## THE GAP TO REACH SDG TARGETS<sup>5</sup>

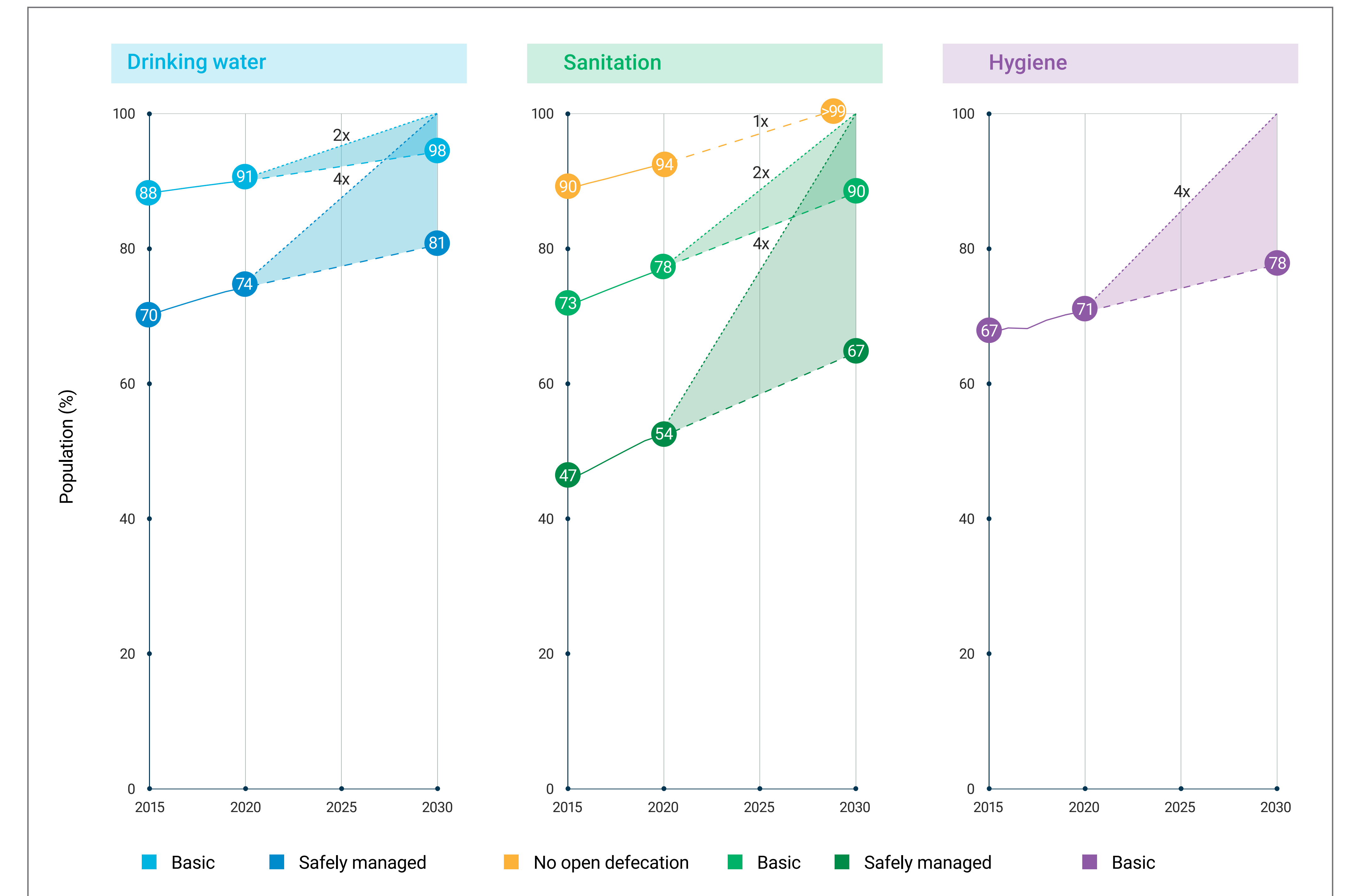
This chart is taken from the latest edition of the UN World Water Development Report Partnerships and cooperation for water, published on World Water Day (22 March), ahead of the 2023 UN Water Conference. The below analysis is taken from the March GWI.

**The report warns that globally, 2 billion people (26% of the population) do not have safe drinking water, while 3.6 billion (46%) lack access to safely managed sanitation, a situation that is set to worsen if cooperation is not improved in the immediate future.**

The challenge is particularly pressing in urban areas. The chart shows global coverage of water, sanitation and hygiene (WASH) services between 2015 and 2020 as a percentage, and the acceleration required to meet targets by 2030. While progress towards all of the elements of Sustainable Development Goal 6 (Ensuring availability and sustainable management of water and sanitation for all) is projected to be marked over the five years to 2025, only the target to eliminate open defecation is increasing at a pace that would see it hit the 100% target by 2030 – all the others are set to miss, with growth too slow by a factor of 2x to 4x.

The report calls for greater cooperation and data-sharing among the different groups responsible for delivering water and wastewater services, by taking a ground-up approach that includes local communities, women, and indigenous groups, in order to accelerate the growth of coverage so that the 2030 goals can be met.

## Global coverage of water, sanitation and hygiene (WASH) services, 2015-2020 (%), and acceleration required to meet targets by 2030.



Source: WHO/UNICEF (2021, fig. 1, p. 7).



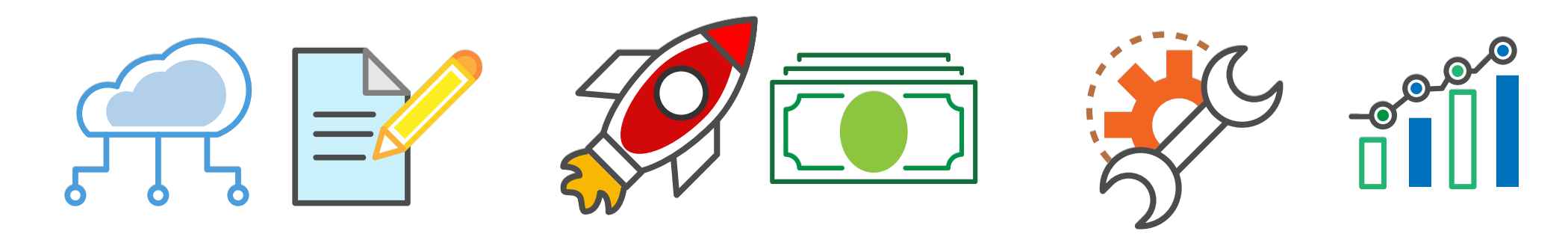
# WASTE WATER | MT. HOLLY, NEW JERSEY



A **New Jersey-based Wastewater Treatment Facility (WWTF)** where funds were partially 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. It also helped in 2010 to improve the infrastructure in an area that was hard hit during the financial crises.

The site continues to operate and provide energy with the usual stronger summer months. Pricing appears to be stable.

- Monitor PPA component
- Monitor SREC eligibility and prices on the market (1 SREC for every 1000kW-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



- ✓ Accounts in balance
- ✓ SREC prices stable
- ✓ Incoming receivables within range of model
- ✓ Costs within range of model
- ✓ Meets target return of 7-9%

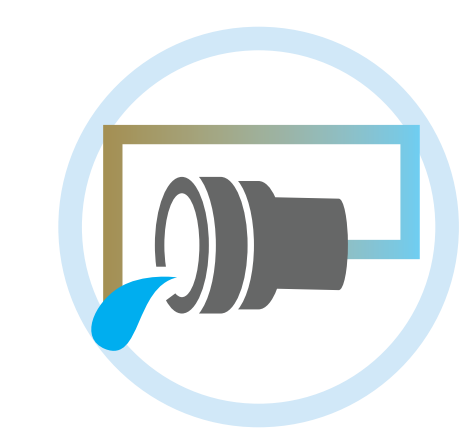
UN SDG	ICMA CRITERIA	ESG POLICY SOLUTION
<p>6 CLEAN WATER AND SANITATION</p> <p>7 AFFORDABLE AND CLEAN ENERGY</p>	<p><b>Renewable energy</b></p> <ul style="list-style-type: none"> <li>• Climate change mitigation</li> <li>• Natural resource conservation</li> <li>• Pollution prevention and control</li> </ul> <p><b>Climate change adaptation</b></p>	<p><b>Clean energy creation</b> – solar panels provide clean renewable energy</p> <p><b>Pollution reduction</b> – the Waste Water Treatment Facility (WWTF) utilizes the solar panels energy via a power purchase agreement. This reduces the heavy amount of energy required by the WWTF which would otherwise be coming from non-renewable sources of energy</p> <p><b>Energy efficiency</b> – the proximity of the site to the waste water facility offers a high energy efficiency</p>
<p><b>ESG RISK MITIGATION</b></p>		<p>• Renewable Energy consumption • Water Consumption</p>





- ✓ Accounts in balance
- ✓ Project updates
- ✓ Incoming receivables within range of model
- ✓ Meets target return of 7-9%
- ✓ Interest payments made on time

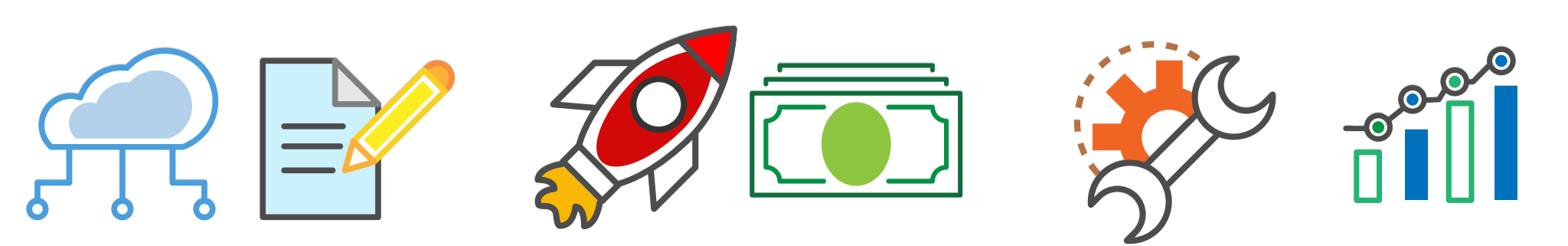
# SUSTAINABLE SEWERAGE | ONTARIO



The Canadian wastewater market is highly fragmented. The market requires small impact installations, rather than traditional centralised large waste water treatment plants. Our existing 300 projects are government linked and only fully licensed projects with no planning risks are being considered. Signina focuses on business consolidation of mid-sized businesses, operating in project sizes of \$5-50m. The small to mid-range business growth is supported by shifting demographic developments into smaller, satellite communities, as well as a stable favourable regulatory environment.

With wastewater rates rising steadily, the risk-reward associated with Signina's consolidation strategy is readily apparent and has picked up pace since its start in 2008. With larger institutional mandates we have triggered more deals diversifying from the existing projects. Sustainable sewerage has become a major concern over the past couple of decades. The majority of the contracts are in municipalities that are rated A or higher by rating agencies. In addition there are various municipalities that do not carry any debt.

The operations are as expected. Some of the new potential contracts have come to fruition or making significant progress in the past quarter. There also remains a pipeline of new business and contracts which are being assessed.



UN SDG	ICMA CRITERIA	ESG POLICY SOLUTION
<p><b>6</b> CLEAN WATER AND SANITATION</p>	<p><b>Sustainable water and wastewater management:</b></p> <ul style="list-style-type: none"> <li>• Pollution prevention and control</li> <li>• Natural resource conservation</li> <li>• Climate change adaption</li> </ul>	<p><b>Sustainability</b> - providing finance and assistance in creating and maintaining infrastructure for wastewater treatment and clean water</p>
<p><b>9</b> INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>	<p><b>Eco-efficient and/or circular economy adapted products, production technologies and processes</b></p> <ul style="list-style-type: none"> <li>• Climate change mitigation</li> <li>• Natural resource conservation</li> </ul>	<p><b>Pollution prevention</b> - by creating sustainable sewerage infrastructure the need for septic tanks and landfill sites are heavily reduced. The waste water treatment assists an ongoing global problem with handling waste and impurities</p>
<p><b>11</b> SUSTAINABLE CITIES AND COMMUNITIES</p>		
<p><b>ESG RISK MITIGATION</b></p>		<p>• Water Re-use • Water Pollution</p>



# INDUSTRIAL RE-USE | BLUE PLANET, CALIFORNIA

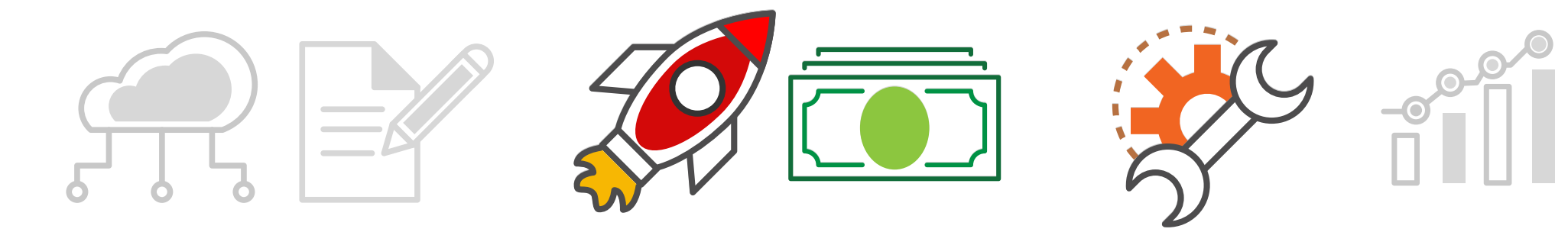


The project is a **carbon capture and mineralization project based in Pittsburg, CA**. It captures both wastewater and CO<sub>2</sub> emitted from a gas-fired power plant and combine these with locally sourced demolished/returned concrete as a process input material to produce several different “CO<sub>2</sub> 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.

The project and technology company continues operate as expected and has gained momentum from some large industrial firms.

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



UN SDG	ICMA CRITERIA	ESG POLICY SOLUTION
<p><b>9</b> INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>	<p><b>Climate change adaptation</b> <b>Green Buildings</b></p> <ul style="list-style-type: none"> <li>• Climate change mitigation</li> <li>• Natural resource conservation</li> <li>• Pollution prevention and control</li> </ul>	<p><b>Reuse of wastewater</b> – the water will be obtained from either the local power plant or from the sanitation district. This results in recycling the wastewater</p>
<p><b>11</b> SUSTAINABLE CITIES AND COMMUNITIES</p>	<p><b>Eco-efficient and/or circular economy adapted products, production technologies and processes</b></p> <ul style="list-style-type: none"> <li>• Climate change mitigation</li> <li>• Natural resource conservation</li> </ul>	<p><b>Recycling products</b> – the process also uses locally sourced demolished concrete as a process input to create aggregate products for use in the Bay Area</p>
<p><b>13</b> CLIMATE ACTION</p>		<p><b>Sustainable buildings</b> – the aggregates created in the process are from renewable and green sources. This in turn does not impact the environment negatively and meets the goal of sustainable cities and communities</p>

**ESG RISK MITIGATION** | • Water Re-use • CO<sub>2</sub> Emissions Neutrality • Pollution

- ✓ Accounts in balance
- ✓ Permitting process on schedule
- ✓ Timeline on Track
- ✓ In line to meet target return of 7-9%



- ✓ Accounts in balance
- ✓ Regulatory requirements kept to date
- ✓ Costs within range of model
- ✓ Timeline on Track

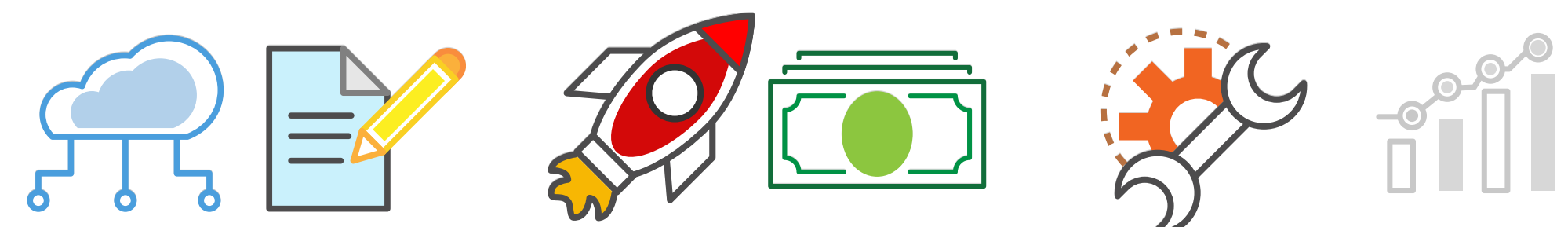
# HYDROPOWER | MARSEILLES, ILLINOIS





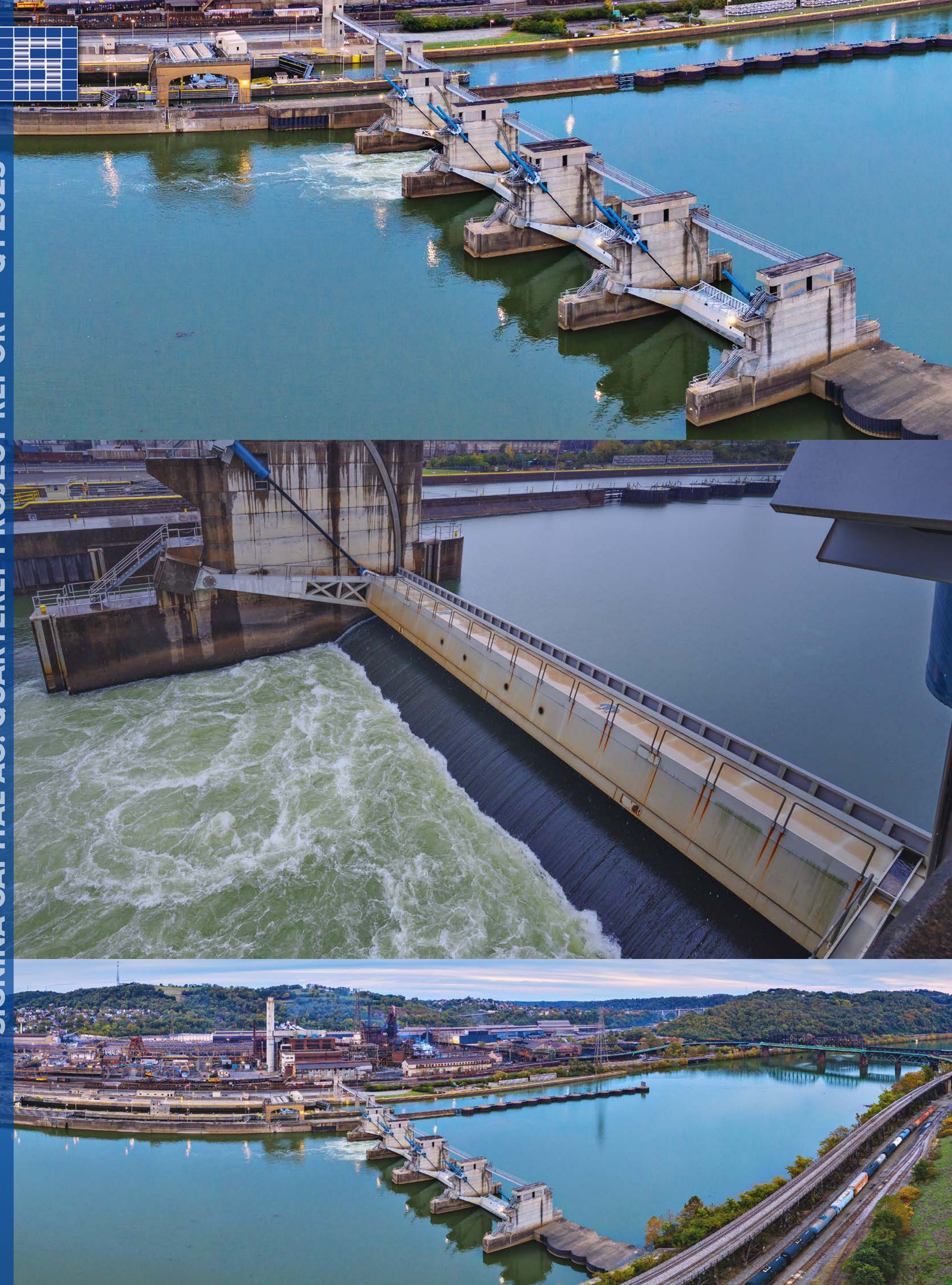
**Hydropower, Illinois:** A lock and dam hydroelectric water power project located on the Illinois River. The site has obtained a FERC License (expires 2061) with a 10.26MW capacity. Once the site is connected and producing energy it will provide power to the local municipalities and income will be generated by the power purchase agreement in place. The project is considered a small- or mid-sized project and has reduced the environmental impact dramatically. It entails a variety of environmental rules from the EPA that have been fulfilled with the FERC licence. The mandate looks at small hydropower facilities (below 25 MW) as such sites have minimal impacts on the surrounding area unlike large hydropower facilities which often have negative impacts on the surrounding environment.

The project continues to move slowly both on from a construction aspect as well as any PPA finalisation. Hydropower continues to be a hot topic in the clean energy movement and will likely pick up momentum now the world is reopening. There continues to be some volatility in the pricing too which is being monitored closely.

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



UN SDG	ICMA CRITERIA	ESG POLICY SOLUTION
<p><b>7 AFFORDABLE AND CLEAN ENERGY</b></p> 	<p><b>Renewable energy</b></p> <ul style="list-style-type: none"> <li>• Climate change mitigation</li> <li>• Natural resource conservation</li> <li>• Pollution prevention and control</li> </ul>	<p><b>Renewable energy creation</b> - hydropower is a clean renewable source of energy which can be sold via a PPA agreement or via merchant wholesale pricing on hydropower exchanges</p>
<p><b>14 LIFE BELOW WATER</b></p> 	<p><b>Energy efficiency</b></p> <ul style="list-style-type: none"> <li>• Climate change mitigation</li> <li>• Pollution prevention and control</li> </ul> <p><b>Environmentally sustainable management of living natural resources and land use</b></p> <ul style="list-style-type: none"> <li>• Natural resource conservation</li> <li>• Biodiversity</li> <li>• Climate change adaptation</li> </ul>	<p><b>Environmental management</b> – the small hydropower market goes through a rigorous environmental approval process to make sure there is minimal impact to the surrounding region</p> <p><b>Biodiversity conservation</b> – the environmental approvals for such projects include aquatic preservation to ensure the natural environment is not negatively impacted</p>
<p><b>ESG RISK MITIGATION</b>   • Project Size under 25mw • Renewable Energy Production</p>		



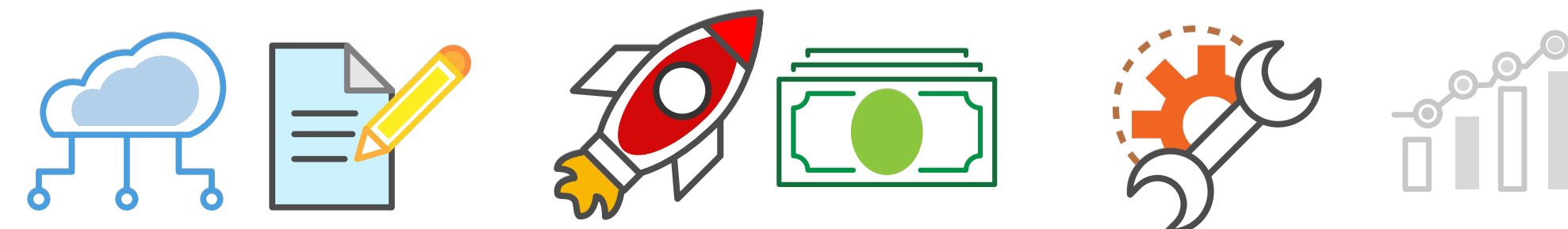
# HYDROPOWER | BRADDOCK, PENNSYLVANIA



**Hydropower, Pennsylvania:** A Lock and Dam Hydroelectric Water Power Project located on the Monongahela River, Pittsburgh. The site has obtained a FERC license (expires 1965) with a 5.25MW capacity. It is a similar project to Illinois and is in an advanced stage in the PPA negotiations to lock in a price for the first few years post commissioning. Furthermore the project has received state grants.

The project is getting through its final approvals in order to construct the Hydropower plant. Alongside this step there continue to be discussions with some local groups to regarding PPA offtakes for when the site should be operational.

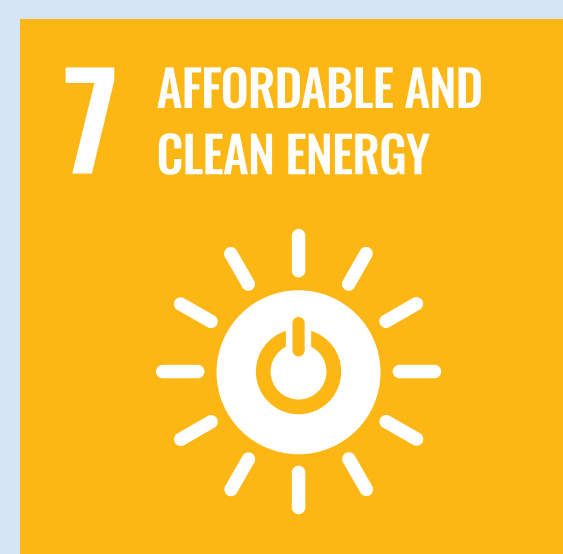
- Maintain monthly communication with onsite project manager
- Document any changes to the investment expectations
- Monitor the financial reporting, cash flows and accounts



## UN SDG

## ICMA CRITERIA

## ESG POLICY SOLUTION



### Renewable energy

- Climate change mitigation
- Natural resource conservation
- Pollution prevention and control

### Energy efficiency

- Climate change mitigation
- Pollution prevention and control

### Environmentally sustainable management of living natural resources and land use

- Natural resource conservation
- Biodiversity
- Climate change adaptation

**Renewable energy creation** - hydropower is a clean renewable source of energy which can be sold via a PPA agreement or via merchant wholesale pricing on hydropower exchanges

**Environmental management** – the small hydropower market goes through a rigorous environmental approval process to make sure there is minimal impact to the surrounding region

**Biodiversity conservation** – the environmental approvals for such projects include aquatic preservation to ensure the natural environment is not negatively impacted

## ESG RISK MITIGATION

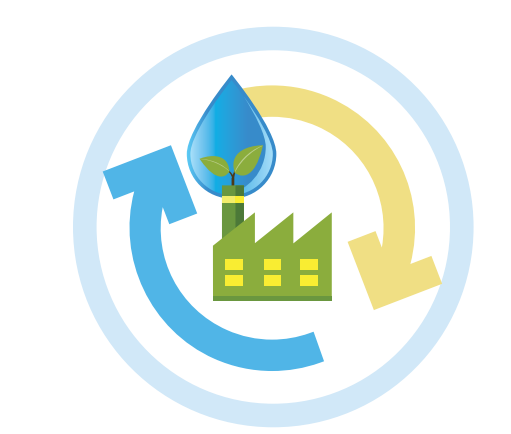
- Project Size under 25mw
- Renewable Energy Production

- ✓ Accounts in balance
- ✓ Regulatory requirements kept to date
- ✓ Costs within range of model
- ✓ Timeline on Track



- ✓ Off-take agreement signed
- ✓ All licenses acquired
- ✓ All EPC contracts and bonding signed
- ✓ Costs within range of model
- ✓ Timeline on Track

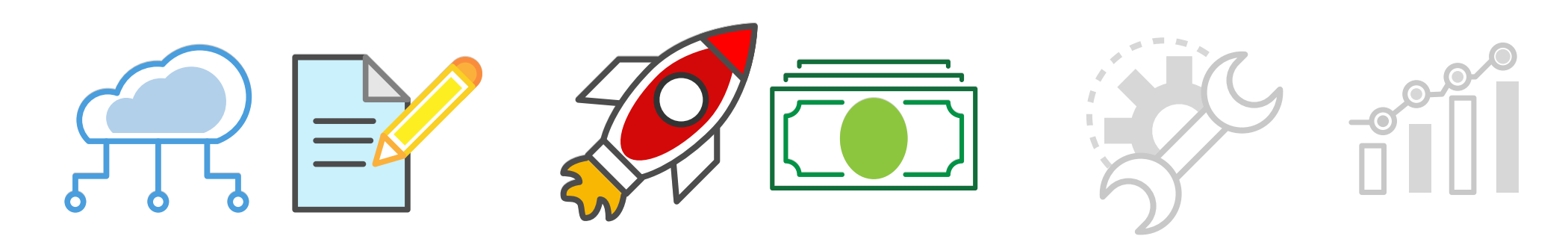
# GREENHOUSES | VIRGINIA, USA



A lot of the groceries produced in the USA are transported across the country and come from regions with little water (such as leafy greens which are still 99% field grown in the US). This created high costs and carbon footprint along with a lack of consistency for fresh produce. The greenhouses today can control the environment to produce fresher quality produce, utilizing less water, is local and sustainable.

There is continued growth of advanced greenhouse market (482 acres built or in construction in U.S. since 2018). There has been significant disruption in leafy greens caused by food safety (recalls), changing climate, and labour availability. There is an expected acceleration in food service driven by demand for food safety, resiliency, and quality representing a strong growth sector. The target crop segments benefit from demand for sustainably grown, local food, enhanced convenience and taste, and improved food safety.

The major food chains need reliable produce which is hard with purely field grown facilities. Therefore similar to other areas in infrastructure the various food service, retail and integrated growers are happy to sign off-take agreements to guarantee a reliable product. Such greenhouses are plentiful in Europe reducing the technology risk to being tried and test.



UN SDG	ICMA CRITERIA	ESG POLICY SOLUTION
<p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>	<p><b>Energy efficiency</b></p> <ul style="list-style-type: none"> <li>• Climate change mitigation</li> <li>• Pollution prevention and control</li> </ul>	<p><b>Food Security</b> – The sites create standardized produce. The classic agriculture method leaves a lot of the quality down to the elements. This could lead to bad harvests. The Greenhouses secure the output quality and quantity.</p> <p><b>Environmental Management</b> – The greenhouses reduce the amount of water required in order to grow the fresh produce. As it is under strict conditions the process can be optimized. Furthermore the sites are local rather than cross country.</p>
<p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>	<p><b>Environmentally sustainable management of living natural resources and land use</b></p> <ul style="list-style-type: none"> <li>• Natural resource conservation</li> </ul>	
<p>15 LIFE ON LAND</p>	<p><b>Eco-efficient and/or circular economy adapted products, production technologies and processes</b></p>	
<p><b>ESG RISK MITIGATION</b></p>		<p>• Water Consumption • Pollution • Water Re-Use</p>

## LATEST DEVELOPMENTS

The main areas from last quarter remain at various stages of progress. Furthermore there are a couple of other highlights:

**1 Carbon linked projects** – Blue Planet continues to operate as expected. The SFBA site is producing aggregates as expected. The team aims to start producing on a more industrial scale and are seeking to finance growth.

**2 Agricultural Greenhouses** – The opportunity has completed due diligence and planning permissions. The site in Virginia received endorsement from the Governor of Virginia. We will have further updates in Q3 regarding progress and timelines.

<https://www.governor.virginia.gov/newsroom/news-releases/2023/march/name-998794-en.html>

**3 Waste water in Canada** – continues to be a growth opportunity with significant time spent in the area. The regulatory framework implies that many development owners and sites need compliant oversight. This creates the opportunity to consolidate the market with ownership projects. There aims to be significant progress in the coming months.

**4 Hydropower** – as mentioned earlier, the opportunity remains strong. The timeline continues to be unclear but there should be some headway in the next couple of quarters.

# REFERENCES

**1. UN 2023 Water Conference, New York – March 2023**

<https://sdgs.un.org/conferences/water2023>

**2. Historic UN conference marks watershed moment to tackle global water crisis and ensure water-secure future.**

<https://www.un.org/sustainabledevelopment/blog/2023/03/press-release-historic-un-conference-marks-watershed-moment-to-tackle-global-water-crisis-and-ensure-water-secure-future/>

**3. Xylem makes \$7.5bn bet on global industrial growth.**

[GWI Report February 2023](#)

**4. Water: pricing is the key to equitable access**

<https://www-ft-com.ezp.lib.cam.ac.uk/content/3d07f27d-5f25-4fb4-b124-bfac03cc3772>

**5. The United Nations World Water Development Report 2023: partnerships and cooperation for waters.**

<https://unesdoc.unesco.org/ark:/48223/pf0000384655>

# LEGEND

**INDUSTRY**



**Waste Water symbol:** refers to projects in the US and in Canada and includes water treatment, water discharge and waste water treatment.



**Re-cycle symbol:** refers to industrially used water that is recycled or re-used and cleaned for our projects.

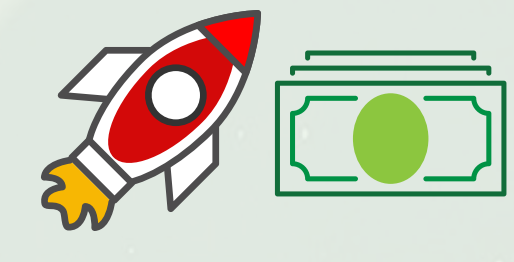


**Hydro symbol:** refers to any project that generates energy out of flowing water.

**PROGRESS**



**Cloud / Contract:** the planning stages and contracts are drawn up and we have fully due diligenced all security matching our criteria.



**Rocket / Money:** execution of all major contracts, licences and financing has been agreed upon.



**Cog Wrench:** Construction is in progress.



**Bar Chart:** project is producing cash flows or fully financed and up and running.

**COLOUR**



**Brown-yellow:** contains current or past brownfield status combined with extensions or upgrades.



**Brown:** brownfield projects mid-stage projects that we entered relatively early with a limited or de-risked construction period.

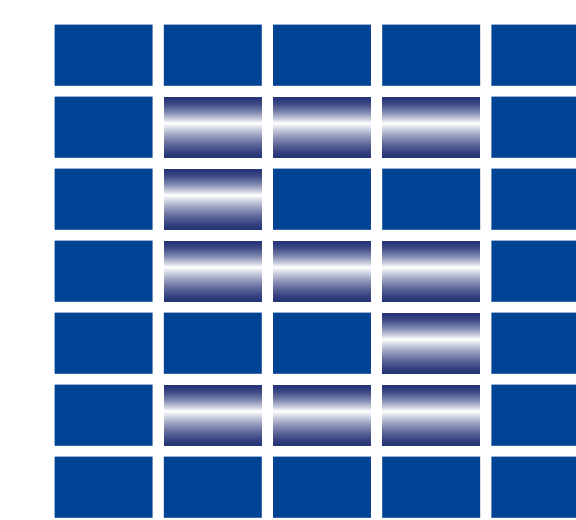
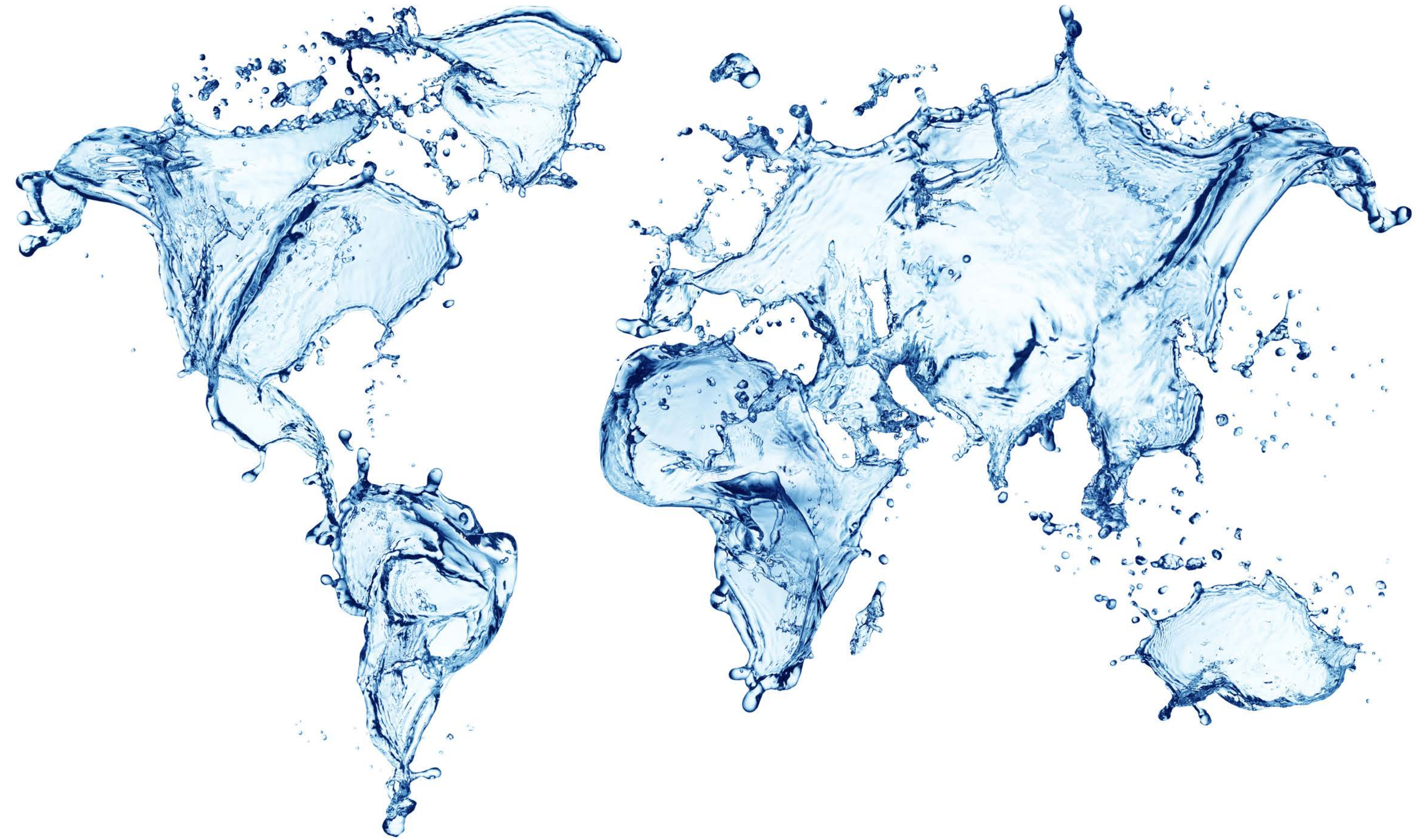


**Green:** greenfield projects mean that we are an active part since the very beginning of the projects. This is unusual for us and only applies to a fully de-risked contractual situation.

# SIGNINA CAPITAL AG

Zurich-based Signina Capital AG was established in 2006. Signina is a full spectrum advisory firm in the water infrastructure sector. The team has more than 100 years of combined industry experience. They have placed in excess of USD 1 billion of capital with the private and public sector into environmentally and commercially strategic water infrastructure assets. It is currently overseeing more than USD 750 million of active water infrastructure assets.

Disclaimer: Signina Capital AG is an advisory firm for water infrastructure facilities. This publication is solely intended for institutions and qualified investors and does not constitute research. This document has been prepared for information purposes only and does not represent an offer to buy or sell products or investments. This document is neither a simplified prospectus in accordance with Section 5 of the Swiss Collective Investment Schemes Act (CISA) nor the product of a financial analysis. Neither Signina Capital AG nor any of its group companies can guarantee that this document is reliable or complete or accept any liability for losses or tax consequences resulting from its use. This document and its content are the property of Signina Capital AG and may not be reproduced or distributed, either in whole or in part, without written permission.



**SIGNINA CAPITAL AG**

Signina Capital AG | In Gassen 6 | CH-8001 Zurich | +41 (0) 44 205 99 33 | [info@signinacapital.com](mailto:info@signinacapital.com) | [www.SigninaCapital.com](http://www.SigninaCapital.com)