KURARAY CO., LTD.

Management Briefing

Growth Opportunity in Activated Carbon Business

Presenters:

Hitoshi Kawahara	President and Representative Director
Nobuhiko Takai	Director and Managing Executive Officer, President, Functional Materials Company
Stevan R. Schott	Executive Officer, General Manager of Environmental Solutions Division, President, Calgon Carbon Corporation
Jenalle Brewer	Senior Vice President - U.S. Drinking Water & Global Business Development, Calgon Carbon Corporation

June 19, 2026



Kawahara: Thank you very much for joining Kuraray's management briefing today, taking time out of your busy schedule.

Today, I would like to explain the growth opportunities in our Environmental Solutions business, with a focus on activated carbon. We have previously held similar management briefings on this business in 2022 and 2024, making this the third session. During this period, new drinking water regulations were introduced in the United States by the Environmental Protection Agency (EPA), and last year, a two-year extension of the grace period was decided.

As there have been various developments over this time, we have arranged today's session as an opportunity to provide an update on the current situation surrounding our activated carbon business, the regulatory environment, and our outlook going forward.

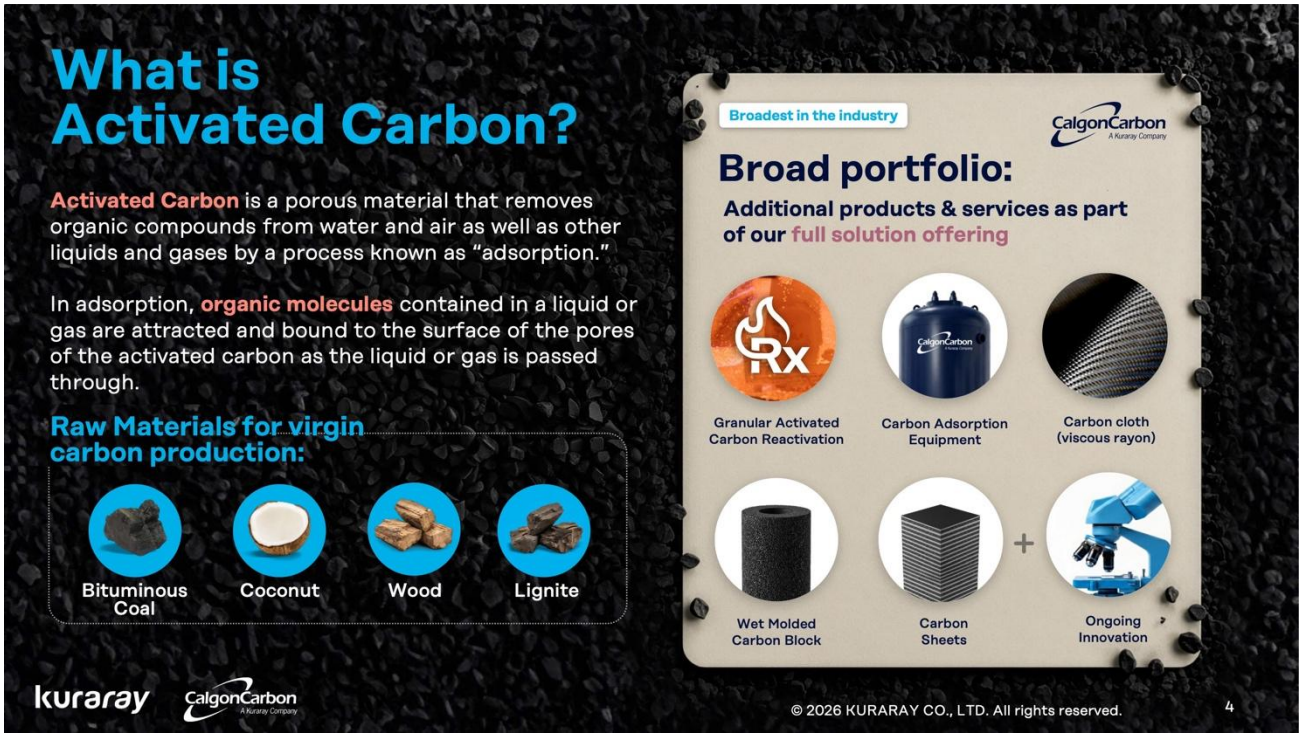
Although there have been various changes to the implementation schedule, we have continued to carefully monitor the situation and maintain close communication with our customers. We have also successfully secured both medium- and long-term contracts. The market is steadily taking off, and there have been no major structural changes to the trajectory or future vision we had originally envisaged.

In addition, regulations are being strengthened globally. In Europe, this is particularly evident in industrial applications, while in Japan, revisions to the Water Supply Act have been implemented. We recognize that the tightening of water quality regulations is progressing on a global basis, and we believe this will further expand growth opportunities for the Kuraray Group's activated carbon business.

Based on this business environment, as we announced recently, we have decided to expand our reactivated carbon facilities in the United States, and construction is already underway. We intend to continue making proactive investments to support business expansion and growth.

Today, Mr. Steven Schott, President of Calgon Carbon Corporation and General Manager of our Environmental Solutions Division, and Ms. Jenalle Brewer, Senior Vice President of Calgon Carbon Corporation, will present

the current growth outlook for our activated carbon business, as well as the direction and further advancement of our solutions-based business model. Thank you very much for your attention.



Schott: Starting with slide 4, I would like to briefly explain what activated carbon is, why raw material selection matters, and how it supports critical societal needs.

Activated carbon can be produced from several raw materials, including coconut shell, bituminous coal, wood, and lignite. Each material creates a different finished product because of its physical characteristics, including pore structure, hardness, density, and impurity profile. Those differences matter because performance requirements vary significantly by application. For example, wood-based activated carbons typically have larger pores, making them well-suited for decolorization. Coconut-based carbons offer strong microporosity, high hardness, and generally lower impurity levels than coal-based carbons, which can make them effective in applications such as batteries and home water filtration. However, bituminous coal-based activated carbons are among the most versatile materials in the market. Their balanced pore structure, high surface area, and durability allow them to perform effectively across hundreds of treatment applications. These same characteristics also make them especially well-suited for PFAS removal from drinking water and for repeated recycling through reactivation.

Kuraray is uniquely positioned because we manufacture activated carbons from coal, wood, and coconut. This gives us a broad technical base and the ability to match the right carbon to the right application. Our coal-based carbons are engineered with a balanced mix of large and small pores and expansive surface area and the physical strength needed to withstand repeated reactivation cycles. That durability is critical because it enables customers to reuse activated carbon while supporting PFAS destruction through our high-temperature reactivation process.

Beyond the carbon itself, we support customers with a full portfolio of products and services, including reactivation, equipment fabrication, and large-scale treatment vessels that make activated carbon easier to deploy and manage. These capabilities are particularly important for drinking water providers, especially those treating groundwater where reliable performance, service continuity, and long-term lifecycle management are essential. Innovation remains central to our approach, and we continue to develop higher-performing products and expand our service offerings to deliver greater value to customers and the markets we serve.



Now, turning to slide 5.

Our business is anchored in six key markets, with global drinking water representing our largest market at 35% of our volumes sold. This is a core growth platform supported with our FILTRASORB™ portfolio of coal-based activated carbons and strengthened by rising demand for PFAS treatment. Wastewater treatment represents an additional 20% of our water treatment volume and is another important growth area as PFAS regulations continue to develop, with strong demand anticipated in Europe and the United States. Beyond water, we serve food and beverage, air treatment, industrial process, and specialty applications.

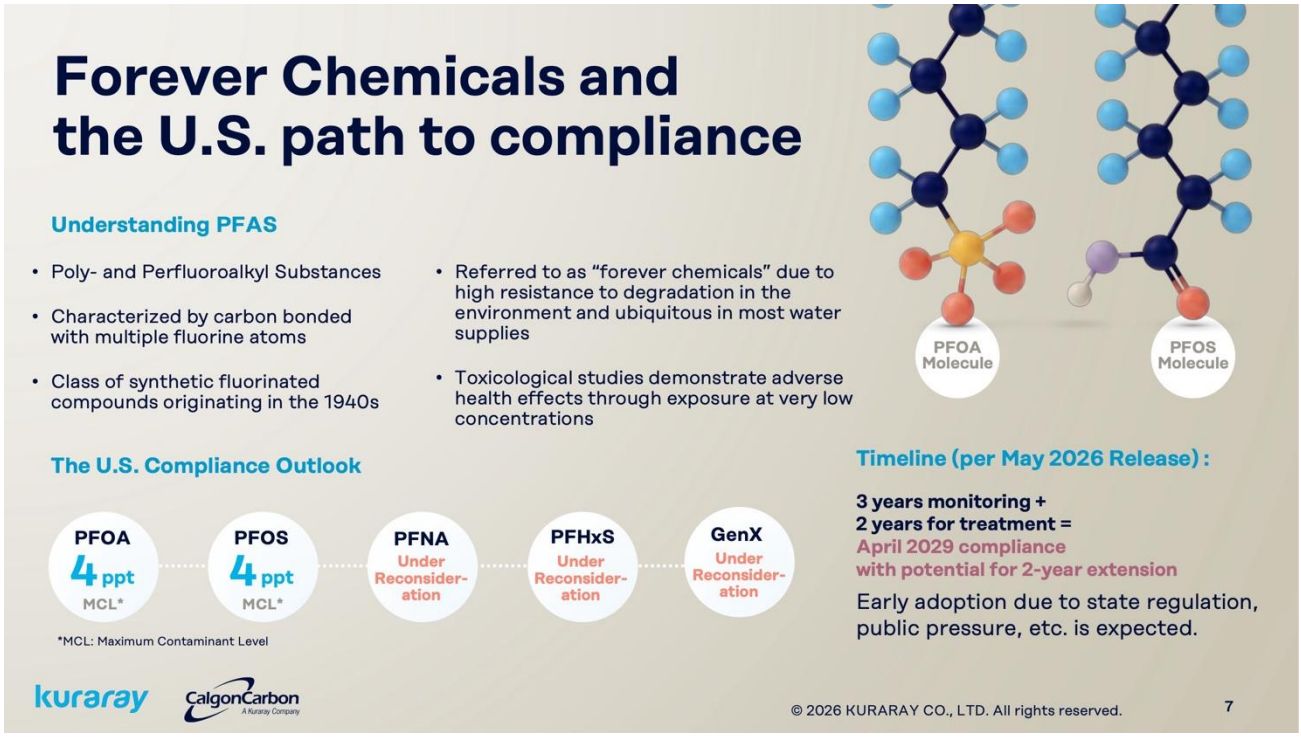
These six markets provide diversified demand for our broad portfolio of activated carbons, which are used in more than 700 applications. Our advantage is breadth and technical depth. We use multiple raw materials and advanced manufacturing expertise to tailor activated carbon performance to complex customer needs and provide a full solution approach. This versatility supports resilient demand across markets and positions us well for continued growth in regulated performance critical applications.

Now, I'd like to turn over the discussion to Ms. Brewer.



Brewer: Good morning.

Turning to the U.S. drinking water market, we see significant growth opportunity driven by enforceable PFAS limits. While tariff policies with several countries, geopolitical tensions, and the change in the U.S. administration has created some timing uncertainty since our 2024 management briefing, our long-term growth outlook remains strong. Our leadership position as the preferred solution for PFAS treatment is evidenced by the significant commercial progress in securing customer contracts. To support the growth, we are expanding capacity, reflecting our confidence in future demand. Kuraray is well-positioned to realize significant and profitable growth from PFAS treatment.



Moving to slide 7.

PFAS are a large class of man-made chemicals known for their strong carbon fluorine bonds. This makes them highly persistent in the environment. Decades of broad use have led to widespread contamination, and toxicological studies have shown that a subset of these compounds can cause negative health effects. As a result, drinking water regulation has become a major public health and infrastructure priority.

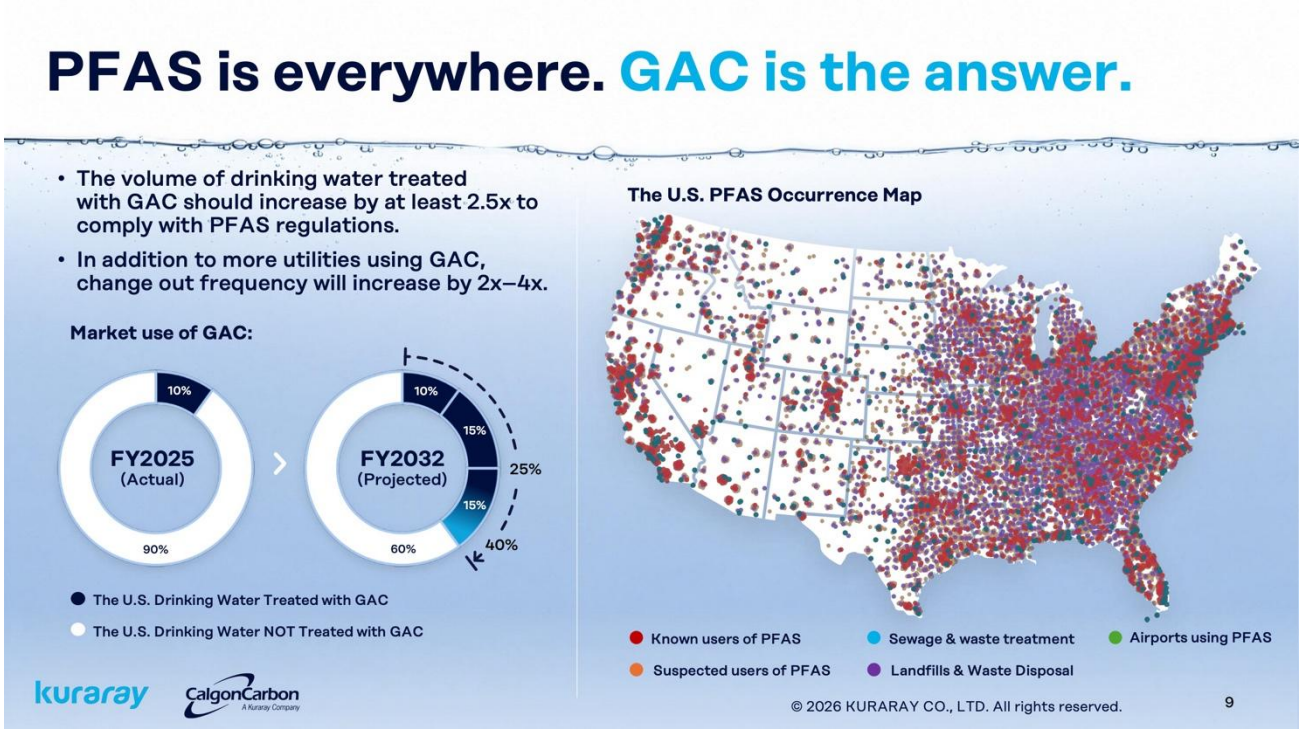
In April 2024, the U.S. Environmental Protection Agency, or EPA, announced maximum contaminant levels or MCL's for five different PFAS compounds permitted in drinking water, requiring compliance by April 2029. In May 2026, the EPA put forward a formal regulatory change, reinforcing the MCL of 4 parts per trillion or ppt for PFOA and PFOS, but delaying the enforceable limits for three other PFAS compounds. It is important to note that the main driver of our 2024 outlook was based on PFOA and PFOS contamination.

The May announcement also clarified that the compliance date remains April 2029 but acknowledged that exceptions will be granted to allow for some utilities to extend the compliance window by up to two years. We continue to expect early adopters. Many municipal utilities will seek to achieve compliance due to state regulations, public pressure or supply chain concerns, and our order backlog and contractual commitments support this expectation.



Turning to slide 8. I would like to walk through our growth outlook.

During the 2024 briefing, we had a limited data set, with only 15% of utilities reporting results. Today, we have a clearer view of the market, with more than 90% of utilities reporting PFAS results.

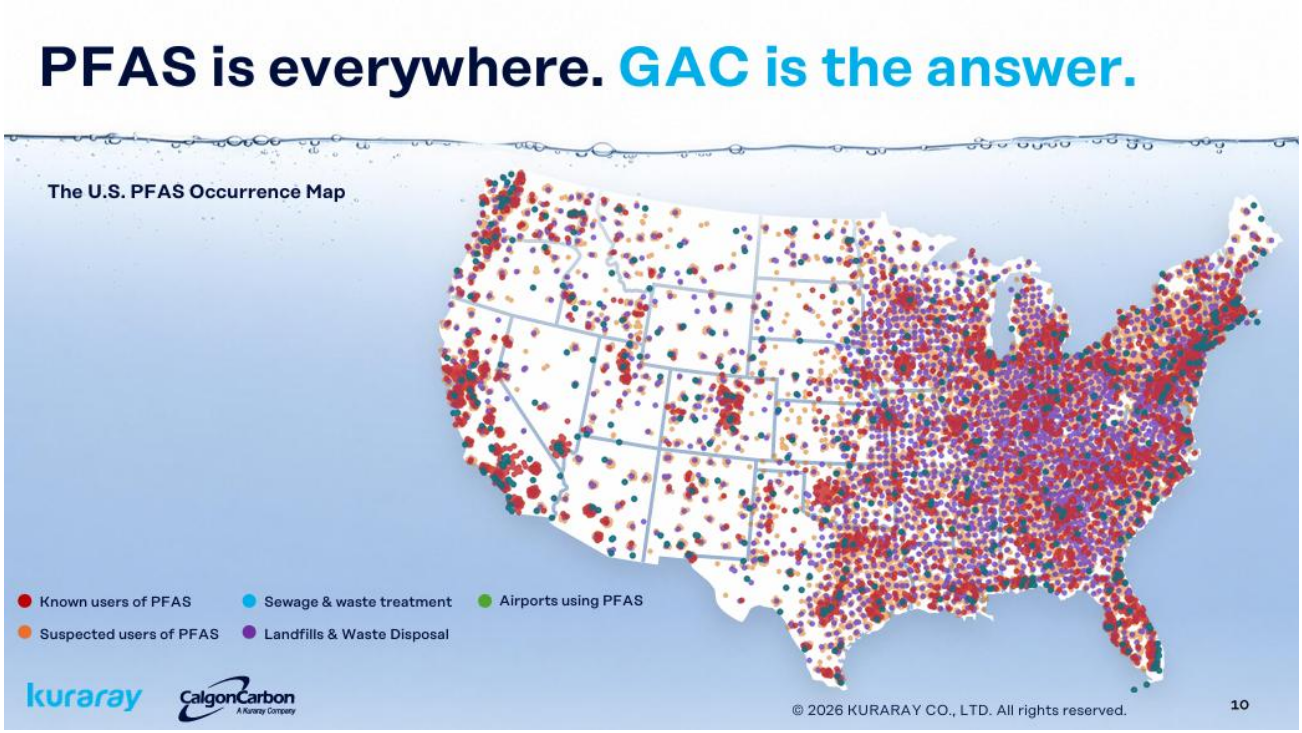


Slide 9 provides a good image of the scope of PFAS occurrence in the U.S.

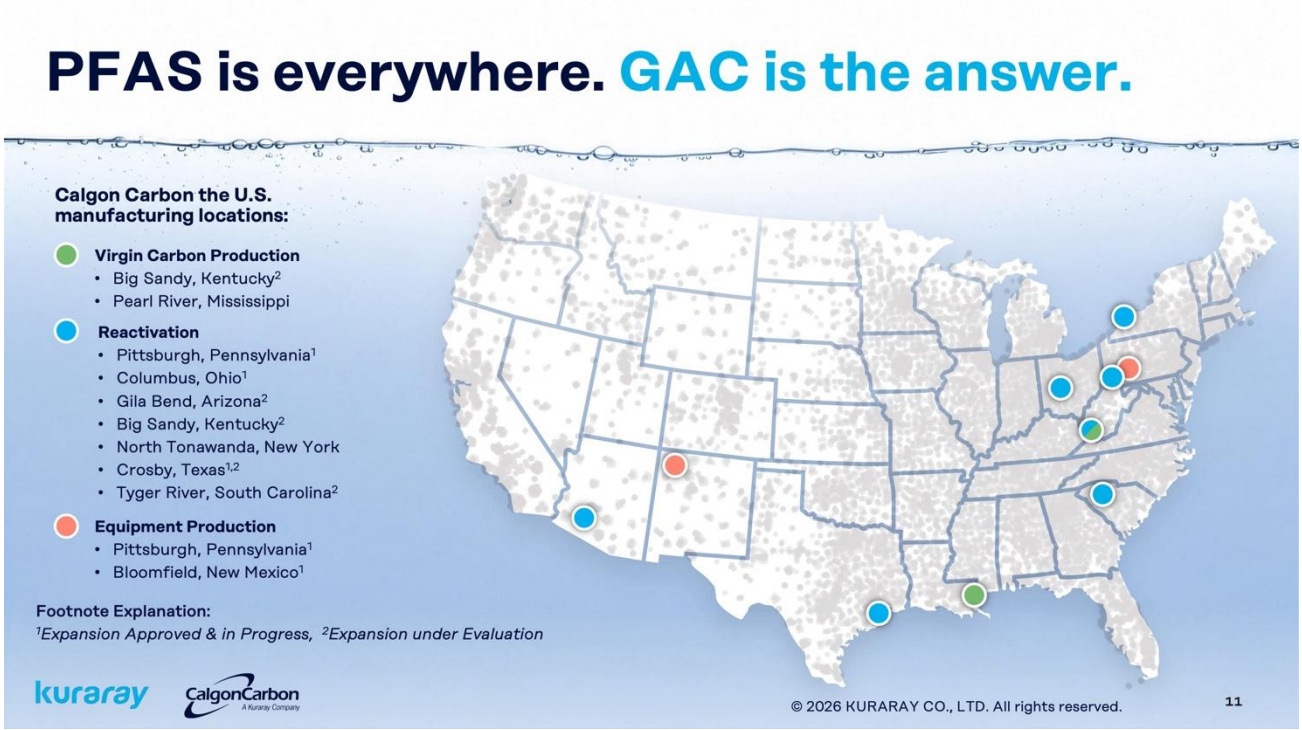
The map shows heavy concentration in PFAS on the eastern half of the United States but also highlights the pervasiveness of the problem. PFAS is everywhere and comes from a variety of sources, including PFAS manufacturers, users, airports, landfills, and many, many more. As we look at the U.S. market today, approximately 10% of drinking water is treated with granular activated carbon, shown by the dark blue piece on the 2025 chart. This means that the remaining 90% of drinking water is not yet treated with granular activated carbon as shown on the white portion of the chart.

Shifting to the future, by 2032, we estimate an additional 15% of drinking water will need to be treated with granular activated carbon. This estimate is based on reported data and reflected by the additional dark blue piece added to the chart. We are very comfortable that at least 25% of drinking water will require PFAS treatment and consider this the low end of the range. Other estimates continue to reflect 30% of drinking water requiring PFAS treatment for a total of 40% of drinking water requiring treatment. We believe this should be considered the high end of the range, and the incremental impact of the additional water requiring treatment is shown in the lighter blue piece on this chart.

In addition to greater adoption of granular activated carbon, this carbon once in place and providing treatment, will need to be changed out much more frequently, resulting in an increase in volumes or usage. To quantify, the frequency of change-outs is expected to increase by between two to four times, depending on source water quality, as compared to more traditional drinking water applications.



Considering the PFAS occurrence and knowledge of treatment requirements, we are aligning our production capacity plans to the low end of the range and proximate to expected treatment needs.

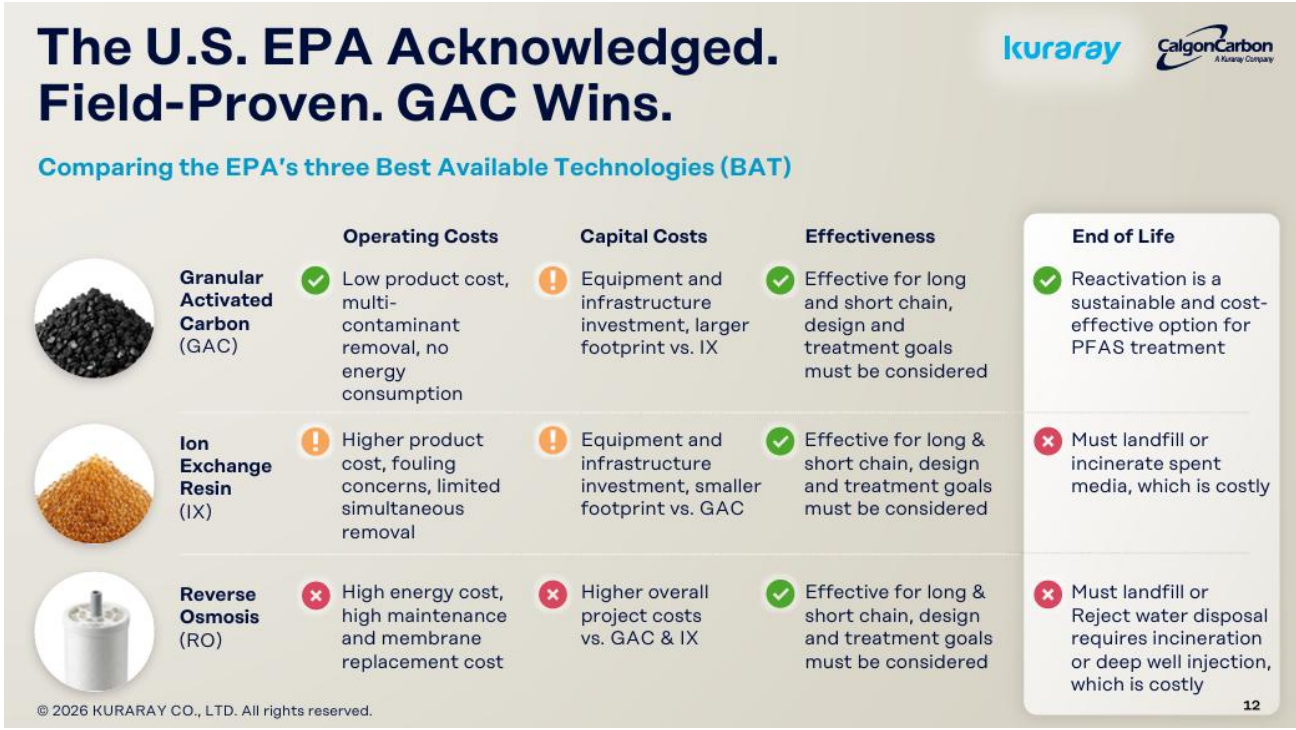


Slide 11 shows PFAS occurrence alongside our production footprint.

For many customers, especially in groundwater applications, the first step is securing equipment vessels needed to deploy activated carbon. Our equipment fabrication sites are shown by the peach dots. In 2024, we increased fabrication capacity by more than 30% through the acquisition of the New Mexico facility, and two debottlenecking projects in Pennsylvania and New Mexico are nearing completion and will add another 30% of capacity overall.

Our two virgin production sites in Big Sandy, Kentucky and Pearl River, Mississippi, shown by the green dots, are strategically positioned across the eastern half of the United States. Together, they produce approximately 100,000 metric tons of activated carbon annually. The 2024 expansion at our Mississippi plant added an additional 25,000 metric ton production line called G-line, which was well timed to support growth in the high-value the U.S. drinking water market. We are also evaluating debottlenecking opportunities at our Kentucky site to further expand capacity.

Our reactivation facilities serving both drinking water and industrial applications are shown by the blue dots. We've announced or are evaluating expansions at nearly every reactivation site. In drinking water, we announced an almost USD100 million expansion at our Columbus facility to support contracted business. We have also secured land in Tyger River, South Carolina for future capacity, serving the southeastern United States. Demand for industrial reactivation remains strong, particularly in the Gulf region, and we expect increased use of industrial reactivation as virgin carbon capacity tightens to meet drinking water demand. These investments, supported by awarded business, reflect our confidence in future growth. We continue to evaluate expansion opportunity and develop plans accordingly.



Slide 12 highlights why we believe granular activated carbon will be the preferred technology for the market.

The U.S. EPA cites granular activated carbon or GAC, ion exchange resin, and reverse osmosis as the three Best Available Technologies for PFAS treatment. This table considers operating costs, capital cost, ease of use, and end-of-life considerations.

In each category, you will see a colored circle. Green represents very good for this category, yellow is average, and red is comparatively poor. Comparing the technologies, all three are effective, but what separates granular activated carbon from other technologies is the low operating cost, the simplicity of use, and the ability to destroy PFAS contaminants while recycling the carbon at the end of life through reactivation.



Slide 13 provides some basics on drinking water, which are important considerations in our assumptions regarding market size.

A majority of drinking water comes from two sources, surface water and groundwater. Surface water comes from lakes and rivers and, because of organic and other material present in the water, must go through multiple treatment steps as shown in the diagram on the top part of the slide. Flow rates are typically very high. Groundwater comes from aquifers and wells and, because of natural filtration, contains less solids and organic matter as compared to surface water. As shown on the bottom part of the slide, groundwater utilizes fewer treatment steps.

Both surface water and groundwater will require PFAS treatment, but technical and economical considerations will be very different. As an example, groundwater will use tanks or vessels as shown on this slide, whereas surface water facilities will use fewer vessels and more gravity filters, which are similar to swimming pools filled with filtration media, including granular activated carbon. Considering the information on the last slide, the importance of operating cost, ease of use, and end-of-life considerations will be different between surface water and groundwater.

Because surface water facilities process higher volumes of water with comparatively more organic compounds, reverse osmosis and ion exchange is likely to generate high volumes of PFAS-laden waste to dispose of, and fouling from organics and other matters would be very costly based on media cost. We expect a good majority of surface water customers will select granular activated carbon, coupled with reactivation, as the most cost-effective and sustainable approach to treatment. For groundwater sites, we still expect approximately half of the total processed groundwater to be treated with granular activated carbon for the reasons shown on this slide.

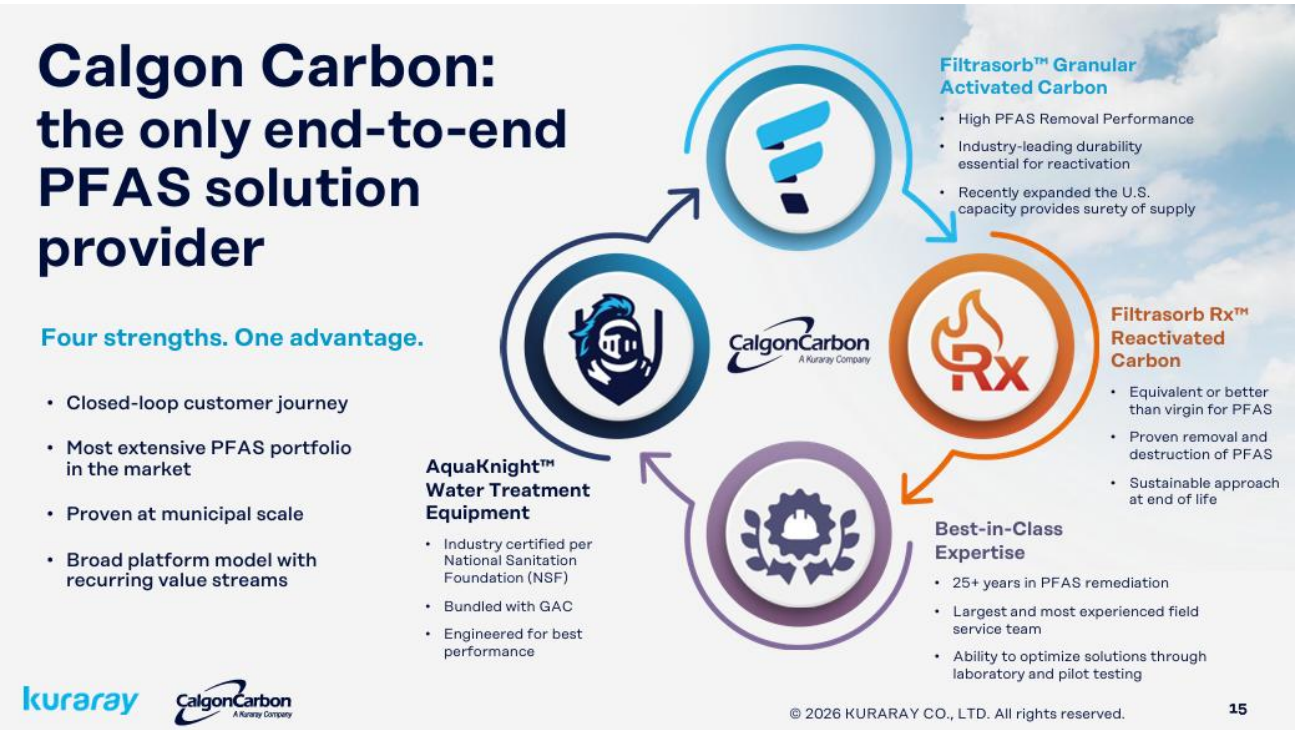
Based on the EPA's reported data, 60% of water requiring PFAS treatment will be surface water and 40% will be groundwater. This aligns very well with our estimates from the 2024 management briefing and reinforces our confidence in our market projections.



Though PFAS is a main focus, slide 14 highlights the effectiveness of activated carbon in removing a wide range of organic contaminants.

Earlier this quarter, the EPA announced the intention to study the occurrence of contaminants through the publication of the sixth unregulated contaminant monitoring rule, or UCMR 6. UCMR 6 includes additional disinfection byproducts, pharmaceuticals, more PFAS compounds, and nanoplastics. This is the first step for future regulation. Importantly, granular activated carbon could effectively remove these contaminants in a single treatment step and without incurring further treatment costs using other technologies.

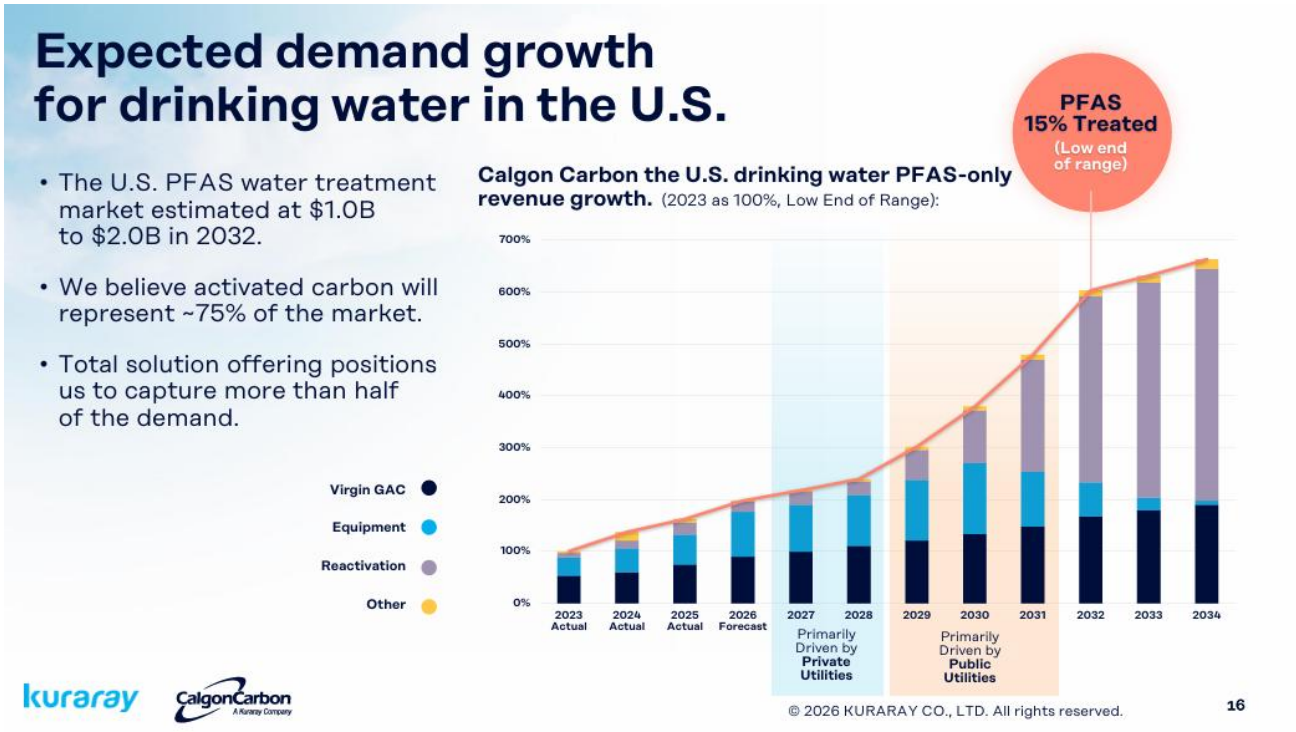
This strengthens the value proposition for the technology. Also, additional regulation for these contaminants presents an opportunity for the remaining 60% to 75% of drinking water that may not have installed granular activated carbon.



Slide 15 summarizes why Kuraray is well-positioned to deliver on its PFAS growth expectations.

Our advantage is not based on a single product or capability. It is based on a full solution platform that combines media performance, engineered systems, reactivation capability, and deep technical expertise at the scale required to support the market. We believe Kuraray is the only activated carbon company currently positioned to offer all four critical elements required for PFAS treatment at industry scale.

Looking ahead, we are evolving from a product-centered business toward a broader platform model built on recurring products, services, and technical support. By expanding reactivation, field service, technical support and adding digital capabilities, we are increasing the value we provide across the customer life cycle. This approach is designed to deepen customer relationships, improve retention, and create a more stable, higher-value earnings profile as PFAS treatment demands grow.

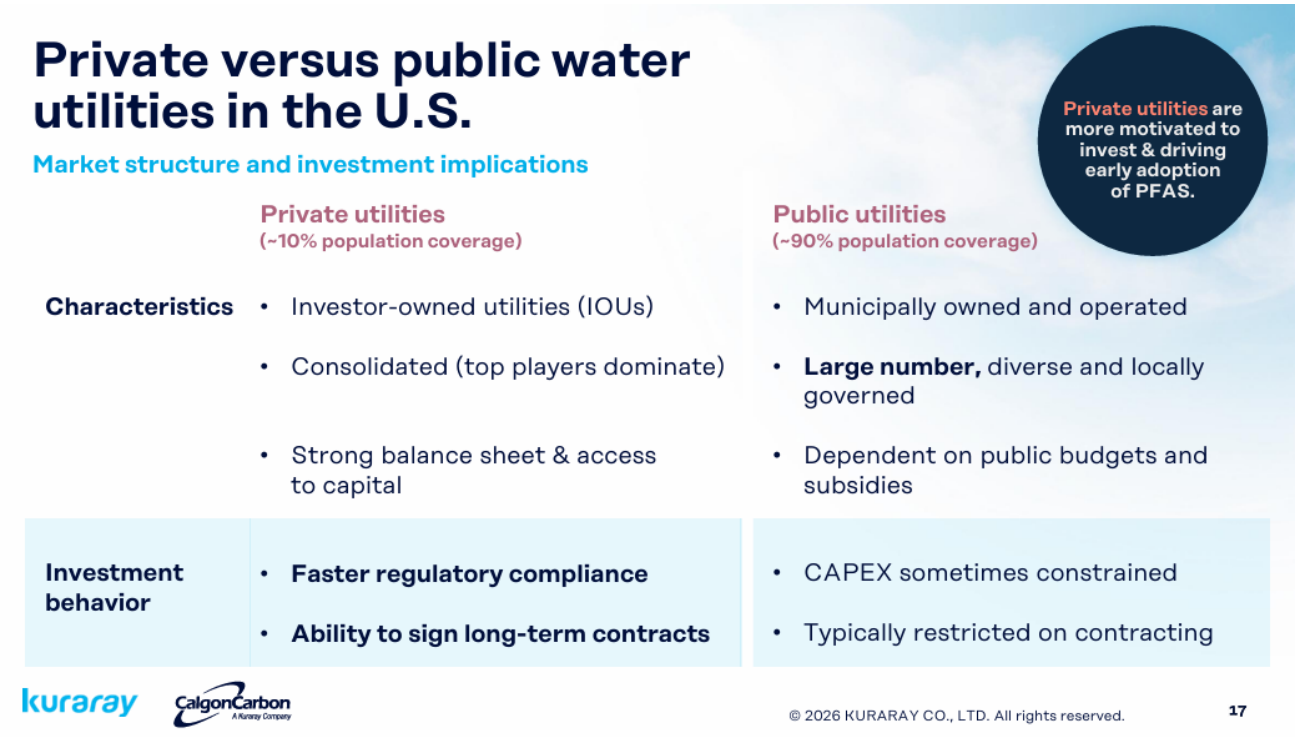


Slide 16 shows not only our growth outlook, but also the impact of public versus private segmentation in the drinking water market.

As described in the 2024 management briefing, we estimated the total annual market value for PFAS treatment for drinking water to be between USD1 billion to USD2 billion. Under today's pricing structure and with a greater number of utilities having reported results, we expect the market opportunity to be closer to the lower end of this range or at approximately USD1 billion. This includes all technologies, granular activated carbon, resin and reverse osmosis, and the associated equipment required to meet treatment objectives. This does not include onetime infrastructure costs such as site development, buildings, or other costs.

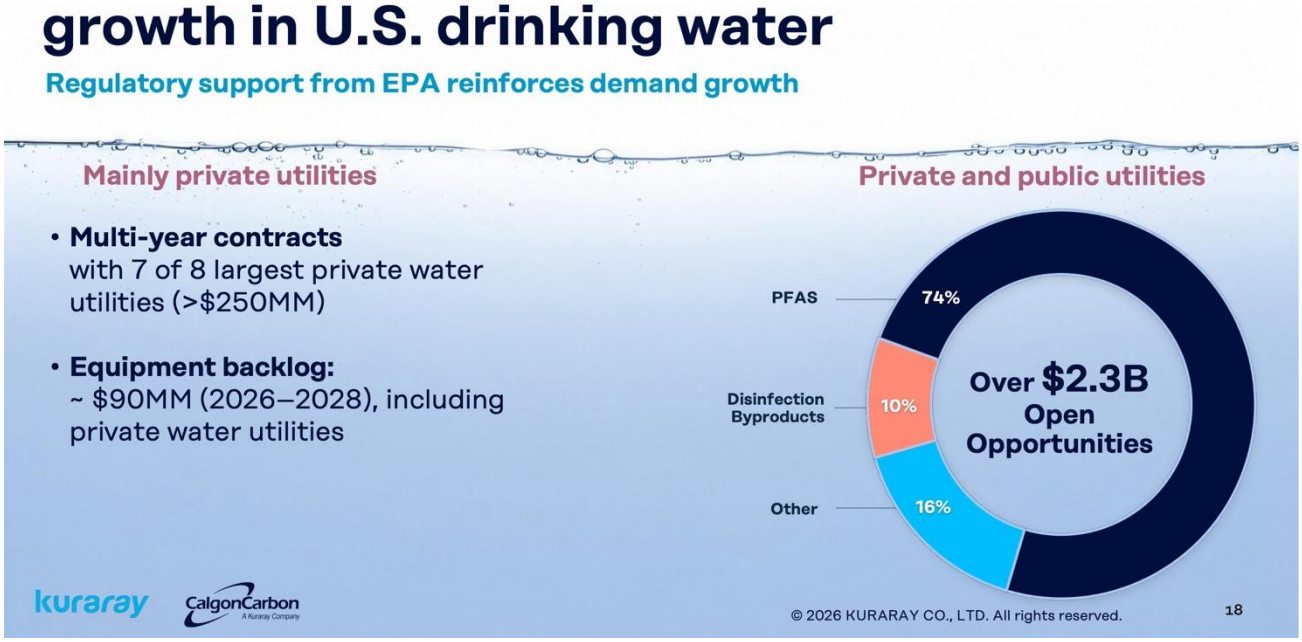
We estimate 75% of this total market value will be for GAC-related costs, including product, equipment, reactivation, and services. The high adoption of GAC is driven by surface water treatment, which we believe will predominantly favor granular activated carbon. For Kuraray, we estimate our revenues for PFAS treatment for drinking water will increase by 600% from 2023 to 2032, with future upside opportunity from price and additional volumes of water needing to be treated beyond the lower end of the range.

As compared to the 2024 briefing, this represents some delay in revenue realization because of the tariff policies at several countries, geopolitical tensions, and the delay in regulation. But with more than 90% of drinking water utilities having reported PFAS results, we have greater confidence in our estimate. As shown visually on the chart, we expect to realize growth driven by adoption from private utilities in advance of public utilities.



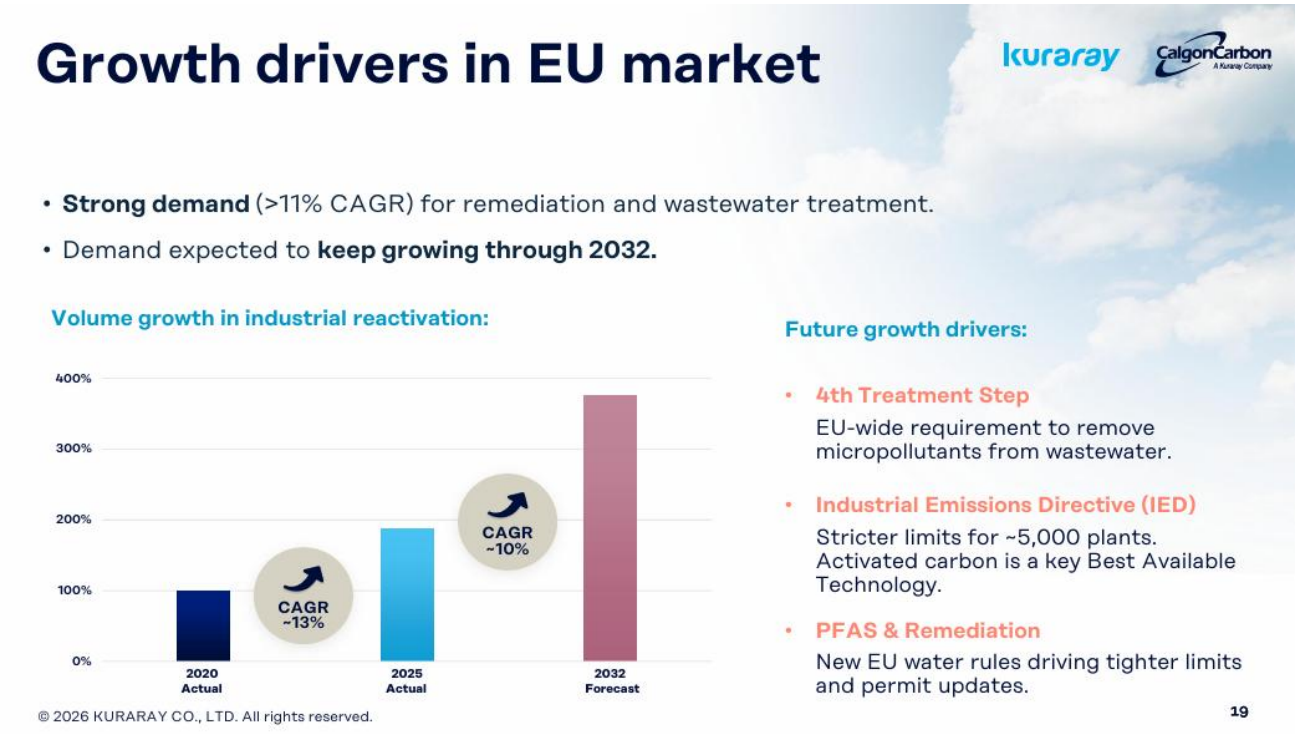
As shown on slide 16, there are two important types of water treatment utilities, public and private.

These two segments have different characteristics as highlighted on the slide. Importantly, private water utilities tend to move faster and have more motivation for early installation of treatment. At the same time, the number of public drinking water utilities is very large and represents a much larger portion of the overall drinking water treated. It is estimated that private water utilities treat approximately 10% of the water consumed by the U.S. population.



Moving to slide 18. This slide highlights the positive progress made in securing future commitments for PFAS treatment in the US drinking water market and our confidence in our market share assumptions.

We have secured contracts with seven of the eight largest private water utilities and have a strong backlog for equipment. Based on our progress with private drinking water utilities, we believe that our assumptions on both technology and Kuraray market share to be sound, if not conservative. Importantly, our team has identified over USD2.3 billion in new opportunities for the drinking water market for both private and public utilities, and we are actively working to secure these opportunities. The USD2.3 billion pipeline does not include already secured customer contracts or our base business today. As this value includes equipment and carbon, a good portion of the value would be recurring revenue from carbon exchange and reactivation.



Shifting to slide 19.

Europe is one of our main markets, representing 35% of our global business on a volume basis. Many of the drinking water and utilities in Europe already have granular activated carbon online for regulatory compliance. We believe that stricter PFAS regulations for drinking water will increase change-out frequencies and therefore, increase carbon volumes, but the impact will not be as pronounced as what is expected in the U.S.

However, since the 2024 management briefing, there has been some shift in the regulatory landscape in Europe, which will drive demand for activated carbon for both wastewater and industrial markets. The regulatory process in Europe is complex, with EU-driven regulations needing to be adopted into country-level requirements.

However, we expect to continue to realize strong growth in remediation and wastewater driven by three key new regulations. First, the Industrial Emissions Directive, which will impact industry. Next, we expect growth from a newly announced amendment to the water quality directive specific to PFAS limits. Finally, the EU recently adopted a requirement for a fourth treatment step in wastewater treatment, and activated carbon is a strong option to meet this requirement. We are already seeing adoption at a country level, but the requirement will be phased in over time.



Slide 20 provides an overview of the market growth for the environmental solutions division, considering the growth from PFAS, other regulatory drivers, and other new business opportunities that we previously discussed, including activated carbon for batteries and biogas.

Our view is that the growth drivers discussed today could increase our top line revenues by over 2.5 times from 2023 to 2032. To realize this improvement, we will need capacity, and we have already started to prepare for capacity expansions. Beyond the top line revenue growth from volume, we anticipate betterment in our profit contribution from price increase, product mix betterment, and expanded service offerings.

We are optimistic about the future, and our strengths position us well to realize this growth. We will continue to invest in innovation and evolve our business models, which will present additional upside opportunities beyond what we have discussed today. Importantly, growth of the environmental solutions division will help Kuraray fulfill its mission for the people and the planet to achieve what no one else can.

Thank you for your time, and we will now take questions.