

# amane currents

Designing the future of water



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**A look back, a look ahead**

**Stormwater: an untapped market**

**Opportunities Abound in APAC Res&Com Market**

**Talking Under Water with Amane Advisors**



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# WELCOME TO amane currents



Welcome to the Winter 2021 Issue of *amane currents*, a special edition in which each of our Amane partners looks back on 2020 and offers some thoughts on what 2021 might hold in store, globally and in regions.

The COVID-19 pandemic has been unprecedented in many ways: its scope, its effect on our lives, livelihoods and its economic impact. It has changed the way we work and how we interact with people both within our “bubbles” and in the broader community. Cherished traditions have had to be re-engineered. We have learned to embrace masks as our newest must-have accessory. We have learned to love (or at least accept) Zoom and other virtual meeting platforms. Truly, COVID has impacted every aspect of our lives. Yet, as the saying goes, in every cloud there is a silver lining.

This pandemic has taught us to value those working to help others, doctors, nurses, operators and engineers on the front-line. That is one of the reasons that Amane elected this year to make a substantial contribution to [Doctors Without Borders/Médecins Sans Frontières](#) (MSF) in place of our traditional client gifts.

It has also demonstrated, in extreme conditions, the resiliency of Amane Advisors. We have proudly grown our practice in all aspects: financially, our consulting and transaction activities have grown against 2019. We have strengthened our team with new recruits, expanded our offering to supporting impact investors, working with Development Funds in emerging economies, and co-developing innovative financing solutions with operators. Our team continues to grow, with several new faces among our ranks including our newest partner Mathieu de Kervennoael, who works from our Paris office, and our Finance Director Malcolm Higham, who is based in the UK.

COVID has unleashed our creativity as never before, showed us we can be more agile than we previously imagined, demonstrated how true partnerships with our clients delivers value for both parties even in the toughest times, and foremost, that our great team, displaying solidarity, abnegation and strong values, can overcome the toughest challenges. We have had higher growth years since the foundation of Amane Advisors in 2014, but 2020 is the one that we are the most proud of.

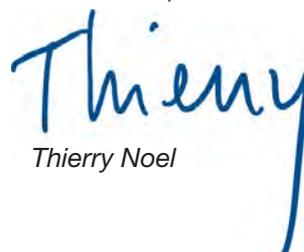
Our editorial line-up for this issue features insights into the trends that have led to growing interest in the stormwater market, with a focus on Europe. This article explores the market dynamics that are driving growth and also addresses the impact of the COVID-19 pandemic on this sector. Co-authored by Laura Chamberlain and Dorothée Chabredier, it also offers ideas about this market’s potential, using the examples of Germany, France and the UK, as the three largest European stormwater markets.

Victor Ollivier, who heads Amane’s Residential & Commercial practice, shares observations about the Residential & Commercial market sector in China, India and parts of the Asia-Pacific and Southeast Asia markets – areas where growth is expected to demonstrate strength. Also in this issue, Bill Malarkey, Partner for North America, explores trends in the North American market, including the increasing acceptance of digital water technologies, and the growing focus on affordability in an uncertain economy.

Amane also continues to expand its presence in media. We invite you to listen to the latest *Talking Under Water* podcast, featuring an interview with Dorothée Chabredier, Principal in our Paris office, who discusses the opportunities arising for our industry with increasing global interest in sustainable investing.

This issue is dedicated to each one of you, for your tireless work in an industry that is essential to every being and business on this planet. I hope you enjoy reading *amane currents* and that you continue your indispensable work in defining the future of water – and of our world.

All the best,

  
Thierry Noel





Amane Advisors' Partners share their observations about the challenges that 2020 presented and our learnings from that unprecedented experience, and their thoughts about what 2021 might bring.

Global Trends *Geoff Gage, Partner*

2020 proved to be more unpredictable and variable than any of us probably could have imagined even in the early days of the COVID crisis. Although water has proven to be more resilient than many other sectors, the relative steadiness of the municipal sector – which is a large majority overall – has dampened the substantial volatility we've seen in the industrial sector, and within specific sub-segments, applications and geographies.



While many major water companies have taken the opportunity to accelerate investment in digital solutions, others have taken the tough decision to cut management costs, while others (e.g. in France) have seen opportunities for mega takeovers.

One odd quirk I've heard from several clients is that their reduction in travel expenses has made a significant contribution to limiting the impact of COVID on margins, which goes to show how dependent we were on



international travel. I suspect the real test of remote working on business will be next year when we see to what extent it is possible to meet new clients, build relationships and close sales, all while not meeting in person.

As we ended 2020, we saw a high number of M&A transactions as companies come to market with strong and resilient results despite the COVID crisis. Some of these may be delayed transactions from the first half of the year. I'm also seeing much stronger interest from investors, both in terms of more being interested in water in general and also more being interested in each specific M&A opportunity, with those investors being keener to engage earlier and to get a head start on potential competitors by conducting early "pre-due diligence" ahead of any formal sale process.



It's always dangerous to make predictions; however, looking ahead to 2021, I'd expect to continue to see:

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- Continued acceleration of adoption of digital solutions, especially regarding remote monitoring and control solutions, and hence continued strong interest in digital from financial investors and larger strategics
- Greater adoption of real time water quality monitoring solutions specifically as the technology continues to evolve quickly, and as we learn the value of such monitoring (for example with COVID detection in sewage)
- Strong interest in M&A opportunities and likely higher multiples than the historic average as an abundance of capital chases high quality investment opportunities, and hence great opportunities for management teams looking for support for management buyouts
- Further growth in desalination as the cost reductions seen in the Middle East open up additional opportunities in other regions



Like the rest of the world, Southeast Asia had had to deal with many repercussions resulting from COVID-19. The immediate impacts included a financial hit to utilities, stemming from revenue losses and delay in collections, and a slowdown in government decision-making and disruption in construction / infrastructure projects due to lockdowns, travel bans and the inability to work with schedules.



These effects were particularly heavy in countries where government spending is still expected to fund the majority of water infrastructure (i.e., Malaysia, Vietnam, Indonesia) or where utilities are more reliant on government subsidies or vulnerable to the loss of tariffs from industrial and commercial customers, as well as from tourism. In addition, some countries faced disruptions in municipal supply due to lack of manpower needed to monitor high pollution wastewater discharge in water reservoirs.

**Government funding** was impacted in 2020 due to a slowdown as national budgets reeled from the pandemic's economic impacts. The good news is that sharp recovery is expected to take place during 2021, with considerable gains going forward from 2022.

Southeast Asia's developing nations still have some way to go in providing universal access to water and sanitation, with COVID-19 highlighting the need to extend services across the population, supporting demand for developing projects. However, governments pushed back spending on water infrastructure / O&M after reallocation of budgets to fund sizeable stimulus packages for healthcare and income support.

Nevertheless, some industrial sectors, especially pharmaceuticals and food & beverage, have proven to be resilient despite the impact of the pandemic. The food & beverage industry has been one of the biggest industrial spenders on water and wastewater treatment



We expect to see increased economic activities across Southeast Asia, led by Singapore and Vietnam.”



technologies, and the biggest spender on biological treatment by far. Pharmaceutical companies are seeing growth as the race for treatment approval for COVID-19 therapy is underway.

Private finance has been embraced to close existing infrastructure gaps in Vietnam, Indonesia and the Philippines. These countries have created Public-Private Partnership (PPP) frameworks that have seen varied success. Indonesia's PPP programme is beginning to bring more delayed projects to tender in 2021. In addition, Vietnam is waiting on a breakthrough for foreign investment in the country's attempt to privatise its water utilities and is expected to have the highest contribution from private finance (~40% of total private finance for SEA).

Overall, there is a stronger need for private sector participation in the water sector. The hit to public finance is one factor, while more developed countries like Thailand and Malaysia are planning to invest in infrastructure in order to prevent further drought crises or industrial water pollution in reservoirs.

We are also seeing a greater role for multilaterals financing to supplement government infrastructure budgets through the involvement of such organizations as the Asian Development Bank, ADB and JICA.

2020 taught us to adjust to working within a new reality – more efficiently, with great vigilance. One of the most important insights was the importance of having local partnerships to serve clients in the region and cultivate new relationships. This became especially apparent during a time when travel was not possible, and we worked diligently to create strong local teams to address our clients' needs.

The Southeast Asia market is large and in all, represents a strong economic force. In practice, it is diverse and complex – made up of different countries, with differences in languages, local issues, governmental support and execution of projects. I believe that our strategy of establishing strong local representation will continue to provide a great opportunity for all parties as we forge ahead.



As 2021 unfolds, we see that Vietnam and Singapore are successful in controlling COVID and are opening travel. With caution and vaccinations underway, we should see improvement in regional business travel. We expect to see increased economic activities across Southeast Asia, led by Singapore and Vietnam as businesses are much better organised to operate in 2021. We are confident that Singapore should continue launch programmes offering opportunities for providers of advanced technology solutions to drive further efficiencies in water consumption and support taking such solutions across the region.

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Another trend is accelerating digitalization to support investments and commercial activities for equipment vendors, EPC, solution providers, technology service providers to help increase utilities' efficiencies and reduce their non-revenue water (NRW). Levels of NRW in Southeast Asia are among the highest in the world; Indonesia and Vietnam have highest NRW levels with opportunities to provide technology via performance-based contracts.

In terms of other trends that we are seeing is increased investments in centralised water and wastewater treatment in industrial parks across Vietnam and Thailand.





We see three important trends emerging in importance in the MENA region as 2021 unfolds.

### Accelerated deployment of the local content's strategy in the region

The local content policy has been already a priority during the last five years in many countries in the region with the development of local content (governmental) agencies and with some targets integrated in the tendering processes with some requirements for PPP, EPC and O&M bids related to water facilities.

The COVID crisis has emphasized the dependency of the countries in the region and the necessity to accelerate the local content program in several key areas: the manufacturing of the key equipment (membranes, pumps, etc.), the manufacturing/blending of specialty chemicals, the increase of the native employees' wage rates, or the workshop facilities deployment with, for example, the construction of RO skids and membranes to sustain the large program of desalination.

This game-changing trend is impacting all the segments of the water market (municipal, industrial and Residential & Commercial). The global players in the region (developers, operators, equipment suppliers, chemicals suppliers, solutions providers and system integrators) will have to integrate the local content in their strategy if they want to maintain their market share in the region.



### Digital transformation with plants' automation and investments on the network driven by the non-revenue water burden

As a consequence of the previous topic, digital transformation will be also boosted by the research of cost savings at the level of the public utilities. After focusing on smart metering, utilities are now moving in the direction of implementing a NRW strategy with an objective to tackle the technical losses. The COVID crisis and the delay in large investments like desalination plants have convinced the utilities that one solution to contain the impact of the water demand's increase is also to reduce their technical losses.

Last but not least, the acceleration of digital solutions will be also the consequence of the PPP projects in the region with procurement rules driven mainly by a first technical evaluation, then a final decision based on the price. The competition for IWPs or ISTPs in the region has demonstrated that the private sector is capable of proposing some technical innovation and digital solutions that re-enforce the cost efficiency of the water services. This trend should continue in 2021 and beyond.



## Acceleration of large PPP programs in the most demanding countries

The large PPP projects in construction or in procurement were slowed down for a while, but they never stopped. With the improvement of the COVID situation in the GCC countries, the situation is now on track, and projects are now progressing well. North Africa is still impacted due to the COVID situation, which remains critical in countries like Egypt.

Nevertheless, we expect that 2021 is to have a strong acceleration of the private sector participation in the desalination and wastewater treatment programs. The capacities to be deployed are high and inversely proportional to the governmental capabilities to finance these infrastructures.

Egypt will be the next PPP market for desalination with a 10 million m<sup>3</sup>/day program by 2050. The country is facing a water demand increase driven mainly by the population growth and the Nile's constraints. Saudi Arabia, now the largest desalination market in the world, is maintaining the cap with the 9 million m<sup>3</sup>/day program of SWPC by 2025. In the GCC countries, we also expect a move to accelerate the replacement of the old MSF plants by more cost-efficient SWRO plants.

The PPP market in the MENA region for wastewater treatment plants will be mainly in Saudi Arabia with the deployment of the 11 million (m<sup>3</sup>/day) program of SWPC by 2030. This initiative of the Kingdom will be probably followed by other countries that need to tackle the low wastewater coverage and make massive investments in the sanitary sector.



Egypt will be the next PPP market for desalination with a 10 million m<sup>3</sup>/day program by 2050.”



While it's unlikely that 2020 is going to rank high on anyone's list of "Years I'll Remember Fondly", I think there were a number of positive developments for the water industry, some of which actually were spotlighted or accelerated by the pandemic.



We saw a number of changes in the sector being driven by COVID-19, especially in terms of the acceleration of adoption of new technologies and business models. I agree with David Henderson of XPV Water Partners that the industry is now undergoing an "instantaneous digital transformation" that will reshape the entire sector going forward, as many of these pandemic-driven changes turn out to be permanent.

We saw a quickening of the ongoing shift of many treatment and technology businesses to a more service-based business model, and away from one-off equipment or software sales. This development is resulting both in more predictable cash flows and a deepening of customer relationships for companies moving to this model – and should also result in demands from both customers and investors that their competitors follow suit.

The widespread revenue losses and reduced municipal tax collections resulting from the pandemic gave rise to expectations of tighter capex funding for water utilities, which in turn heightened the focus on smart asset management solutions. We saw particular interest in the monitoring of underground infrastructure, improved pressure and flow management, as well as asset management and analytics software that can turn data into a basis for more efficient and information-driven investment decisions. This is just one aspect of a more general move to greater automation driven by COVID.

Water scarcity and the need for increased investment in resilience continued to be major topics in the industry conversation, as part of a wider program of climate change mitigation measures. However, the disruptions to the global economy seen in 2020 greatly amplified the need to address each of these challenges in an affordable way. Technology has the potential to solve many problems that we are confronting in terms of both sustainability and affordability, so it is likely that the technological disruption of the water industry that is now underway will only accelerate in the near future.



Technology has the potential to solve many problems that we are confronting in terms of both sustainability and affordability.”

Finally, the water industry enjoyed a growing public profile throughout the course of the year, making it easier for people like “water industry strategy advisors” to explain to friends and neighbors what we do. I saw more front-section articles on water-related issues in the Wall Street Journal than I can ever remember seeing before. ESG-focused investors began to discover the unique impact that water sector water products and services have on the environment; The Veles California Water Index, which measures the volume-weighted average price of water in the California market, kicked off trading in early December to extensive media coverage. And an ongoing takeover battle between two industry giants allowed the rest of us to bask in the reflected glamor of a real live hostile takeover fight seldom seen in this business. So, despite the constant drumbeat of bad news that accompanied us through most of 2020, it actually proved to be a very positive and exciting time for the water industry.



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At a very general level, I expect that the water industry’s increasing openness to innovation will continue, and that advances in treatment, monitoring and data management will see growing momentum, including in areas like water reuse and addressing concerns around emerging contaminants.

In terms of technology, users will continue to push for advances in two key areas: interoperability of solutions and real time monitoring, especially for water quality. The Internet of Things (IoT) will continue to emerge as a driving force in the industry, especially in the area of water quality sensing.

It’s an evergreen topic, but there is no alternative to addressing aging water infrastructure. After years of rising rates, this need will increasingly have to be balanced against ensuring access and affordability for all customers. This will mean a real debate focusing on the point that modern, functioning water and sanitary systems are critical to both public health and economic growth, while taking care to provide a “lifeline” to poorer populations. Here again, technology can help drive efficiencies to ensure affordability and improved customer satisfaction.

China's water industry was affected in the first half of 2020 due to COVID-19, mainly due to the resulting postponement of new projects. In the second half of the year, COVID-19 in China was controlled well, and the Chinese government also invested a lot of money and undertook efforts to promote production. As a result, the water industry gradually recovered.



**Looking back on 2020, China mainly has the following aspects:**

A large number of state-owned enterprises entered China's water market: In 2020, mergers and acquisitions in China's water and environmental protection industry mergers were relatively active. A large number of state-owned enterprises entered the environmental protection market, through acquiring or investing in private enterprises, contracting or acquiring project assets, etc.

**Newly added a large number of listed companies:**

The registration system on the Sci-tech Innovation Board Listing and the Growth Enterprise Markets Board Listing in 2020 has given many Chinese companies the opportunity to go public. In 2020, there were no fewer than 10 new listed companies in the water industry, and there are more waiting on the list to undertake an IPO.

**Industry standards and the market development push technology development:**

For example, the improvement of industrial discharge standards, the development of hard-to-treat wastewater technologies, and the development of zero-discharge technologies, as well as the state's investment in improving the quality of the water supply and reclaimed water, have promoted China's membrane technology and market development.

**International capital and large companies paid more attention to the China market:**

As China has been relatively successful in controlling COVID-19, many international capital and large international companies continue to be optimistic about the Chinese market. In 2020, Amane Advisors did many consulting projects specifically targeting the Chinese market, including research on M&A targets, growth strategies and market opportunities.

**Chinese companies paid more attention to the development of the domestic market:**

Since the impact of COVID-19 has limited international travel, Chinese companies have been more focused on the development of the domestic market. Many international investments and business developments were suspended in 2020, but some leading companies prepared for the development of overseas markets, such as preparing to build factories overseas, in order to prepare for business developments after COVID-19.

**Amane China's new development of solid waste/hazardous waste M&A business:** In addition to the water industry business, Amane China expanded to the solid waste/hazardous waste industry in China in 2020. We found that the solid waste industry presented more M&A opportunities and needs than the water industry. We are currently working on projects that are helping our customers sell hazardous waste assets.

**More M&A opportunities in China:** With the strategic adjustments of state-owned enterprises, private enterprises, and market changes, there were more M&A needs. Amane China successfully helped a domestic listed company sell two water asset projects in 2020, and we are currently working on more than five M&A projects.

In 2021, we expect to see:

**Continuation of more M&A opportunities:** These include state-owned enterprises' acquisitions of private enterprises to enter the environmental protection market, acquisitions of local companies by international funds or enterprises in order to enter the Chinese market, and the entrance of strong Chinese enterprises into overseas markets via asset acquisitions in those markets.

**A clearer market function role between state-owned enterprises and private enterprises:** Large-scale state-owned enterprises will focus mainly on large-scale projects and operational services, such as PPP, city environmental whole services, etc. Chinese local private companies and international companies will pay more attention to technology and professional services, especially in terms of equipment and process technology packages.

**The development of industrial water assets and third-party operations market:** The first half of China's Water Game is in the municipal sector. Most of the large and good quality municipal assets have already been acquired by state-owned enterprises. The second half of the China Water Game is expected to develop the industry water market in 2021, especially in industrial parks and large industrial customers. Investment and financing will promote the rapid development of water assets and third-party professional operations services.

**The valuation of listed companies will be up from bottom level:** As the capital injection of state-owned enterprises, as well as the development of listing channels in 2020 and before, the market is optimistic about the water and environmental protection industry. The valuation of listed companies in the environmental protection industry is expected to increase in 2021 from the bottom level in 2020.

**More stable investment environment:** Although the water industry market in China's environmental

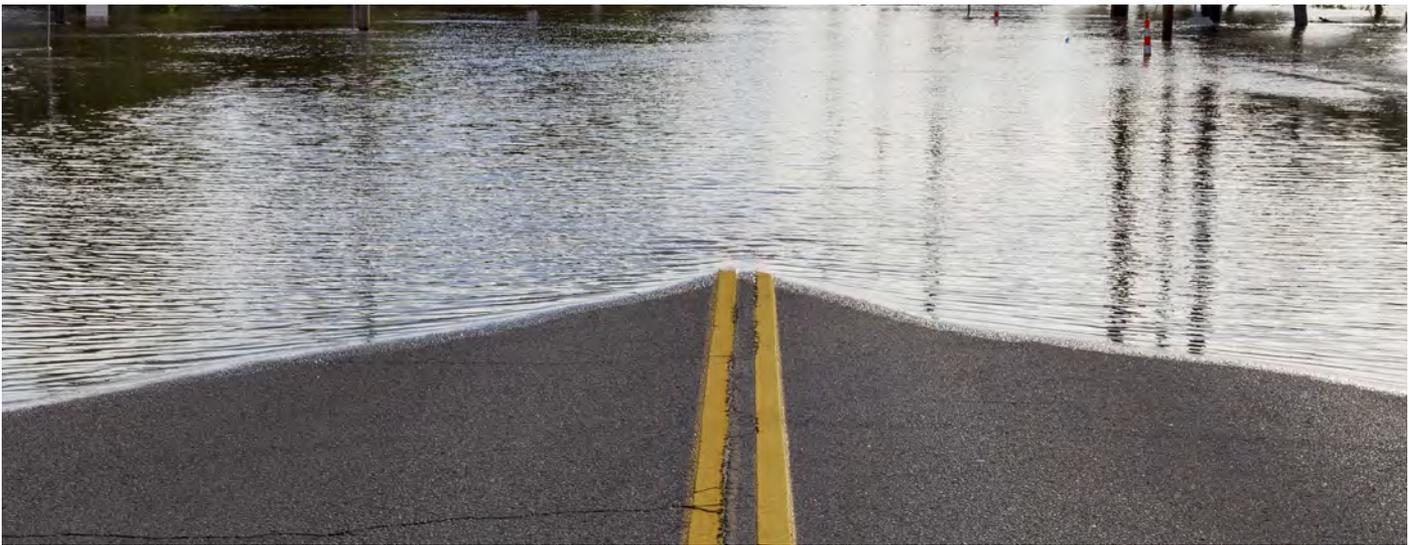
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protection market does not have as high a return rate as that of popular industries such as IT and health and medicine, with the Chinese government's investment and guarantee, the environmental protection and water industry are considered long-term stable investments. China has also introduced many protections and favorable policies for foreign investment, hoping to retain and attract foreign investment capital into the Chinese market. In 2021, we also believe that more foreign capital will enter the environmental protection industry.

**Opportunities for Chinese companies in overseas markets:** Affected by COVID-19 in 2020, international travel and cooperation will be restricted, but vaccines will be released in 2021. The hope is that COVID-19 can be controlled and there will be more opportunities for international cooperation. Chinese companies, especially in environmental protection and those companies with mature technologies or equipment, are hoping to develop overseas business and expand overseas markets. At the same time, some large Chinese companies also hope to do overseas M&A, and acquire some stable overseas assets or companies with stable cash flow.

**Challenges and changes in business development for international companies in the China market:** With the large number of state-owned enterprises in the market and the technology development of Chinese local companies, the traditional business of international companies in China is becoming increasingly challenging and cannot compete with local companies. It is expected that more international companies will make strategic adjustments, such as expanding or changing business models through funds and capital, to better integrate and cooperate with domestic local companies to adapt to the Chinese market and continue to maintain their competitiveness.





# STORMWATER: Seizing the potential of an untapped market

*Laura Chamberlain and Dorothée Chabredier*



Interest in stormwater – also known as stormwater runoff – is increasing around the world due to a number of decisive long-term trends. These trends include climate change and urbanization, which are linked to increasingly severe floods and prolonged droughts, and more stringent environmental regulatory compliance.

The International Institute for Sustainable Development notes that “stormwater runoff refers to water that is not absorbed by soil (because the surface is saturated or sealed), and flows on impermeable land cover, such as roads.” Traditionally underfinanced, the stormwater market, which provides stormwater technologies and solutions, or sustainable drainage systems (SuDS), suffers from a number of restraints. Commonly observed restraints include fragmented local regulations, lengthy product certifications, resistance to innovation, outsized focus on upfront capex rather than totex, etc., that the industry would need to overcome to realize the full potential of stormwater as an untapped water resource.

In this article, we explore and contrast the market dynamics, address the impact of the COVID-19 pandemic on the market, and offer ideas about how a player could leverage the market potential, as we apply the examples of Germany, France, and the UK, the three largest stormwater markets in Europe.

## Europe's stormwater market: dynamic despite COVID-19

The COVID-19 pandemic is expected to have limited impact on the stormwater market. The stormwater market remains dynamic in spite of the pandemic, and this trend is supported by other sectors. Specifically, the construction market, national infrastructure and spending plans, and increasing enforcement for EU regulatory compliance, particularly the Water Framework Directive and the Urban Wastewater Treatment Directive, have supported the stormwater market without taking into account the impact of the COVID-19 pandemic.

Upon the first wave of national lockdowns in Spring 2020, construction projects were paused and/or cancelled entirely consequentially with revenues contracting between an estimated 10% - 15% in France, for instance. Yet many stormwater equipment providers experienced record-breaking monthly sales as European countries reopened and construction projects resumed over the Summer.

Over the longer run, the construction market may well drive stormwater investment, likely to be further supported by national transport and economic recovery strategies from the COVID-19 pandemic:

- The UK's Spring Budget 2020 promises over £640 bn in housing development projects, transport, and climate change adaptation by 2025.
- Germany's 2030 Federal Transport Infrastructure Plan (Bundesverkehrswegeplan in German) invests €69.6 bn to fund road and public transportation infrastructure upgrades and expansions.
- France's 2030 Plan Relance will allocate over 100 bn of French government and EU funds to transform the transportation and building sectors.

The construction market, in other words, promises immense opportunity for implementing SuDS, especially among member states seeking solutions to meet or remain in compliance with EU water regulations.



## Overcoming challenges, breaking barriers to entry

In spite of the market's importance and continued growth, it faces certain challenges and barriers to entry. One of these is fragmentation due to the impact of local regulations and best practices, wide-ranging development types, and involvement in the decision-making process of various stakeholders, who often work in silos.

Stormwater regulation is diverse and can vary widely among different municipalities, which makes scaling up difficult for stormwater equipment providers. The greatest administrative power for stormwater rests at the municipal level. Local authorities are able to better tailor long-term land use planning to their local conditions while meeting compliance with high-level governmental regulations.

Urban planning and more progressive building regulations, zoning codes, local ordinances and best practices have increasingly encouraged, or in many cases, required property owners to install sustainable drainage systems onsite such as green roofs, subsurface infiltration pipe systems, and rain gardens. Moreover, many local authorities favor stormwater infiltration wherever local conditions make it possible as opposed to attenuation or direct discharge to nearby water bodies.

In addition, there are different water quality requirements for each development type from petrol stations to high traffic roads, commercial lots, urban pedestrian areas, and more. Sites in highly urbanized and industrial sites require targeted stormwater treatment solutions to mitigate runoff pollution – for instance, oil separators and filters. There is no one-size-fits-all approach to stormwater management at sites. However, the suite of SuDS offers variety to meet site-specific requirements and comply with local regulations.

The market is also quite fragmented among different players and thus, the respective responsibilities regarding stormwater management as well. Accountability is divided among the different stakeholders, and selling a solution requires intense lobbying. Both the public and private sectors are involved in the market – namely distributors, municipalities, water utilities, construction companies, engineers, landscape architects, and stormwater associations for research and knowledge sharing platforms. These players often require further collaboration and relationship-building, and in fact, the market as a whole can benefit from increased collaboration and engagement.

While traditional vehicles to facilitate relationship-building, such as attending trade shows and in-person Corporate Development Programs, are off the table for now, virtual events and other online platforms including social media offer opportunities for stormwater equipment providers to increase visibility, gain product recognition, and build references with key planning officers, local contractors, and representatives of stormwater associations.

Timing also matters. The largest window of opportunity to propose SuDS at a site is during the pre-construction planning and design phases. Specifically, SuDS apply best to drainage plans at new developments and road rehabilitations. Today inspection and maintenance costs are rarely taken into account during the planning phases of a site, which can create issues sometimes not identified until years after project completion.

In addition, the stormwater market is conservative. Municipalities, water utilities, designers, and engineers can be reluctant to implement innovative solutions as flood liability is high, making the market more difficult to penetrate. In Germany, concrete-based stormwater solutions have been the preferred type among players, although plastic solutions are gaining traction. In the UK, plastic crate systems are widely used; however, microplastics are a growing concern. Drainage engineers and designers tend to provide detailed product type specifications in public tenders with limited flexibility to consider alternatives.

Last but not least, stormwater equipment providers need the appropriate national and local product certification to win bids in public tenders. Each European country has its own national certificate: the British Board of Agreement (BBA) certification in the UK, Scientific and Technical Centre for Building (CSTB) certification in France, and the German Institute for Building Technology (DIBt) technical approval in Germany. Acquiring a certification can be a long and costly process and may pose a barrier to entry for new players. Certification processes generally require roughly a year to three years to complete. Fees cost thousands of euros, and certification renewals are required every three to five years.



## Applying creative solutions

A number of actions could promise more opportunity to implement SuDS and grow the market.

- Local authorities and public water utilities overseeing stormwater management are often resource-strapped. Lobbying local or national government and environmental bodies to increase financial availability is one possibility for municipalities to receive reliable funding streams.
- An alternative funding mechanism is the introduction of a separate local stormwater fee. In Germany, most municipalities and larger water utilities charge property owners a stormwater fee to budget sewer rehabilitation, drainage projects, and other water management projects. Private property owners and municipalities are incentivized to lower or even eliminate their stormwater fees by installing decentralized SuDS onsite and thereby disconnect stormwater runoff from entering existing sewerage networks entirely.
- Currently, capex is a key purchasing criterion for stormwater products with lesser consideration for totex, bearing in mind that totex encompasses both construction and post-construction costs, with the latter concerning inspection and long-term maintenance cycles of products. More experienced end customers are more often aware about ease of access to maintain SuDS and cost of maintenance as well.
- The development of an alternative and powerful European certification such as the CE marking would ease scaling of innovative solutions and reduce development costs.
- Developing partnerships among stakeholders would also benefit the stormwater industry. Specifically, established partnerships between stormwater equipment providers and developers can ensure end-to-end solutions and thus develop accountability and reassurance for end customers. A partnership between providers yields opportunity to close a gap in a company's product portfolio, such as offering advanced stormwater filtration systems. Lastly, partnerships can develop and test an innovative product by showcasing its effectiveness through pilot projects. Pilot projects could serve as a critical step in the approval process by municipalities and design engineers as well.



There is no one-size-fits-all approach to stormwater management at sites.”



On dealing with stormwater, municipalities are transitioning away from the conventional “out of sight, out of mind” approach of fast conveyance of stormwater into centralized sewerage systems, and instead are moving towards managing stormwater onsite through decentralized SuDS. Ultimately municipalities approach SuDS as key to “slow the flow” of rain to improve water quality and quantity issues, while benefiting biodiversity and quality of life of the local catchment.

Under this context, SuDS can be viewed as fostering additional environmental and social benefits. In Germany, for instance, net zero carbon life cycle products, cradle-to-cradle solutions, and water reuse practices are gaining traction. Concerns regarding microplastics are pushing the UK market towards more green and environmentally friendly solutions as well. Municipalities and property owners can continue to develop reuse, infiltration, and integrate sustainable stormwater management into urban green landscaping.

## Looking ahead

While the European stormwater market presents an untapped opportunity, taking advantage of its growth potential will require further research, collaboration, and relationship-building among players across the private and public sectors. Municipalities and public water utilities are expected to meet stricter environmental regulations and adapt to longer periods of water scarcity and flooding exacerbated by the impacts of climate change and urbanization. Seeking stormwater equipment providers for SuDS and services is likely to continue gaining traction as the market develops. Key profitability drivers from the construction market, national infrastructure and recovery plans are likely to continue supporting the stormwater market, especially following the COVID-19 pandemic.

Additionally, stormwater equipment providers need to familiarize themselves with certification processes and fragmented stormwater regulations, and consider the implications of whole lifecycle costs of a stormwater solution. In the meantime, consistent and sufficient funding streams for stormwater management must be realized for municipalities and public water utilities.

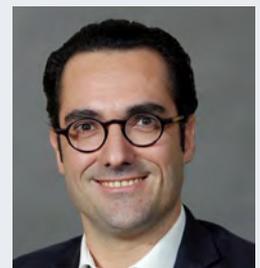


The construction market promises immense opportunity for implementing sustainable drainage systems.”





# OPPORTUNITIES ABOUND IN APAC RESIDENTIAL & COMMERCIAL WATER MARKET



By Victor Ollivier, Principal

The Residential & Commercial water market in APAC presents a host of opportunities for industry players as well as investors. As noted in our article in the Fall 2020 issue of *amane currents*, “Residential & Commercial Water Market: an outlook of growth, innovation and expanding opportunities,” we anticipate 5.8% growth in this sector over the next five years, a rate above that of the total water market. That will result in a market worth \$45.4 billion by 2024.

With growth outpacing that in the USA and much of Europe, the Asia Pacific region will be critical to increasing the global growth rate of the Residential & Commercial water treatment market during that timeframe. China and India are growing the fastest in the region at 14.6% and 8.1%, respectively.

The main driver is the growth of the middle class and with it an increase in disposable income that is available for spending on water treatment among other things. China and India will represent over 43% of the global middle class by 2030, with India representing the world’s largest middle-class consumer market. The European Commission estimates that middle class spending will grow from about \$37 trillion in 2017 to \$64 trillion by 2030. This is not anticipated to significantly change with the COVID-19 pandemic, as wealthier consumers – especially in China – have evidenced fewer financial impacts.



Another factor driving middle class spending on water treatment technologies, especially Point-of-Use (POU) is the growing concern about water quality, as countries in the region become more aware of and educated about the impact of contaminants in drinking water.

### A closer look at China

The Chinese Residential & Commercial market is estimated to have been worth \$5.6 billion in 2019, rising to \$11.2 billion in 2024, second only to the US market. Over 70% of the market is residential, although the commercial market is expected to see slightly higher growth rates over the next five years at 15.5%.

Growth of the Chinese market is expected to remain promising despite the COVID-19 pandemic, and in fact, the Chinese economy was the only major world economy to grow in 2020, with a growth rate of 2.3%.

The Chinese market is driven by POU, as these devices are seen as a necessary home appliance. This is linked to poorer municipal water quality and cultural concerns around wellbeing; filtered water is seen as healthier and is used in the majority of household applications, including cooking. With limited ability for servicing and maintenance as a result of COVID-19, there has been a rise in sales of simple POU devices – DIY solutions – that require little or no installation.

Point-of-Entry (POE) remains an underpenetrated market, partly due to the large footprint softeners require, and the prevalence of apartment living. However, as softeners with smaller footprints come to the market, POE is expected to grow.

Under the Sink (UTS) solutions are popular particularly in both the Residential and Hotels, Restaurants and Cafés (Ho.Re.Ca.) sectors, which is expected to grow at 16% over the next five years. High levels of competition in innovation and manufacturing translate into the popularity of low-cost UTS solutions that apply RO.

However, the largest commercial market is offices, which heavily favors Bottled Water Coolers (BWC), often with no filtration, and Bottle-free Water Coolers (BFC). The latter are anticipated to continue to gain market share from BWC due to concerns about bacteria growth in stagnant water in BWC, in addition to improved logistics and cost efficiencies.

While the BFC market was worth over \$1.0 billion in 2019, it is expected to exhibit a growth rate of 17.8% and be worth \$2.3 billion in 2024. With this shift to BFC, the Chinese market is also seeing a growth in the popularity of the rental model.



## The Residential & Commercial market in India

The Indian Residential & Commercial water market was estimated to be worth \$3.2 billion in 2019, rising to \$4.9 billion in 2024. Purification is becoming a necessity, as nearly 70% of surface water in the country is contaminated by biological, toxic, organic and inorganic pollutants, according to ValueNotes.

The penetration of drinking water treatment products in the Residential & Commercial market to date has been low with a reliance on bulk water and simple low technology boiling or drip pots for filtration. However, as education and awareness of poor water quality grows, the market is expected to boom. Indeed, the market is seeing a strong use of direct sales channels to improve education, and as interest grows, there are an increasing number of players in the market.

A growing middle class and overall household income level increases the total addressable market of residential sector especially in the urban areas. Around two-thirds of the market is residential, although the commercial sector, and specifically offices, are expected to drive growth going forward.

Water purifiers such as BFC and UTS have gained significant share in recent years, driven by the fundamental need for better quality drinking water and a rising income level. Due to low confidence in local tap water quality, a water purifier is considered a necessity rather than something “nice to have” to provide good quality drinking water.

Wall-mounted BFC is particularly popular in both residential and offices, accounting for the majority of applications in both sectors – a trend relatively unique to India. The market for BFC is expected to grow by 11% over the next five years to be worth \$2.7 billion in 2024 – the highest market share in terms of products. An expansion of office spaces and business parks in the country will continue to drive the demand for water purifiers in commercial sectors.

With growing disposable incomes, more complex solutions such as RO and MFT are anticipated to gain market share across the board. Indeed, Indian consumers are open to discussions around technology and certifications, driving interest and development in these more nascent product categories. At the same time, digital sales are becoming an increasingly popular way to reach consumers.

We anticipate that there will be promising opportunities overall and in various product categories in the region over the next five years. More key players are now getting involved in these markets. Notable local players include Eureka Forbes and Kent RO, but increasingly, this market is being penetrated by global players like Unilever.



The Asia Pacific region will be critical to increasing the global growth rate of the Residential & Commercial water treatment market.



# ASK AMANE:



## HOW DOES AMANE STAFF PROJECTS ACROSS ITS SIX OFFICES?

*Insight by Bill Malarkey*

At Amane Advisors, we staff our consulting engagements according to the “global staffing” principle, assigning consultants not only according to their availability, but also so as to draw on specialized experience or know-how, and to support the career development of our people. This is a core tenet of how we do business, which we believe benefits our clients, our consultants, and the long-term health of the firm.

Projects can often arise quickly, so we maintain a centralized firm-wide staffing overview that allows us to see both current and future availability. However, in trying to build the optimal team for a given engagement, we want to look well beyond just seeing what resources might be free at the moment. For example, we will attempt to bring aboard any consultants who have a particularly strong background in the project subject matter, especially in specialized segments such as Digital Water or Residential & Commercial treatment. Over the years we have developed real centers of excellence within the teams in certain individual offices, such as desalination in the Bahrain office and market research in the Singapore office, and we can bring these skill sets to bear for clients in any region.

In addition, we take into account the development needs of our individual consultants. We want to ensure that our people get exposure to a wide variety projects, in terms of client, subject matter, and engagement type (e.g., strategy development, market analysis, due diligence, transaction advisory), so that they can build the widest possible experience base. At the same time, we also want to give each consultant the opportunity to work in teams led by different partners, principals and project managers. Working in different team settings allows them not only to learn from a wider range of colleagues, but also to develop their own flexibility, as they adapt to different project approaches and team setups. While we do have an “Amane Way” of doing things, it’s undeniable that each member of our leadership team brings his or her own unique style to the table, so that can definitely present a challenge (and an opportunity) for our younger consultants as progress through a series of engagements!

This approach occasionally can present some logistical obstacles, but these can always be overcome with the right combination of technology and flexibility. We recently conducted a very complex due diligence analysis on a US target for a client whose team was split between the US and the UK, utilizing an Amane team that was led from the US, with team members coming from the US, UK and Bahrain offices, and drawing on input from the Singapore office to conduct market research in both the US and European markets. This was a textbook example of the firm's global staffing approach in action.

This method of staffing really does represent a win-win-win solution that benefits our clients, our people and the sustainability of Amane as a firm. Our clients benefit from flexible and experienced teams that can hit the ground running from Day One of an engagement. Our people benefit from enhanced career development, as well as the positive experience of getting to work directly with a variety of colleagues from around the world. And finally, the firm benefits over the long term by leveraging our global assets in the best way possible.

Again and again, we hear from both candidates and current consultants that the opportunity to work on a wide variety of international projects is one of the most attractive features of Amane Advisors as an employer. We are convinced that this approach will continue to help us deliver top quality work, and to attract and retain top quality people going forward.



Our clients benefit from flexible and experienced teams that can hit the ground running from Day One of an engagement.”



## Submit a Question, Suggest a Topic

We invite you to ask a question for one of our upcoming issues and submit your suggestions about topics or issues that you would like us to cover. Please [let us know what is on your mind](#), so that we can make *amane currents* as relevant as possible.



## Employee Spotlight:

# ISMAIL ALAOUI



Position: Principal  
Office: Bahrain  
Joined Amane: 2016  
Nationality: French and Moroccan  
Languages Spoken: French, English and Moroccan Arabic



### Describe a typical day at Amane Advisors:

Actually, my day often starts the night before: I review what I have on my plate, making sure that everything is under control and that I haven't missed any important meetings or deadlines. Then, during my running session in the morning, I visualize my day and see how I want it to be. Running gives me that extra boost that I need during the day, a feeling of accomplishment that allows me to face the day or week ahead with great drive.

I discovered at Amane that I am a morning person. So usually I arrive early, between 7:30 and 8:00 am, go through my emails, GWI and the Middle East Economic Digest to remain up to date. Then, I take a few minutes to see how I am going to distribute my workload, tending to work on complex tasks in the morning. Thereafter, I usually have a check-in meeting with my colleagues. In the Bahrain office, some of our projects require industrial experience and expertise. Therefore, I usually take on the "technical" workstream and work alongside my colleagues while ensuring they benefit from my experience.

Sunday is usually different from the remaining days of the week. Since other Amane offices and some of our clients are closed, this is the day when I usually focus on administrative tasks and internal initiatives, workload permitting.

### What do you like best about your job, or find most rewarding, and why?

First, Amane Advisors is all about consulting, a field that brings continuous development. You have a very diverse set of assignments. You confront ideas and challenge yourself while working closely with highly skilled people. Tons of knowledge, new concepts and perspectives can be learned daily – there is no limit as long as you work hard and are curious. You cannot get bored. Every day presents new challenges. Feeling that I am learning and providing a positive impact is essential inside and outside of Amane. I aspire to become a well-rounded consultant, recognized for his solid expertise in any topic across the water value chain, from strategy, digital, operational, contractual and commercial, to technical fields.

Second, I love the pressure that comes with it. This is my fuel. As a big fan of Formula 1 racing, I find a lot of similarities with consulting. You inhabit a highly competitive environment; you are as good as your last project (or race); if you don't improve, you fall behind; and success depends on teamwork where there is no place for failure at any level.

Third, it is specialized in water. I find working in the water industry a very rewarding experience. I have the feeling that I am doing something meaningful, as having access to clean and cheap water is essential for every



human, company and country to function and thrive. And while it is a global industry, water is also very local and very different from other resources.

Finally, the challenges associated with it are exciting, whether you are addressing problems with aging infrastructure, the availability of a long-term water supply, or translating the wealth of data that comes from increased digitization into meaningful insights.

### **What has been the biggest surprise about working at Amane Advisors?**

From Day 1, I have been astonished not only by the impact we can have on a company's future, but also the exposure we have to C-suites and internationally renowned experts. Having a genuine passion for the water industry, I find this experience immensely rewarding. I remember, in one of my first projects, that I had the opportunity to conduct a face-to-face interview with the former CEO of one of the world's largest water companies. I would never have had this opportunity in other circumstances!

### **What things would your colleagues say to describe you?**

I think they would say that I am a hardworking individual who likes challenges, very rigorous, and always ready to help.

### **Name something about you that most people would find surprising.**

I discovered that I like to babysit, so usually I take care of the babies of my closest friends when they can't. My typical "compensation" is a burger or pizza. Otherwise, I like to play (gentle) pranks on my friends and family.

### **What are your favorite activities outside work?**

I have a growing passion toward triathlon, which started a year ago. When I am not at work, you will probably see me riding my bicycle or running to prepare for the next competition for which I have registered: August

2021 in Saint Petersburg, Russia, if COVID allows it. Unfortunately, as hard as I try, I just get bored with swimming, and I don't think this will change.

### **What is your favorite book?**

One of my favorite books is "Sapiens: A Brief History of Humankind" by Yuval Noah Harari. In a nutshell, this book tries to answer what makes us, Homo Sapiens, so different from the rest of the animal world, and why Homo Sapiens successfully dominated the planet. I find this book so insightful, and it helped me to better understand why I am here today, writing these words

### **What is the best advice you have ever received, and who gave it to you?**

My father once told me, "We have two lives, and the second begins when we realize we only have one." This quote from Confucius strongly resonates with me. Life is too short to take anything for granted. Many people chase fortune, trapped in their rat race, or live the life others want for them, and forget about fulfilling what really makes sense for them, and becoming what they are truly are deep down inside themselves.



At the 2020 Bahrain Grand Prix, Ismail was responsible for overseeing and reporting all the work that Racing Point team mechanics were doing to the car in the "Parc Fermé".



# MEET OUR NEWEST COLLEAGUES

From our newest Partner and first Finance Director, to new Consultants and a Project Manager, Amane's growing staff reflects our burgeoning business around the world.



## Mathieu de Kervenoal, Partner

Amane Advisors welcomes Mathieu as our newest Partner. He brings to Amane more than 25 years of experience with many of the world's leading companies in the water and environment sectors, with responsibilities from business development to operational management and finance, as well as management of large, strategically important and multifaceted projects. A global player with business exposure to both developed and emerging countries, he will help us accelerate our growth and diversification.

In addition to water, Mathieu also brings expertise in solid waste and renewable energy, which will enable us to connect the water industry to these segments and generate opportunities for our clients. His exceptional experience adds new dimensions to our expanding capabilities, particularly on impact investments and the circular economy where water has a larger role to play. It also extends to developing innovative financing solutions and serving new clients such as international financial institutions and international development funds.

Mathieu, who holds a Master in Business Administration from the prestigious HEC Paris Business School, France, currently serves as an elected member of the International Water Association (IWA) Strategic Council. He is based in France.



## Malcolm Higham, Finance Director

Malcolm joins Amane with more than 20 years of multi-dimensional experience and broad strategic thinking that will play an important role in helping us grow the depth of our offering and breadth of our geographic reach. In addition to his experience as chief financial officer in international businesses, Malcolm possesses a mix of high-level strategy and structural knowledge including several successful acquisitions, as well as a strong staff development ethos.

He began his career with PwC (PricewaterhouseCoopers), one of the world's leading finance and consulting firms, before gaining experience in high tech businesses in telecoms and manufacturing. He then undertook key management positions in engineering and professional services companies, taking them through important stages of development and growth based on both solid corporate perspectives as well as an understanding of the core strengths of people within the organizations. Based in the United Kingdom, Malcolm holds a degree in Economics from the prestigious University of Warwick in the UK.





## Helena Ding, Senior Consultant

- Joined the Shanghai office in December 2020
- Possesses extensive consulting experience across a variety of industries for such companies as TZMI Consulting, Shanghai Rivers Consulting, Beijing W&G Technology Consulting Service Co. Ltd., Shanghai nahefaHealthcare Technology Co. Ltd., and Vantage Capital
- Earned BA in Chinese Linguistics and Literature at Beijing Second Foreign Language Institute (Bei Erwai)



## Lamia Moubakir, Consultant

- Joined the Paris office in October 2020
- Gained experience at Servier Group, 4Dcell, and Science and Materials Institute of Madrid
- Earned post-graduate Master in Environmental Management and Engineering from Mines Paristech; Engineer in Materials Science at Polytech Sorbonne



## Federico Boscolo Meneguolo, Consultant

- Joined the Paris office in October 2020
- Gained experience with Nestle Waters – San Pellegrino in Milan, Danone Waters – Evian in Paris, and PwC in Luxembourg
- Received Master in Management with specializations in Entrepreneurship & Marketing from Programme Grande École ESCP Europe, and a Bachelors in Economics & Management at the University Ca' Foscari of Venice



## Eleanor Hinde, Consultant

- Joined the UK office in November 2020
- Earned MSc in Economic Development at Lund University, Sweden, and BA in Biological Sciences from University of Oxford in the UK
- Highly experienced in impact assessment within a sustainable development context, including agricultural and environmental data collection, analysis, research and reporting

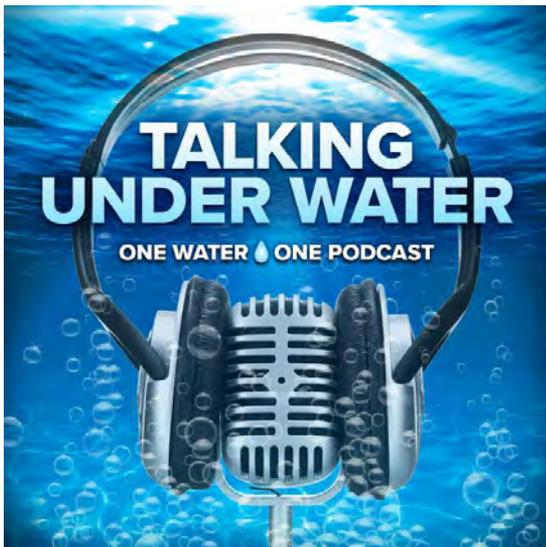


## Chloé Hu, Project Manager

- Joined the Paris office in December 2020
- Brings wide-ranging experience in Corporate Development, Investor Relations and M&A with such companies as Indigo Group, Accenture Strategy and EKAPARTNERS in Paris; launched pre-seed accelerator program with Founder Institute in the USA
- Earned MSc in Management from EM Lyon and Bachelor of Engineering from Tongji University



# AMANE ADVISORS' DOROTHÉE CHABREDIER FEATURED ON TALKING UNDER WATER PODCAST



Dorothee Chabredier discusses sustainable investment with Lauren Del Ciello, editor of Water Quality Products magazine and co-host of *Talking Under Water*, the premier podcast for the water industry including municipal and industrial water and wastewater, residential water treatment, storm water management and erosion control.

*Talking Under Water* is produced in coordination between Water & Wastes Digest (WWD), Water Quality Products (WQP) and Storm Water Solutions (SWS). The podcast covers topics under the One Water movement including the municipal and industrial water and wastewater, point of use, point of entry, residential, storm water and erosion control markets. It covers news, trends, new technologies, industry discussions and interviews with experts for WWD, WQP and SWS.

The interview starts at 13:31. To learn more about sustainable investing, [click here](#).

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**Bill Malarkey** is Partner, North America and also serves as editorial director of *amane currents*. He has over two decades of experience in international water and infrastructure markets, particularly in the areas of strategy development and mergers & acquisitions. He can be reached at [bmalarkey@amaneadvisors.com](mailto:bmalarkey@amaneadvisors.com).

**Thierry Noel** is the Founder and a Partner of Amane Advisors. He is based in Paris and he is leading the firm to expand its global presence and provide additional services that to help our clients accelerate business growth in new areas. He can be reached at [tnoel@amaneadvisors.com](mailto:tnoel@amaneadvisors.com)

**Victor Ollivier** is a Principal at Amane Advisors. He is based in Paris, France, and has over 10 years experience in the water industry. Victor leads Amane's Residential & Commercial water offering globally. He can be reached at [vollivier@amaneadvisors.com](mailto:vollivier@amaneadvisors.com).

**Alex Zhang** is a Partner at Amane Advisors in China. He has more than 25 years of experience in international environmental and energy related technology transfer and promotion to the Chinese market. He can be reached at [azhang@amaneadvisors.com](mailto:azhang@amaneadvisors.com)



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