

## Observations from the U.S. Delegation's Circular Water Economy Visit to Japan

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### 1 · Introduction

The interaction between our association and the WEF dates to before the establishment of our association in 1964.

In recent years, exchanges have taken place in the form of presentations by our members at WEFTEC, co-hosting of JSWA/WEF/EWA Special Conference, dispatching seminar lecturers to Japan, field studies in the U.S. by our members, and exhibitions at WEFTEC by our members.

From August 25-29, 2025, for the first time in our long history of exchanges, WEF dispatched a delegation to Japan. The theme of the study was "Japan's Circular Water Economy."

It is thoughtful to see that, after more than 60 years, Japanese sewage systems have gained recognition to the point where the United States, which we once looked up to as a model, is sending a study delegation.

The author accompanied the delegation, creating a visit program in cooperation with them to reciprocate the kindness we had received so far. This article provides an overview of the WEF's visit and study activities in Japan.

### 2 · The Delegates and Itinerary

The delegates are shown in Table 1. Members ① to ③ are WEF executives and staff. Five members, ④ to ⑧, were selected from WEF members through a public recruitment process. There were 71 applicants for the five available spots.

Table 1 - Delegate Roster

Number	Affiliation	Post	Full Name	Work History
①	WEF	President-elect	Keith Hobson	Consultant for more than 40 years in water treatment facility design.
②	WEF	Senior Director, Circular Water Economy	Fidan Karimova	She has worked for over 16 years at three non-profit organizations, including WEF, where she has been involved in advancing technological innovation and entrepreneurship in the water sector.
③	WEF	Senior Advisor, Resource Recovery	Justin Mattingly	He worked for the US Environmental Protection Agency (EPA) for 10 years and the Water Environment Research Foundation (WRF) for 5 years, focusing on promoting the reuse of treated wastewater and technological development. He will join WEF in May 2025.
④	Passaic Valley Sewerage Commission	Senior Engineer	Marques Eley	After working as a consultant for three years, he has been working in sewerage work (design, construction, maintenance) for his current local government for 22 years.
⑤	Central Contra Costa Sanitary District	Manager, Resource Recovery & Development Services Division	Melody LaBella	She has worked at her current workplace for 25 years, mainly in the fields of water treatment and sludge treatment.
⑥	Town of Tonawanda	Director of Water and Wastewater	Michael Kessler	After working for a tire manufacturing company (Sumitomo Rubber) for 17 years, he moved to the water and sewerage department of a local government and has been engaged in water and sewerage management for 18 years. This is his second time working in a local government.
⑦	Capital Region District	Manager, Process Engineering	Sadra Heidary-Monfared	He has worked for the current local government for three years and for a previous job at a Canadian water and sewerage management company for 10 years, where he has been involved in the construction and maintenance of sewerage facilities.
⑧	Freese and Nichols	Senior Treatment Process Leader	Viraj deSilva	He has been involved in the design and construction of water and wastewater treatment plants for 30 years, primarily in his current position.

**Table 2 – Delegate Itinerary**

Date	Time	Topic	Organization	Place
8/25/2025	AM	Zero Discharge	Toshiba Corporation	Tokyo
	PM	Discharge Tunnel	Edogawa Construction Office	Saitama Prefecture
8/26/2025	AM	Turbid water measures	Fukuoka City Waterworks Bureau	Fukuoka City
	PM	Individual circulation system	Canal City Hakata	
	PM	Reclaimed water, hydrogen business, etc.	Fukuoka City Road and Sewerage Bureau	
8/27/2025	AM	Recycling of Industrial Waste	Kitakyushu Eco Town Center	Kitakyushu City
	PM	Water Plaza	Kitakyushu City Waterworks and Sewerage Bureau	
8/28/2025	AM	Overview of the business and fuel conversion business	Osaka City Construction Bureau	Osaka City
	PM	Fuel Facility	Biocoal Osaka Hirano Co., Ltd.	
8/29/2025	AM	Groundwater Management Services for Businesses	Suntory Limited	Tokyo

The survey schedule is shown in Table 2. WEF defines the circular water economy as "reducing waste, recovering nutrients and energy, and recovering nature to increase the efficiency and sustainability of resource utilization." In the United States, there is a concept of using water stored during floods for groundwater recharge, so the Metropolitan Area Outer Discharge Channel, which is not considered relevant to the circular economy in Japan, was also selected as a visit destination.

### 3 · Study Tour Feedback

During the tour of the Metropolitan Area Outer Underground Discharge Channel (Photo 1), in response to the Edogawa Construction Office's

explanation about the gradient of 1/4000, which is connected to Tokyo Bay, a comment was made, "Then it's a swamp." There was also a comment that, "With a storage tunnel of this size, we could solve the problem of combined sewer overflows during rainy weather that is plaguing us."

Regarding the Fukuoka City Waterworks Bureau's explanation that "we renew 45 km of water pipes annually and have achieved a leakage rate of 1.8%," a comment was made, "It's amazing that they are renewing such a long stretch of 45 km every year in this densely populated city."

During the tour of the Fukuoka City Road and Sewerage Bureau's Chubu Water Treatment Center (Photo 2), a comment was made, "It's unbelievable that the mechanical thickener doesn't smell this much."



**Photo 1: Visit to the Metropolitan Area Outer Underground Discharge Channel**



Photo 2: Visit to Fukuoka City



Photo 3: Visit to Kitakyushu City

During the visit to Kitakyushu City (Photo 3), it was explained that the city once prospered through coal and steel, though the steel industry has since declined. Participants noted that despite a smaller population, the industrial areas appeared well-organized, contrasting with former coal and steel cities in the United States. In Osaka City (Photo 4), participants were surprised to learn that a 24hr shift is employed at Hirano WWTP's pyrolysis facility.



Photo 4: Visit to Osaka City

## 4 · Conclusion

The delegates engaged in detailed exchanges of opinions with the presenters at each receiving institution (for example, confirming the moisture content of the input and output at each sludge treatment process). They were satisfied with the thorough answers they received at each visited location. I appreciate their serious engagement and respect for our local culture on the visits.

The delegates reunited at WEFTEC 2025, a wastewater exhibition and research presentation organized by WEF held in Chicago at the end of September, and held a panel discussion (Photo 5) to share what they had learned in Japan with WEFTEC participants.

Finally, we would like to express our sincere gratitude to all the municipalities and companies that cooperated in receiving the survey team. We were unexpectedly pleased to receive comments from the visited municipalities, such as "We frequently receive visits from survey teams from developing countries, neighboring advanced Asian countries, and Middle Eastern countries, but this is the first time we have received a survey team from the West. It was a good opportunity for the development of young talent."



Photo 5: Panel presentation at WEFTEC 2025