



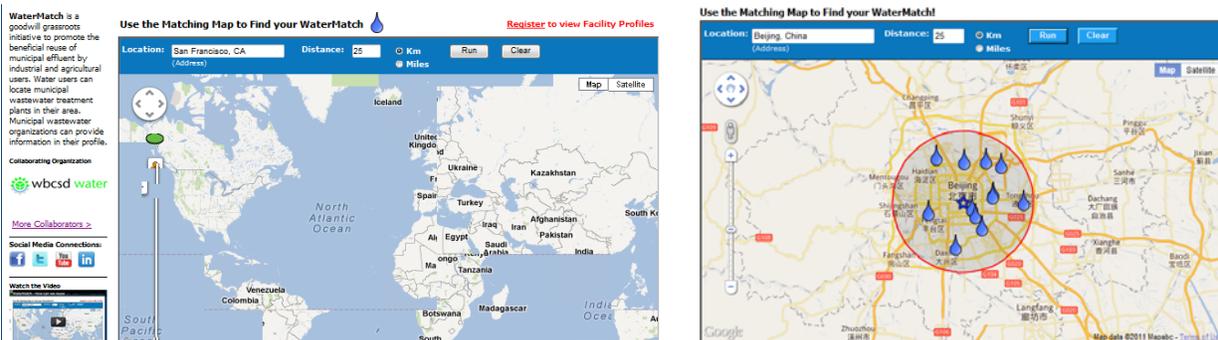
WaterMatch Makers Brief for Municipalities

The purpose of this document is to provide an understanding of the WaterMatch Initiative and a university's role as a WaterMatch Maker. This document is intended for distribution by a university to municipalities in their area.

What is WaterMatch?

The purpose of the CH2M HILL WaterMatch Initiative is to promote the beneficial reuse of municipal effluent for industrial and agricultural use on a global basis starting at the **grassroots** level. This is a non-commercial initiative in which no fees are required for participation by users, partners or collaborating companies. A video description is available on YouTube. <http://www.youtube.com/watch?v=SBLcJhFLzHc>.

WaterMatch Website and Map: An online map application allows industrial and agricultural water users to locate nearby municipal wastewater treatment plants (WWTPs) as a potential solution for site-specific water resource needs. WaterMatch is housed on CH2M HILL's external website at www.ch2mhill.com/WaterMatch. The map application includes locations of WWTPs worldwide. Users can search the map for nearby WWTPs, as a consumer might search an area for a bookstore, by entering their location and choosing a search radius:



WaterMatch Social Network Connections: The Matching Map enables personnel who work in municipalities, industries and agriculture to find, connect, and collaborate with each other on a local basis.

What is the WaterMatch Makers University Program?

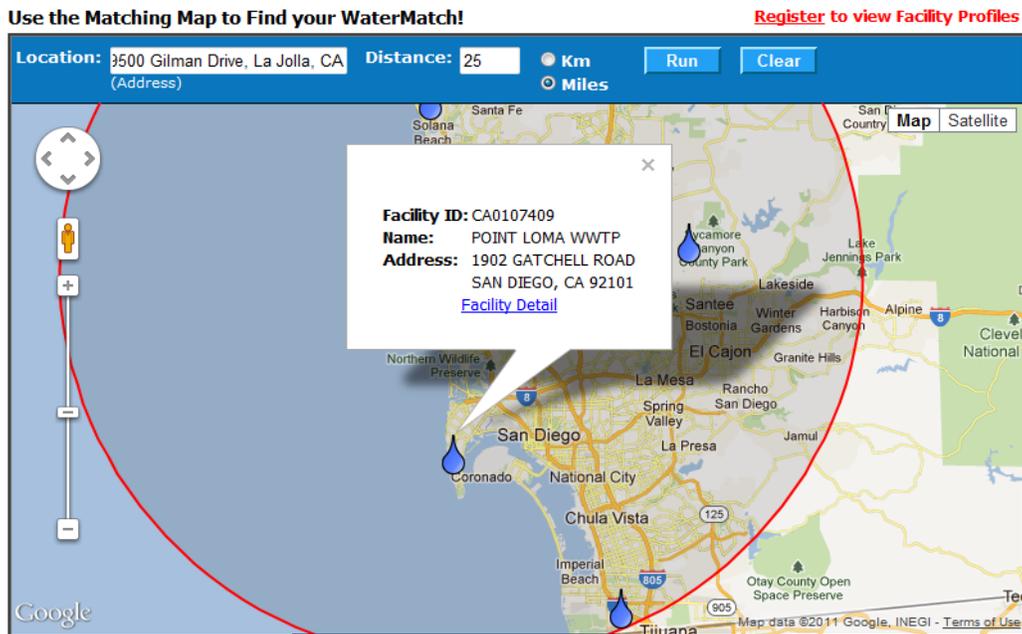
Universities in the WaterMatch Maker Program are participating in a global effort to promote beneficial reuse of municipal effluent. Each university is working to identify and add municipal wastewater treatment plants in their area onto the global WaterMatch map. The universities are contacting their local municipalities to request that they provide Facility Profile information so that potential water users can contact them.

WaterMatch seeks to leverage the tremendous power of social networking, university networks and their local connections with communities to build a comprehensive, global map of new water resources. WaterMatch offer the universities a way to build water awareness with their students and allows the students to constructively engage in their communities.

What Information is Requested from Municipalities?

Universities are requesting two levels of information from municipalities:

1. **WWTP Names and Site Locations** – name of WWTP, street address and lat/long coordinates for mapping



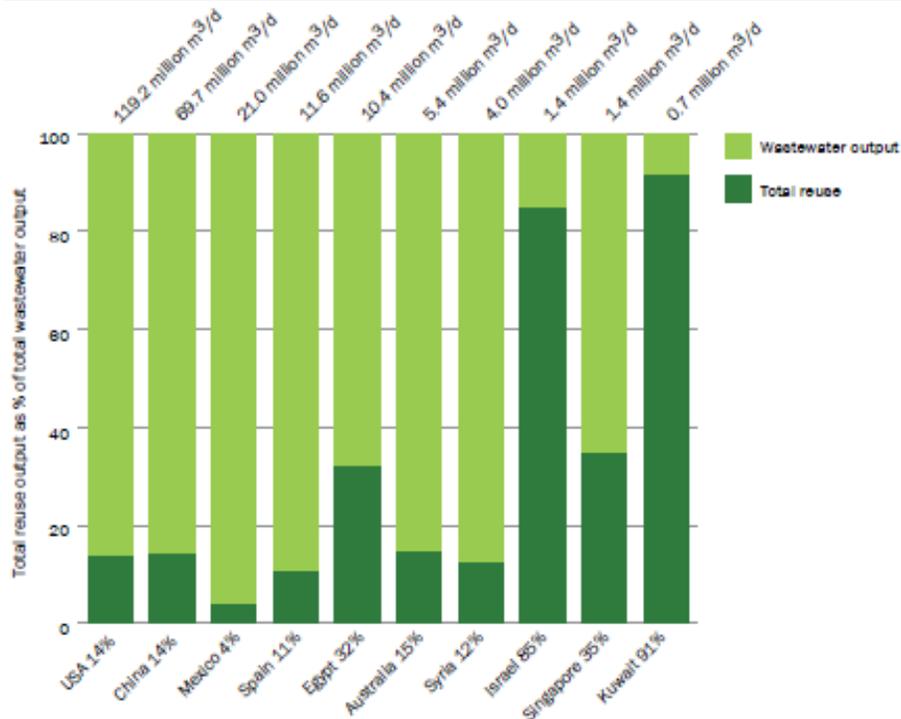
2. Facility Profile Information – Basic information on capacity and availability of effluent

WATER MATCH		CH2M HILL
WWTP Facility Profile		
Facility Information		
Facility Name:	POINT LOMA WWTP	
Facility/Permit No.:	CA0107409	
Facility Address:	1902 GATCHELL ROAD	
City:	SAN DIEGO	
Country:	United States	
State/Province:	CA	
ZIP/Postal Code:	92101	
*Latitude:	32.687410000000	
*Longitude:	-117.249090000000	
*Send all update requests for these coordinates from the Feedback page.		
Does the facility participate in Effluent Reuse?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Availability of Effluent for Industry Reuse?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Facility Capacity (MGD):	<input type="text"/>	
Facility Effluent Discharge (MGD):	<input type="text"/>	
Contact Information		
Name:	<input type="text"/>	
Address:	<input type="text"/>	
City:	<input type="text"/>	
State/Province:	<input type="text"/>	
ZIP/Postal Code:	<input type="text"/>	
Country:	<input type="text"/>	
Email Address:	<input type="text"/>	
Comments		
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Why is WaterMatch Needed?

Beneficial reuse of municipal effluent is a win-win-win approach to water management with numerous benefits to the environment, people and industries and agriculture. According to *Global Water Intelligence*, “It is only by setting the target of **reusing half of the world’s domestic water supply** that the world can meet its water challenge over the next two decades without imperiling the environment.” Yet water reuse rates around the world are low, as shown in the chart below.

Figure 3.4| Total water reuse versus estimated wastewater output in selected countries



Source: CWI

While there are many hurdles to overcome in creating a multi-stakeholder water reuse program, the first hurdle is finding a potential match. WaterMatch was created to help the world clear that first hurdle. Industrial and agricultural companies may use the WaterMatch Map to find WWTPs close to their operations and then use the social networking function to connect with the utilities operating those plants. Water users can find WWTP locations in their area and then contact the municipality and start a discussion off-line of WaterMatch.

Example of Water Reuse by Industry

Reuse of municipal effluent by industries and agriculture has been proven to be technically possible and economically efficient in many applications and countries. An example of municipal effluent reuse by a power plant in New York, US highlights the strong business case:

Empire Generating Project, Rensselaer, New York



The Empire Generating Power Plant is a 635 megawatt natural gas fired combined cycle power station located in Rensselaer, NY, which started operations in September, 2010. Instead of abstracting from the Hudson River, the power station utilizes non-disinfected municipal secondary effluent as its only process water supply. This allows the facility to conserve fresh water consumption by as much as 4800 gallons per minute during the summer high demand period. The project included tunneling underneath the Hudson River for the purpose of conveying the municipal effluent to the power plant.

In supporting web-material, we've posted additional case studies and included links to technical documents from many organizations to help users with the next steps of project development.

Benefits to Industrial and Agricultural Users

WaterMatch and municipal effluent reuse provide the following benefits to companies:

- Access to information and creation of local relationships to enable expansion of municipal effluent reuse in their operations.
- Promotion of public-private partnerships and reduction of fresh water use around the world.
- Increase in water supply diversity and reliability for their operations because municipal effluent offers a secure source of relatively good quality water.

Benefits to Municipal Users

WaterMatch provides the following benefits to Municipalities:

- Access to industrial and agricultural water users and creation of local relationships to enable expansion of municipal wastewater reuse from their facility.
- Promotion of public-private partnerships and reduction of fresh water use in their community.

Benefits to Communities and the Environment

When municipal effluent is reused by industries and agriculture, there are numerous benefits to communities and the environment:

- **Environmental:** Industrial and agricultural freshwater use is reduced, increasing freshwater supply for human use and/or ecosystems. Municipal wastewater is beneficially reused. Energy may be saved from reduced treatment and transportation.
- **Economic and Human Health:** Wastewater treatment costs for municipalities may decrease because the required quality for industrial or agricultural use may require less treatment than discharge. Industries may provide some funding for municipal wastewater treatment plants in developing countries. In urban environments, this promotes the sustainability of cities.

Public Launch of WaterMatch in October 2011

The WaterMatch initiative was launched at the WEFTEC Conference in Los Angeles, California with strong media coverage and stakeholder response. Since the launch, the WaterMatch Matching Map has been accessed by thousands of users in more than 30 countries.

**Our motive is simple:
to promote beneficial water reuse around the world today.
Join us and help make matches happen.
Because no water should be wasted.**

Questions: Contact us at WaterMatch@ch2m.com

www.ch2mhill.com/WaterMatch

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