

**Water Management Group** **valmont** 

IRRIGATION

**Water Solutions for the World**





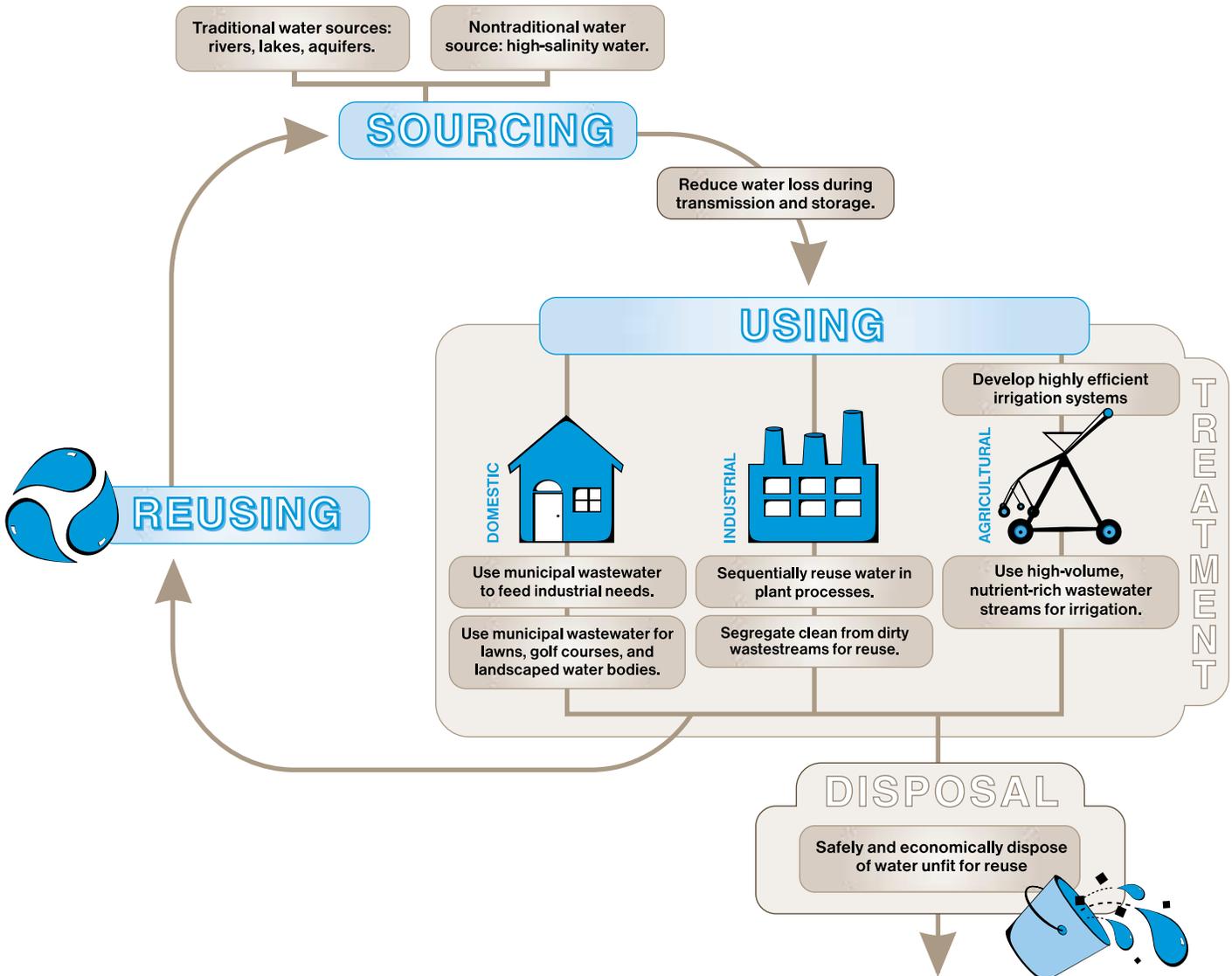
The world's water resources are finite. Everyone benefits from their efficient use, both economically and environmentally. Intelligent use and reuse of water saves money in treatment costs and reduces your environmental impacts regardless of your sector — municipal, agricultural, or industrial. The easiest way to most efficiently use your water is to see an expert in the water management field. Valmont Water Management Group is that expert. Our clients around the world maximize their water resources by utilizing carefully developed, comprehensive water management strategies. You can, too.

# The Cycle of Water Usage.

## Keep the Water and Profits Coming Back to You.

The relationship between water and humans is simple. We find a source. We use the water. And then we dispose of it. By rethinking our relationship with water at each of these contact points, we can dramatically increase the efficiency of the original water source and the profitability of those who use it. A large part of rethinking our relationship with water comes in its reuse, which can be both very safe and extremely profitable.

Valmont Water Management Group uses proven methods to maximize your available resources wherever you contact them — at the source, during use, or after use. Just look at some of the possibilities illustrated below.



# Valmont Water Management Group

## Your Only Choice for Comprehensive Water Strategies.



Valmont Water Management Group has expertise and resources that no other company can offer. We're uniquely qualified to develop and implement a comprehensive water management strategy that encompasses water and energy efficiency, environmental impact, and financial stability and profitability.

Known as the preeminent leader in mechanized move irrigation, Valmont has led the world for more than 50 years in the development of water-efficient irrigation technology that's appropriate for large-scale agribusiness. After acquiring the patent for the center pivot in 1954, we have constantly improved irrigation technology in terms of water application, computerized, electronic control systems, heavy-duty construction, fertigation, extreme climates, wastewater application, and special crop applications for trees and sugar cane. This has given us experience and knowledge unrivaled in our industry.

In addition to decades of manufacturing and engineering superiority, Valmont Water Management Group has a team of soil scientists, hydrologists, agronomists, engineers, and geophysicists with a wealth of knowledge in environmental issues, particularly in land-based water treatment including feasibility studies, site selection, project management, record keeping, regulatory compliance, water conservation, irrigation, and energy-efficient irrigation schemes. Valmont Water Management Group draws on all of these resources to offer unparalleled water management services to governments and multinational corporations worldwide.

### Turnkey Solutions

Valmont Water Management Group's comprehensive strategy is just the beginning. Our turnkey delivery systems complete the package. When we design-build, you can significantly reduce administrative costs and shorten project timelines. There are fewer contractors to manage, fewer reports to review, and we make clear who is responsible for all aspects of your project. As a single-source contractor, we also understand the impact a decision makes on all other parts of the project and the total water supply.



# Proven Water Management Strategies

Valmont Water Management Group has the experience, the knowledge, and the professionals to help you achieve your goals, as the following case studies clearly illustrate.

GZ-CRCOS

## **SUCCESS STORY: Sourcing Solutions for Soviet-Era Irrigation System**

The young government of the post-Soviet Republic of Georgia asked Valmont Water Management Group to assess the feasibility of developing irrigation from groundwater and surface water in a previously cultivated 5,000-hectare area where some water conveyance infrastructure remained from the Soviet era. To quantify the approximate irrigation demand in the area, we consulted Soviet soil maps as well as Georgian agronomists and soil professionals. We also measured the water quality and quantity in the adjacent Rioni River and in the local production wells to determine whether the water supply was adequate and suitable for irrigation. Our findings determined that the water supply would meet irrigation demands; however, the existing infrastructure required major upgrading before irrigated agriculture could make the land productive and profitable again.



GZ-SU

## **SUCCESS STORY: Using Water Produced in Coal-Bed Methane Extraction for Irrigation**

A coal-bed methane (CBM) producer in the Western U.S. generates a considerable amount of production water and was in need of a water management strategy other than surface discharge. Valmont Water Management Group designed, built, and continues to operate an irrigation and amendment system that irrigates 40 hectares (100 acres) of land to grow range vegetation for livestock and wildlife. This was both environmentally friendly and the most cost-effective solution for the company when compared to mechanical water treatment systems or other solutions.



GZ-SUMR

## **SUCCESS STORY: Reusing Industrial Wastewater for Financial and Environmental Savings**

At a meat-packing plant in the rural United States, Valmont compared the costs of mechanically treating wastewater with the costs of natural treatment through land application. While the initial capital expenditure for water disposal with either method would be nearly identical, natural treatment would save more than \$1 million annually in operations and maintenance costs. Plus, a land-based treatment system would feed surrounding wetlands, providing environmental benefits in the area. In general, natural wastewater treatment regularly saves 50% for both industry and municipalities, when compared to mechanical wastewater treatment that discharges into local waterways.



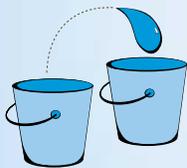
# Need More Water?

With 97% of the world's water contained in salt-water bodies and two percent frozen in the polar ice caps, only one percent of the world's water is available for domestic, industrial and agricultural uses. Unfortunately, that water is not evenly distributed across the world's population base. Some people have an abundant water supply, while others have almost zero water resources. Valmont Water Management Group can help you better conserve and multiply your available resources at every step in the water usage cycle — sourcing, usage, and disposal.



## Improving Distribution Systems

Significant water is often lost in the process of getting agricultural water to the field for crop production — leaky open-channel ditches can lose more water than they deliver, and vegetative growth in ditches increases evaporation and reduces flow. To combat these water losses, Valmont Water Management Group can significantly increase water availability through cost-effective improvements to the water distribution system.



## Utilizing “Off-Specification” Water

The ideal water quality for irrigation is quite different from ideal drinking water for humans. High nitrates — which can be toxic to people — actually act as fertilizers to plants. Recognizing that water quality should match a specific water use is one effective method of expanding your water supply. So-called ‘off-specification’ water includes cooling water from industrial plants, brackish water from coastal areas, and saline ground water from coal bed streams. Valmont Water Management Group has put all these kinds of water to use for clients around the world in agriculture and industry.



## Reusing Water

Municipalities and industries alike produce a constant supply of water that continues to go largely untapped. Valmont Water Management Group is a key player in the daily reuse of millions of liters of this “wastewater.” We're currently using water from cities, food-processing plants, mines, and power-generating facilities to expand the water supply to clients around the world.



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