

The Promise of Water Innovation: A Cleantech Perspective

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Agenda

Water Innovation in Perspective

The Water Market Today

Emergence of Innovation: Towards a New Water Use
Paradigm



Water Technologies Core to Broader Cleantech Ecosystem



ENERGY

Energy Generation, Storage, Infrastructure and Efficiency



TRANSPORTATION

Vehicles design and technology, fuels and logistics



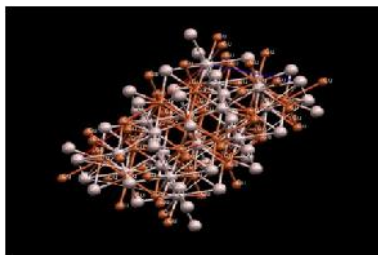
WATER

Filtration, purification, water conservation and wastewater treatment



AIR & ENVIRONMENT

Remediation, emission control, trading and offsets



MATERIALS

Nanotech, biotech, chemical materials



MANUFACTURING

Monitoring/control appliance and smart production industries



AGRICULTURE

Land management, natural pesticides, natural fertilizers, irrigation

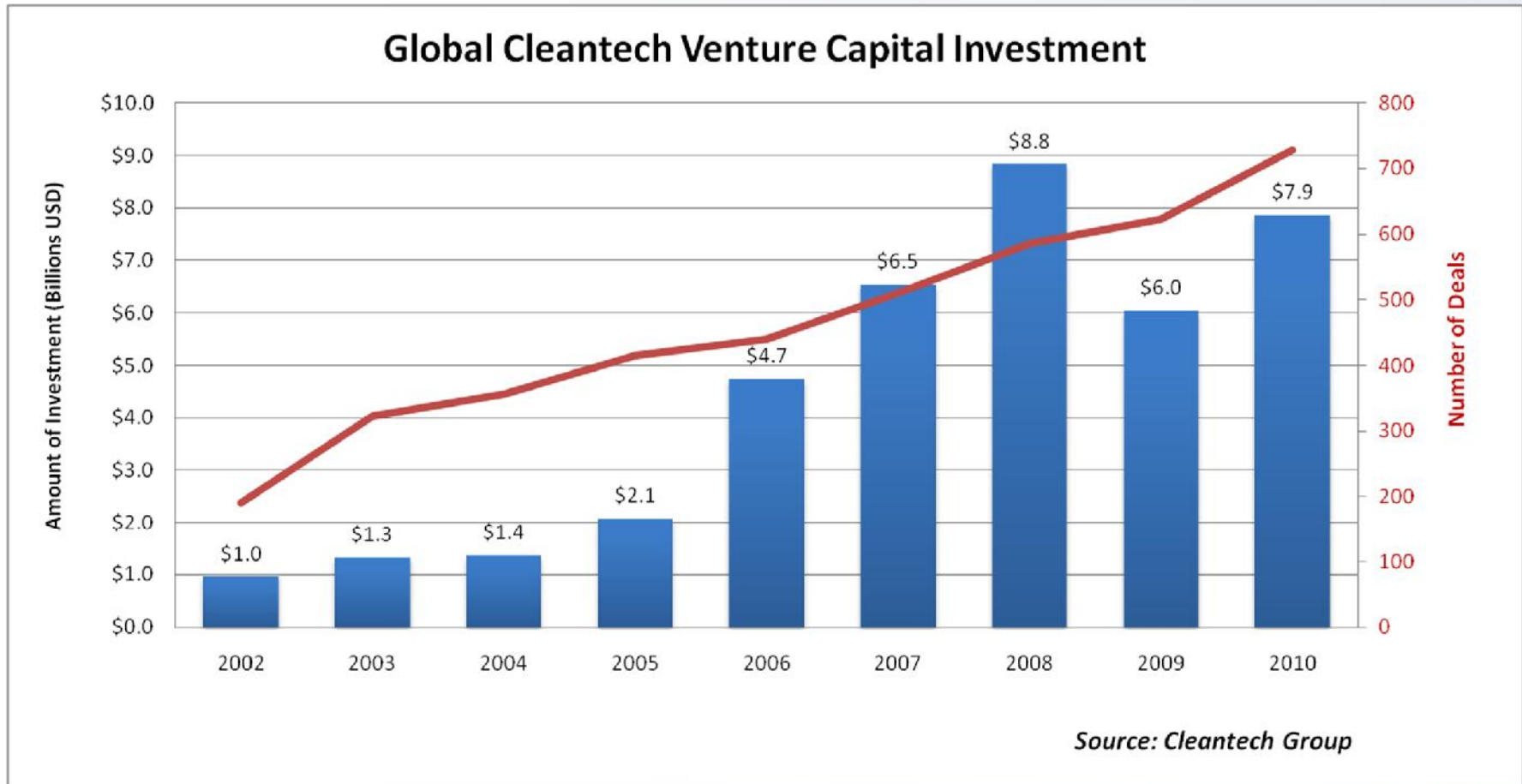


RECYCLING & WASTE

Various recycling services and waste treatment services

Cleantech companies not only provide the technology solutions to more sustainably use our resources, but make a sound business case to do so.

Cleantech Attracts Significant 'Innovation Finance'



Since 2002, investors have poured billions of dollars into various clean technologies

Tool for Resource Security & Economic Development

Highlighting Job Creation: Recent Global Clean-Tech Facility Openings, Expansions, and Announcements

Company	Location	Technology	Annual Production Capacity	Expected Number of Jobs	Date Opened/Announced
OCI	Gunsan, South Korea	Solar: Polysilicon	10,000 Metric Tons	500	Target Opening December 2010
Canadian Solar	Guilou, Canada	Solar: PV Modules	200 MW	500	Targeted Opening Early 2011
Bosch Solar Energy	Amsdorf, Germany	Solar: Crystalline Solar Cells	420 MW	1,100 by 2012	Commissioned August 2010
Gamesa	Da'an, China	Wind: Turbine Manufacturing	500 MW	Gamesa employs more than 1,000 at four Chinese facilities.	Targeted Opening 2011
Acciona	Lumbier, Spain	Wind: Turbine Manufacturing	450 Wind Turbine Blades	148	Commissioned June 2010
A-Power Energy Generation Systems	Southern Nevada	Wind: Turbine Assembly	1.1 GW	1,000	Targeted Opening
Dow Chemical/TX Advanced Battery	Midland, Michigan	Lithium-Ion Batteries for EVs			
A123 Systems	Livonia, Michigan	Lithium-Ion Batteries for EVs			
Tesla Motors	Fremont, California	EV Assembly (Model S)			
General Motors	Shanghai, China	EV Technology Center (R & D)			

Source: Clean Edge, Inc., 2010

Cleantech manufacturing jobs grow in China, South Korea, Japan, Taiwan and Singapore for solar panels, advanced batteries and wind turbine components.

Germany and Denmark continue to expand their clean energy manufacturing capacity



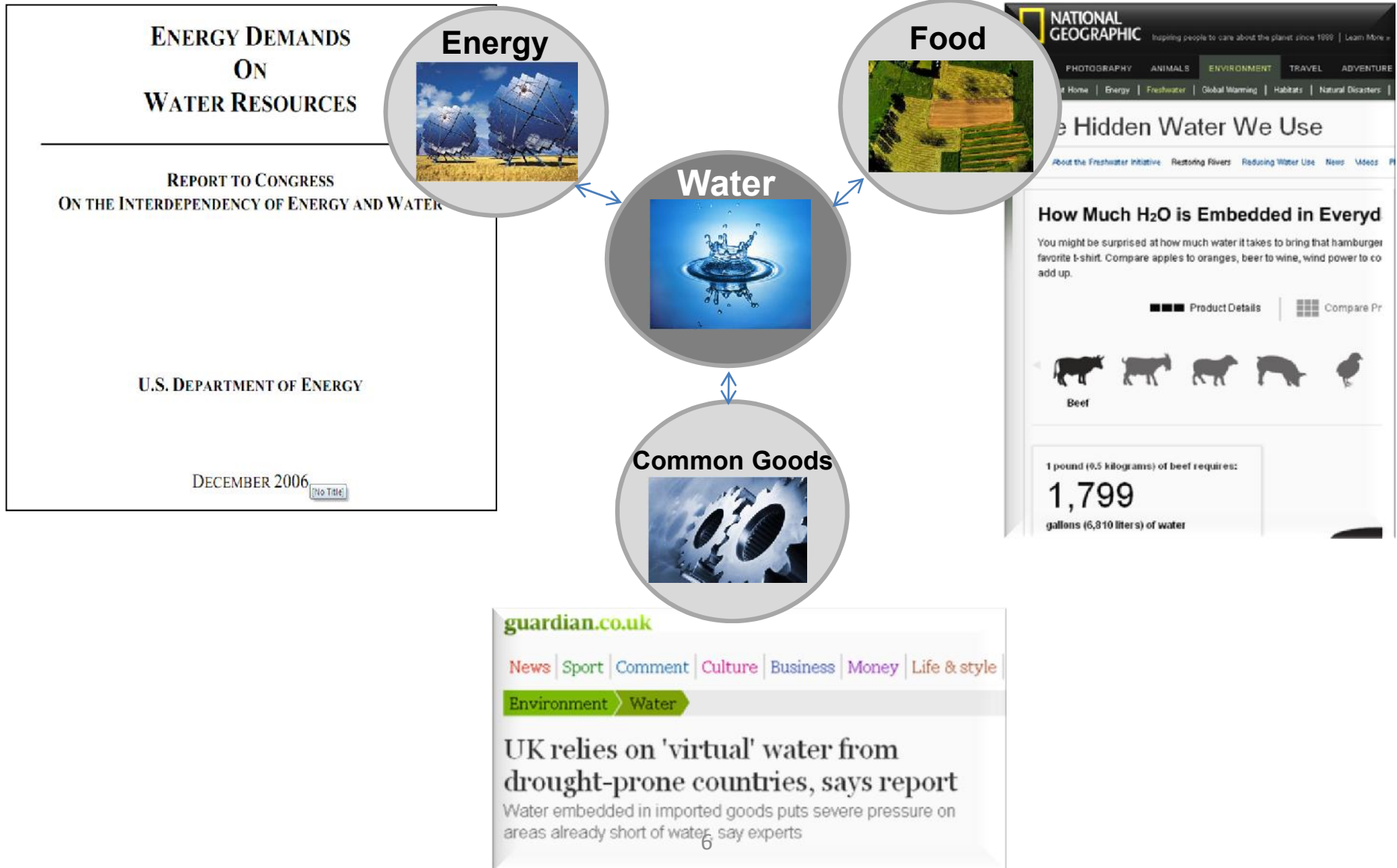
Water for the Future
Water in Australia



PUB, Singapore's national water agency.

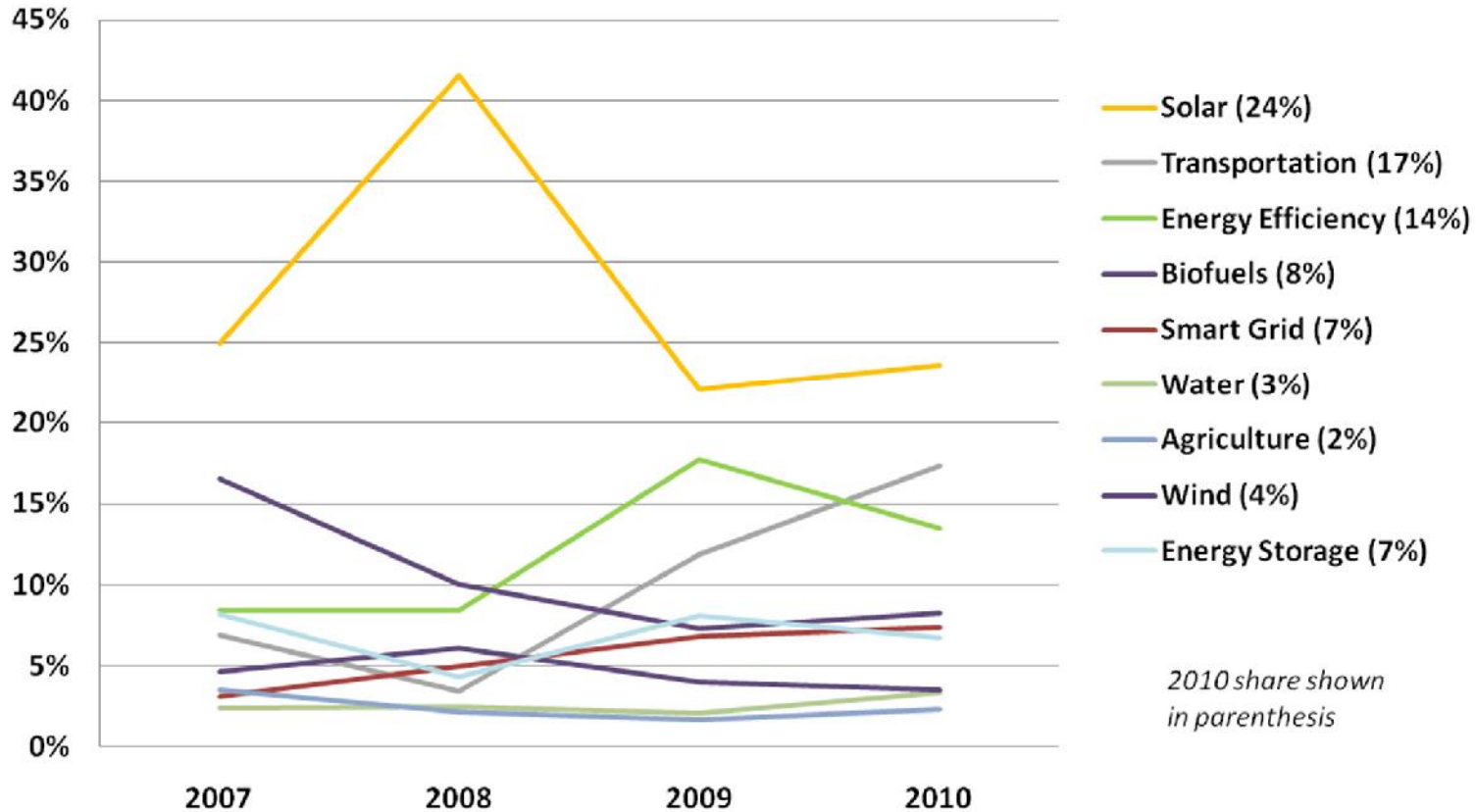
Managing the country's water supply, water catchment and used water in an integrated way.

Water Innovation is Critical



Cleantech Sectors are not 'Equal'

Share of Cleantech VC Investment by Technology (Global)



Energy related technology investments accounted for 64% of 2010 total.

Complex and Fragmented Water Market

1. Geographic Differences

2. Fragmented Customer Base

Asset Owners



Asset Operators



Engineering Services & Systems Integrators



Equipment Vendors



3. Disaggregated Processes

Extraction

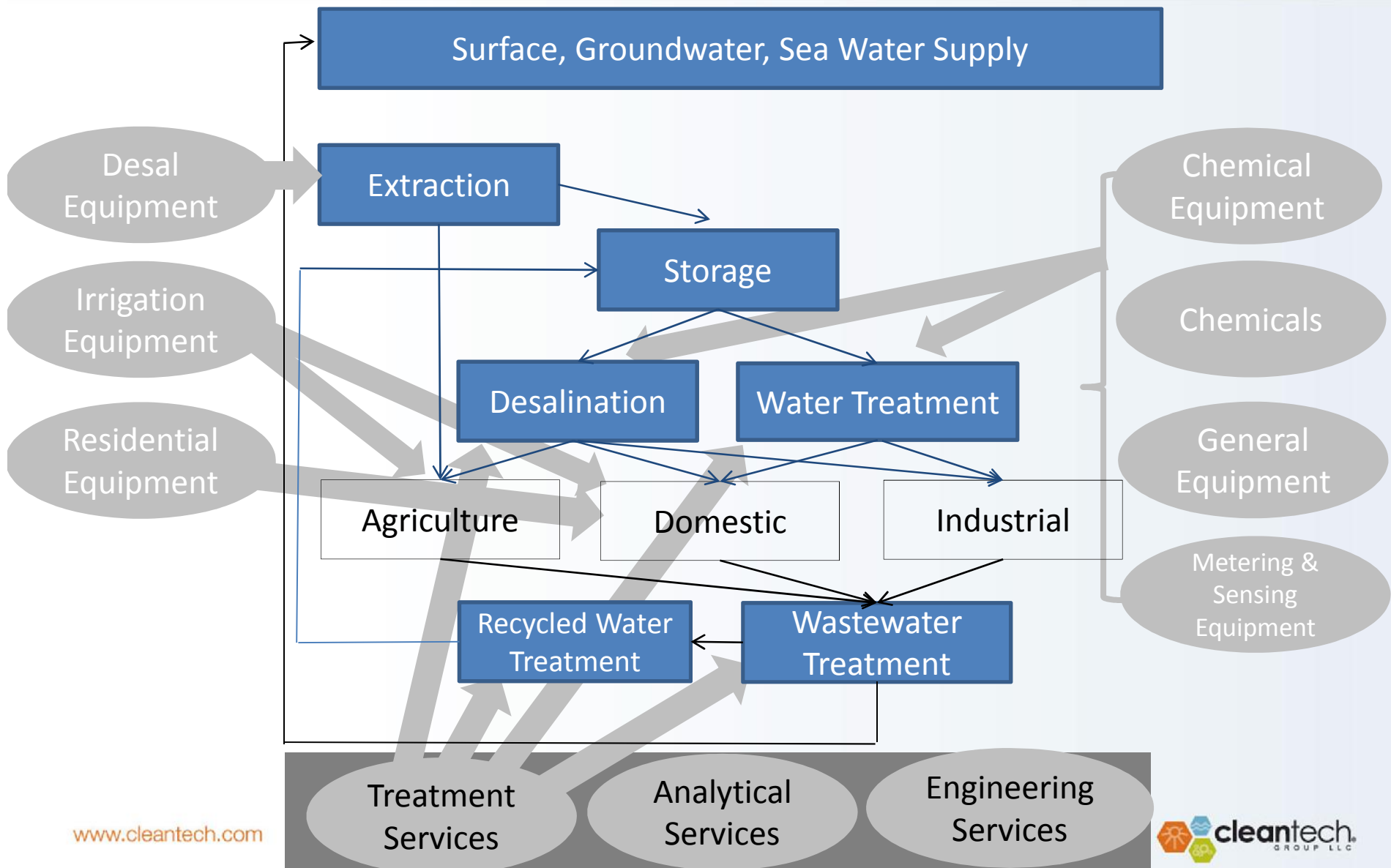
Treatment

Distribution

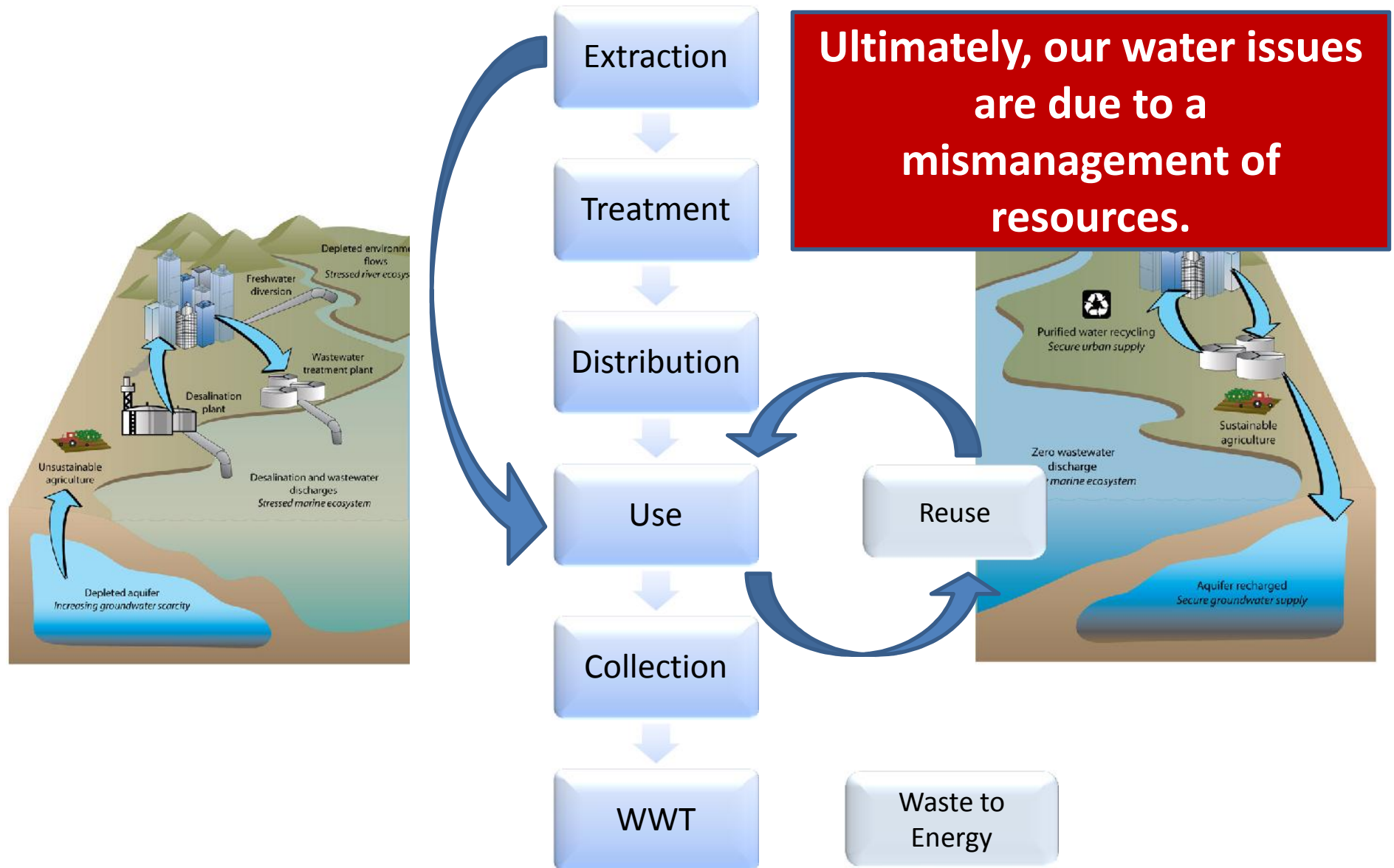
Use

Collection/
WWT

Investing in Water Is Not for the Faint of Heart



Innovation Addresses a Shift Towards Sustainable Water Use



Evolution of the Innovation Stack



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Energy Generation, Storage, Infrastructure and Efficiency



TRANSPORTATION

Vehicles design and technology, fuels and logistics



WATER

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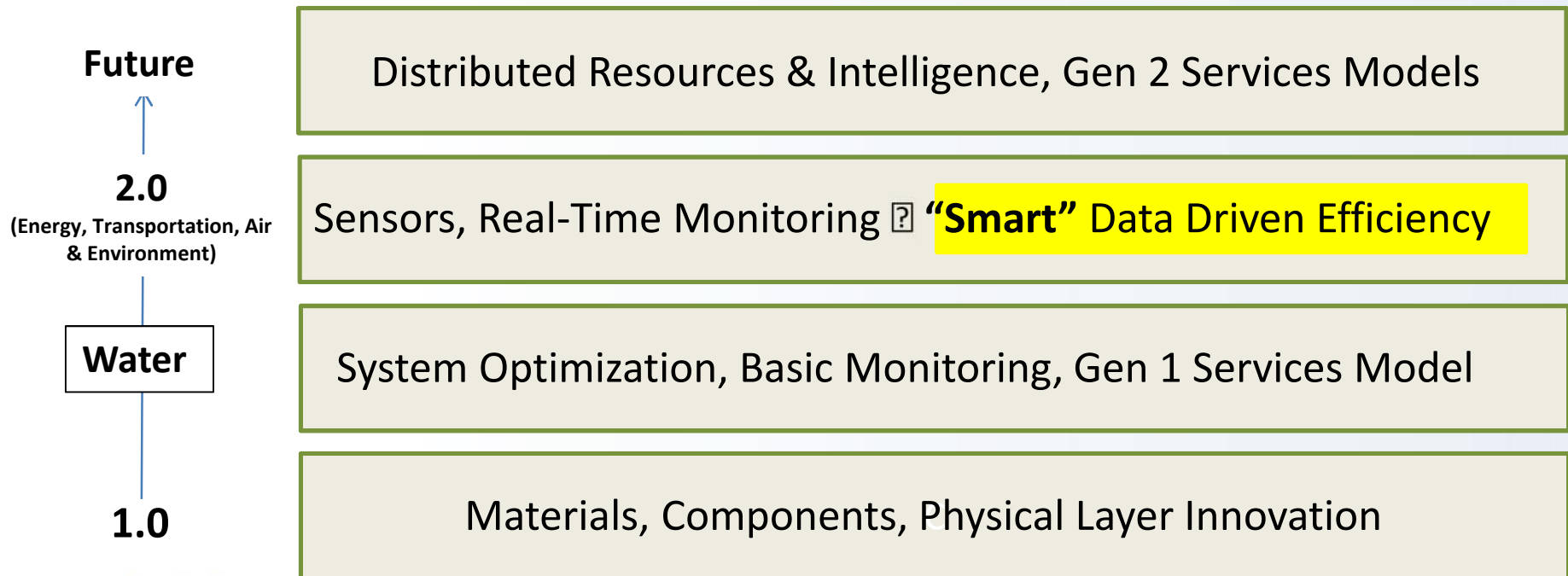
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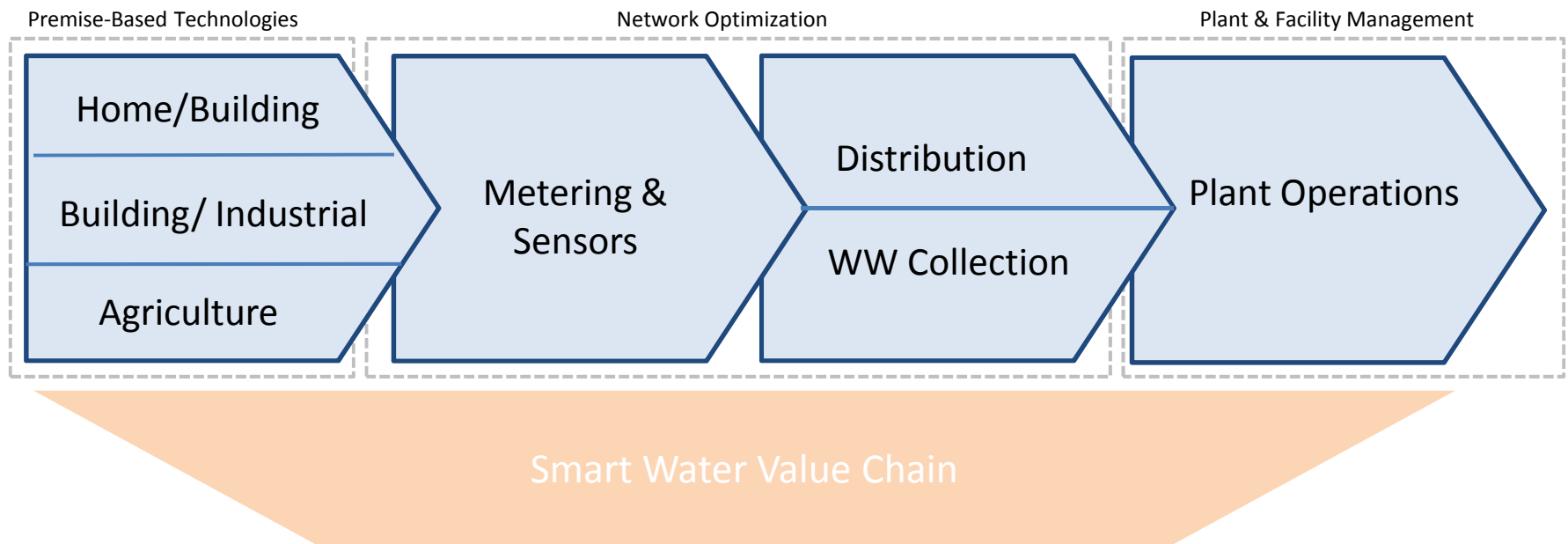


RECYCLING & WASTE

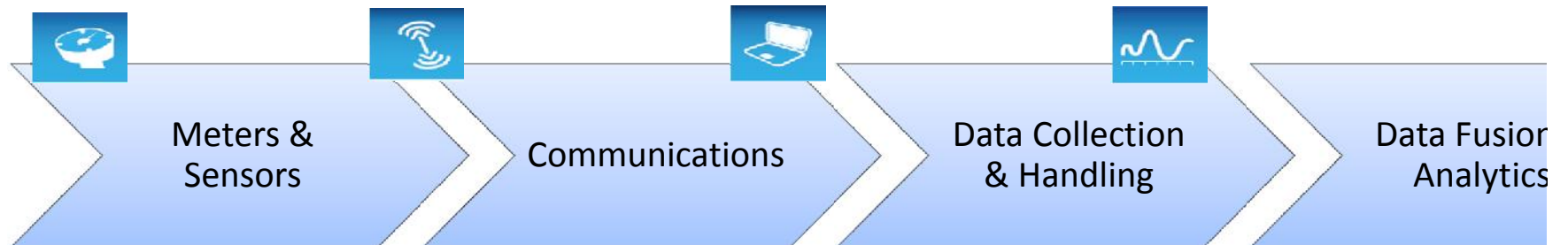
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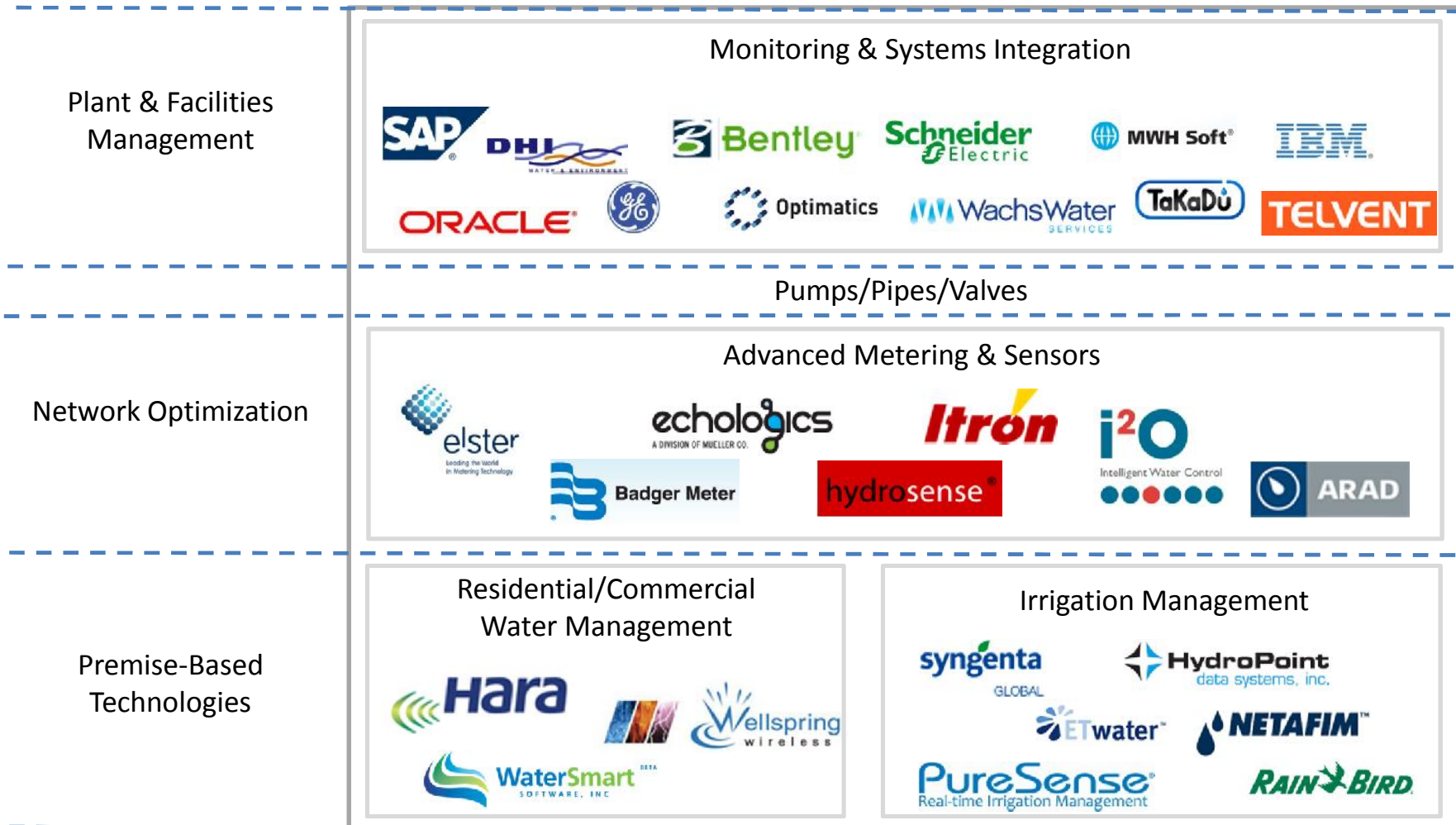
'Smart' Water: Addressing the Gap in Quality Data



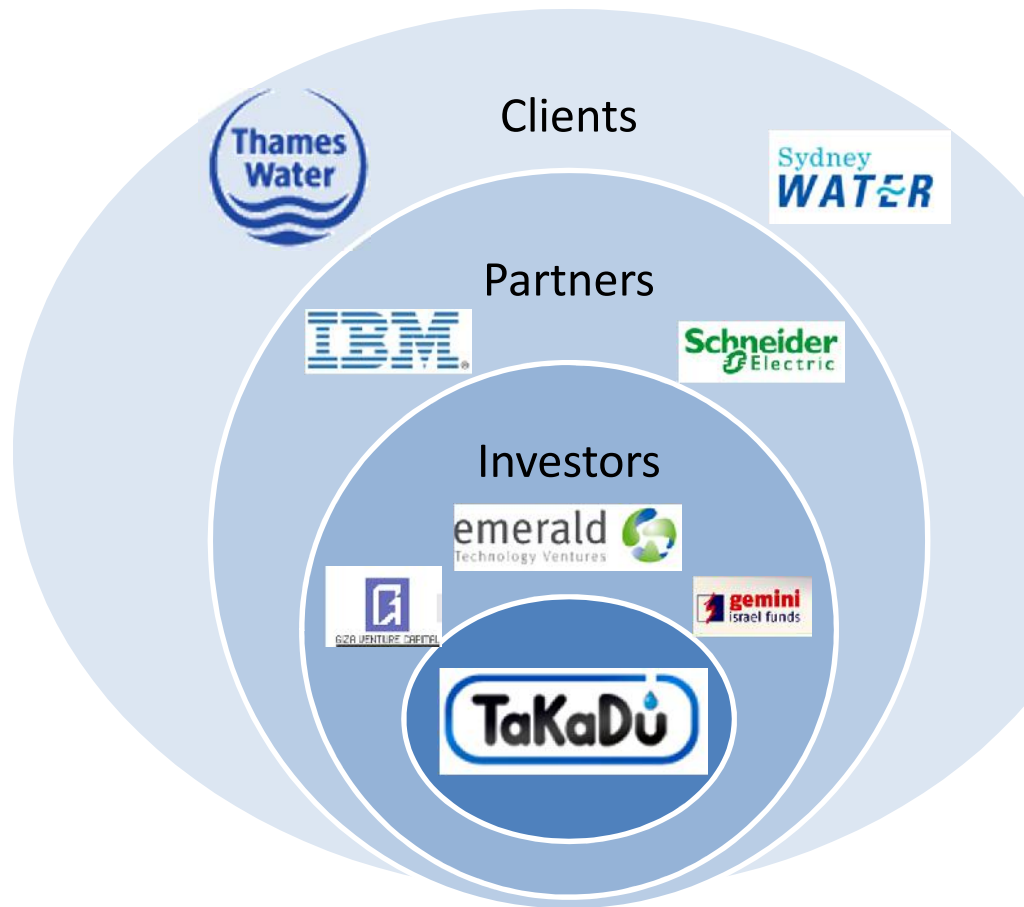
Fresh Water Supply / Wastewater Treatment / Recycled Water Treatment



A Snapshot Smart Water Vendors



TaKaDu: Unique Cloud-Based H2o Solution



Israel

Overview: Developed a web-based SaaS platform taking raw sensor/meter readings from SCADA systems. The data is then analyzed utilizing patent-pending algorithms to detect in real-time, leaks, bursts and quality issues.

<i>Founded</i>	2008
<i>Type</i>	Private independent
<i>Development Stage</i>	Shipping Product
<i>Investment Stage</i>	Follow on
<i>Employees</i>	21
<i>Last 12 months revenue (\$m)</i>	\$0.20
<i>Projected Revenue (\$m)</i>	\$0.5

Go-To-Market Strategy: Distribution partners, who are either global technology vendors such as **Schneider Electric, IBM and TATA**, or local **solutions integrators** in the Water IT space.

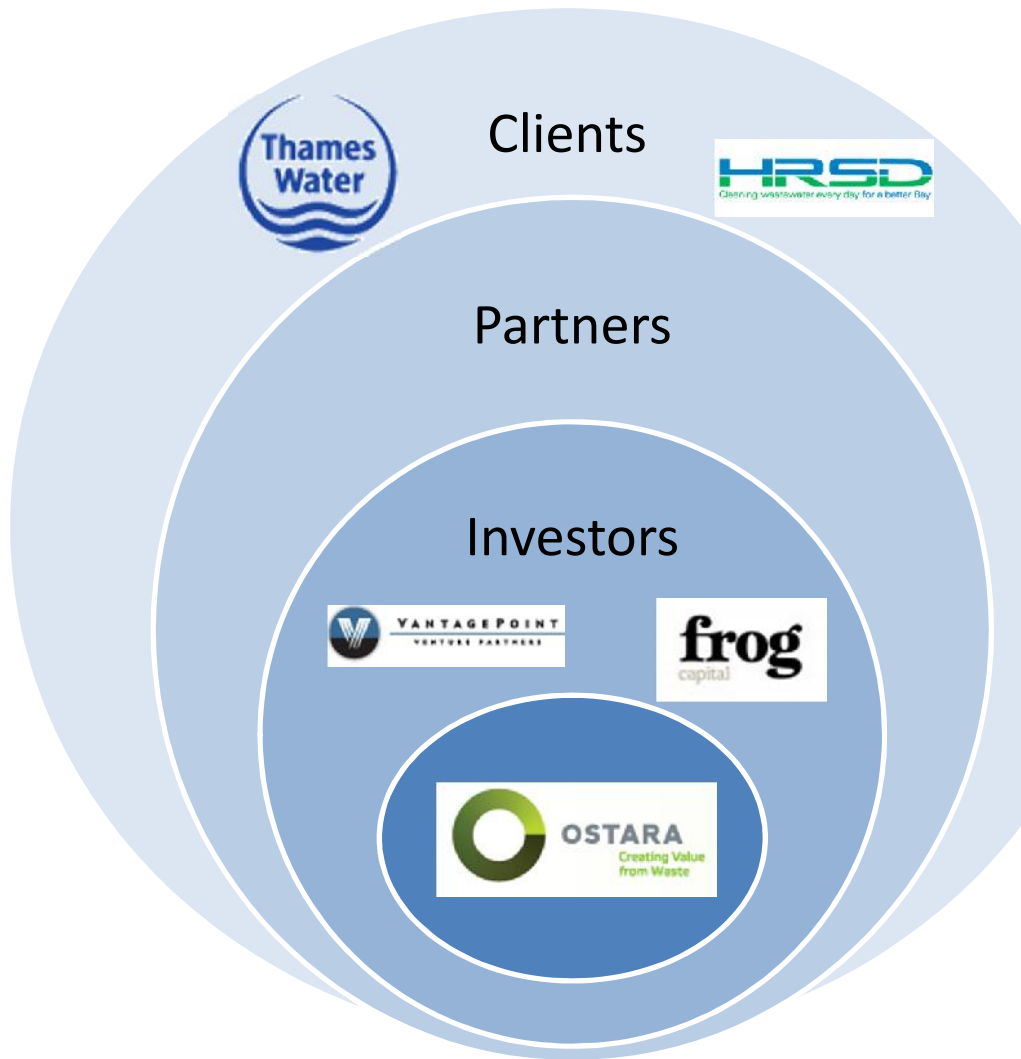


Meters &

Data Collection

Data Fusion &

Ostara Nutrient Recovery: A New WWT Model





Canada

Overview: Ostara designs, builds and sells a wwt system with a nutrient recovery solutions called Pearl that creates value from waste by turning nutrients in ww to a slow-release commercial fertilizer.

Go-To-Market Strategy: Sell direct to wastewater treatment plants throughout Europe, NA and Asia via two business models: (1) capital-based (5 year ROI) (2) Fee-based model (10-20 yrs)

Founded: 2005
Employees: 25
Dev Stage: Shipping Product
Investment Stage: Follow-On
LTM Revenue: N/A
Total Paid in Cap: \$10.5M

Focus on Innovation & Relationships

The screenshot shows the Cleantech Group website interface. At the top, there is a navigation bar with links for 'Dashboard', 'Browse Companies', 'Browse Investors', and 'Additional Resources'. A search bar is located on the right side of the header. The main content area is divided into several sections:

- Cleantech Group**: A banner with the tagline 'The world's leading market research firm focused on cleantech innovation.' and a brief description of their services.
- New Investments**: A list of recent investment activities, including 'Technology Crossover Ventures invests in BetterBlade' and 'Ranger Partners, Caulfield & Byers (RFRB) invests in i2Water'.
- New Acquisitions**: A list of recent acquisitions, including '2066 Technologies acquires Iron's Auto Parts' and 'General Electric acquires Converteam Group SAS'.
- i2O Water**: A featured section for 'i2O Water', described as a 'Developer of a smart metering and pressure control system that ensures the press is kept to the minimum required, leading to reduced leaks and bursts.' It includes an overview, website information, and a table of investments.

The 'i2O Water' investment table is as follows:

Date	Type	Investors
4/22/10	Follow-On	Times Capital Partners, Nemad Advisors Ltd, Resurrection Partners
3/20/09	Follow-On	Undisclosed
4/20/07	Follow-On	Angel Investors, Nemad Advisors Limited, P1

Company Insight April 2011



BlackGold Biofuels

Primary Tag: Water & Wastewater
Other Tags: Wastewater Treatment, Energy Recovery, Waste to Energy

Provider of a patented process to convert waste grease into biodiesel

Company Insight

BlackGold Biofuels has developed a unique chemical process that can convert a full spectrum of grease types into biodiesel utilizing a single process. The company's technology allows asset owners like water utilities and grease haulers to not only solve a challenging waste issue but create a revenue stream. The development of BlackGold's technology to date has largely been supported by partnerships with the public sector. Technical development and projects were conducted in partnership with the U.S. Dept. of Agriculture and the company's first customer was the City of San Francisco. While still in the early stages of development, BlackGold's proposition to *create value from waste* is its ultimate distinguishing factor. Key channel partnerships will continue to play an important role in helping BlackGold ultimately scale its offering.

Market Insight

The number of vendors that are developing new wastewater treatment technologies continue to grow. Given the diversity of water uses, wastewater utilities, owners of distributed wastewater systems and other waste management companies are seeking solutions that can address a wide variety of waste streams and byproducts. The most promising emerging innovations are falling under the umbrella of 'Energy & Resource Recovery' technologies and we believe that such vendors are part of a much needed paradigm shift in our collective use of water to one that is more sustainable. With over \$100B spent globally in 2010 on building, repairing and improving wastewater treatment plants, networks and distributed wastewater systems, new market entrants are operating in a significant market.

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Company Description:
Developer of a patented process to convert grease into biodiesel.

Competitors:
Pacific Biodiesel, Biodiesel International

Company Profile	
Location (HQ)	Philadelphia, PA
Founded	2004
Employees (Estimate)	5
Est. Revenue (2010)	\$0M-\$5M
Website	http://www.blackgoldbiofuels.com

Financing Profile	
Company Status	Private (Venture-Backed)
Development Stage	Limited Commercial Availability
Investment Stage	Series A
Total Paid-in-Capital	\$725,000

Recent News:
03/23/11: BlackGold Biofuels is one of two runners-up for the 2011 Imagine H2O Prize

11/16/11: BlackGold Biofuels named runner-up for the GWI Water Idol Award

11/04/10: BlackGold Partners with DOA to demonstrate that their technology can convert spoiled fat into biodiesel

Looking Ahead

Business Critical

- Water price is undervalued, water tech adoption must address a critical business need.

Low-Risk/ Low Capital Outlay

- High-tech in the water industry is relatively new – so new business models with innovative financing will be important.

Easily Integrated

- Water technology adoption cycles are notoriously long and painful. Make this process easier!

Scalable, Distributed Model Based Tech

- Hyper-local, customized and fragmented submarkets challenge scale, requiring flexible and cost effective systems.

Thank You!

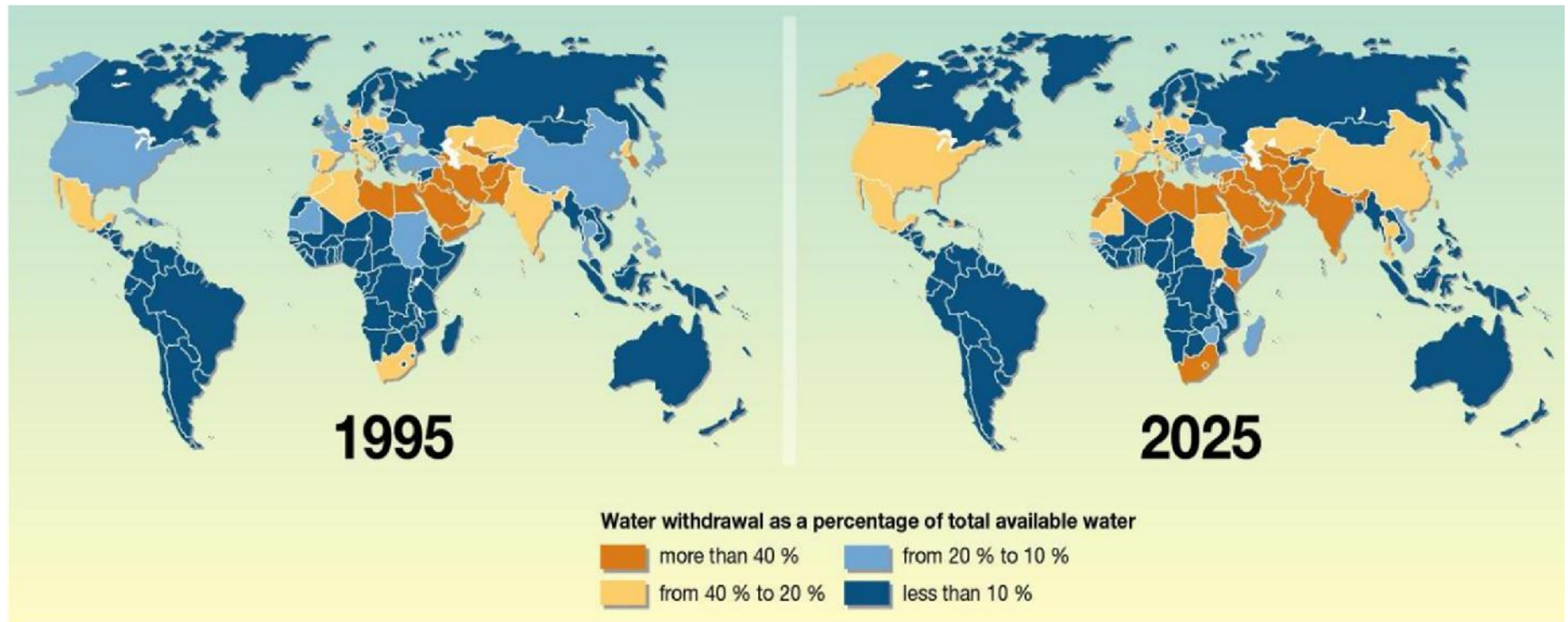


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And the Realities of Water Stress/ Scarcity



A recent OECD report projects that by 2025 approximately 3.9 billion people will be living in water stressed areas (about half of the projected world's population)