

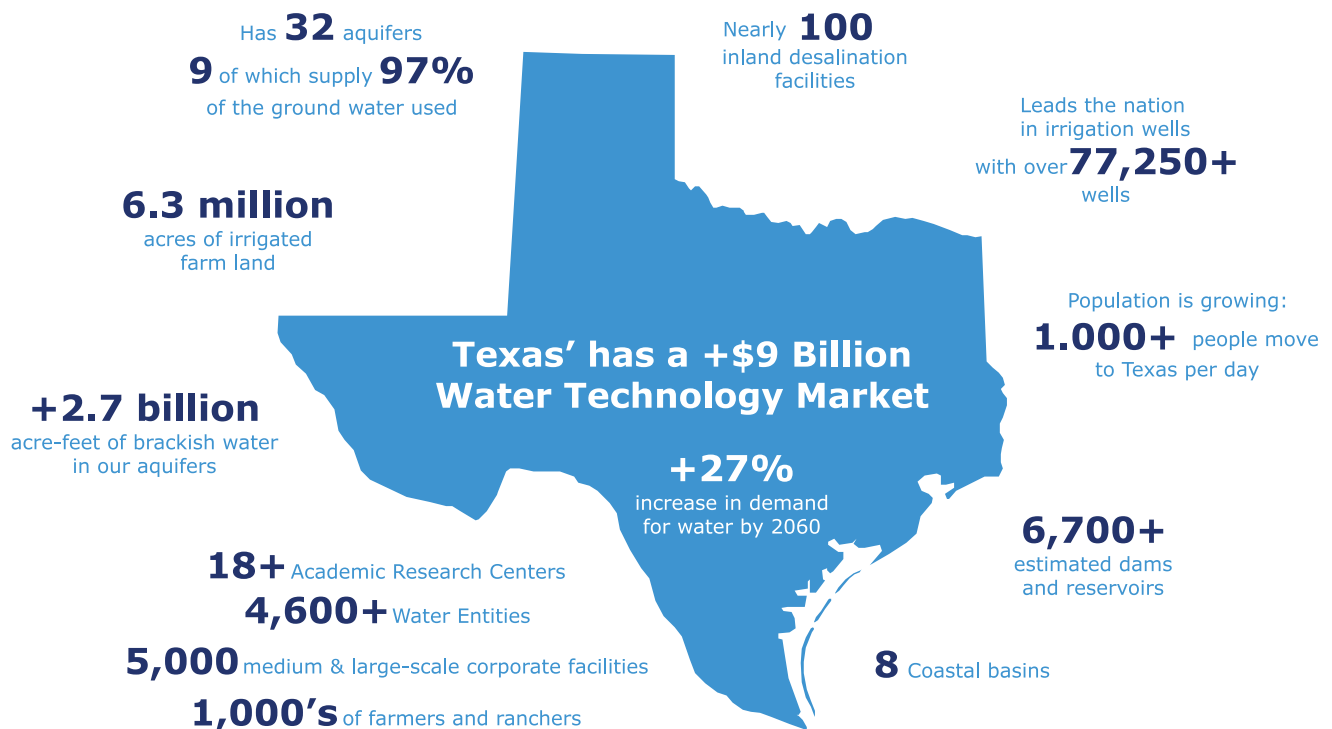
OPPORTUNITIES for DUTCH WATER TECHNOLOGY

Texas Market Insight



Finding Your Way Through Our Report

For any business entering a new market in the United States much less Texas – there is often significant confusion due to the size, scale and scope of each location – the State as a whole, 254 counties, thousands of municipalities and special districts. To better understand both the opportunities and challenges for Dutch water-focused interests in a \$9+ billion market – and to ultimately determine a road map for adapting and adopting a unique strategy – companies must grasp the breadth and depth of geographies, sectors, and decision-makers as Texas is truly ‘...a whole other country...’.



Our objectives in preparing the following report:

- Determining specific opportunities and align market readiness of Dutch technologies, equipment, products and services to Texas needs
- Generating pilot(s)/demonstration(s) projects with likely long-term end-users across public utility and private sector water operations
- Advising and recommending procurement, contracting, and partnership strategies based on prior and emerging knowledge of Texas grant, contract, and other resources including current, emerging RFP/RFQ processes

Therefore, the report has more detailed information and resources in the appendices following the summary section:

- Provides background on the Texas Water Technology Cluster, historical-current-emerging scenarios, and market drivers as perspective for shaping your “pitch” (pages 13-22)
- Drills down into each market and sector with suggested business development tactics (pages 23-32)
- Recommends strategies for overcoming barriers in the Texas market (pages 33-34)
- Shares additional knowledge resources in conducting information gathering (page 35)
- Presents the agencies, programs, organizations and institutions with funding, procurement, and partnership opportunities (pages 36-40)

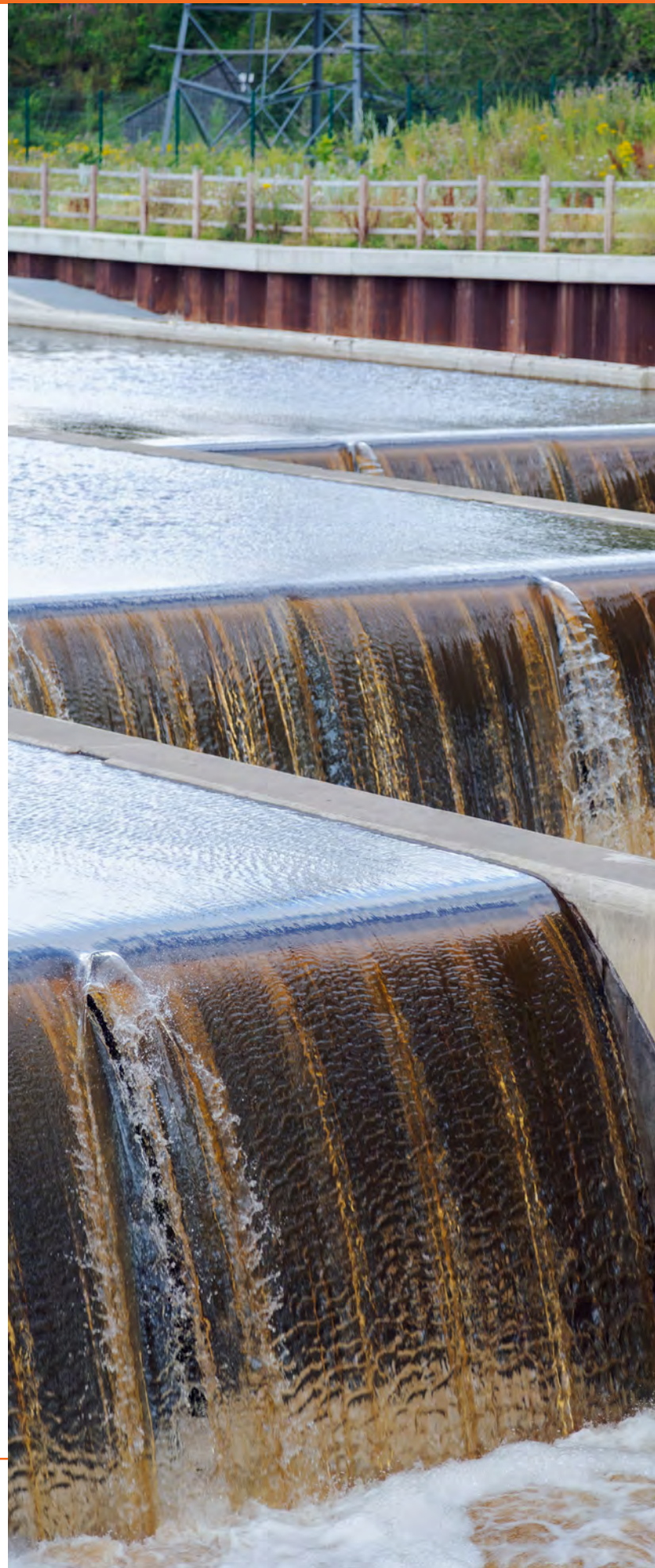


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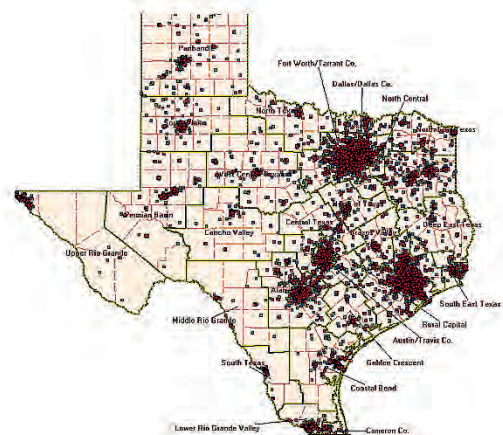
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EXECUTIVE SUMMARY: Dutch Water Technology Companies and the Texas Market

Due to Texas' size and scale, Dutch water technology companies should consider the “Whole Other Country” approach to creating a market access and business development strategy. As the 9th largest economy in the world, with diverse sectors and geographies, Texas requires an understanding of its governance and cultural uniqueness within the water “community”. Recognizing the diversity of the State's residential, commercial, agriculture, oil and gas, and other end-users for water technology requires knowledge of myriad engineering, regulatory, and financial decision-making processes. This Report seeks to provide a guide for jump-starting your journey no matter the stage of your product, equipment, company development.

Texas IS a Whole Other Country of Opportunity



Leveraging and responding to the needs of 5000+ corporate plants, campuses, facilities requiring water for production and manufacturing

Targeting For Success in the Texas Water Technology Arena

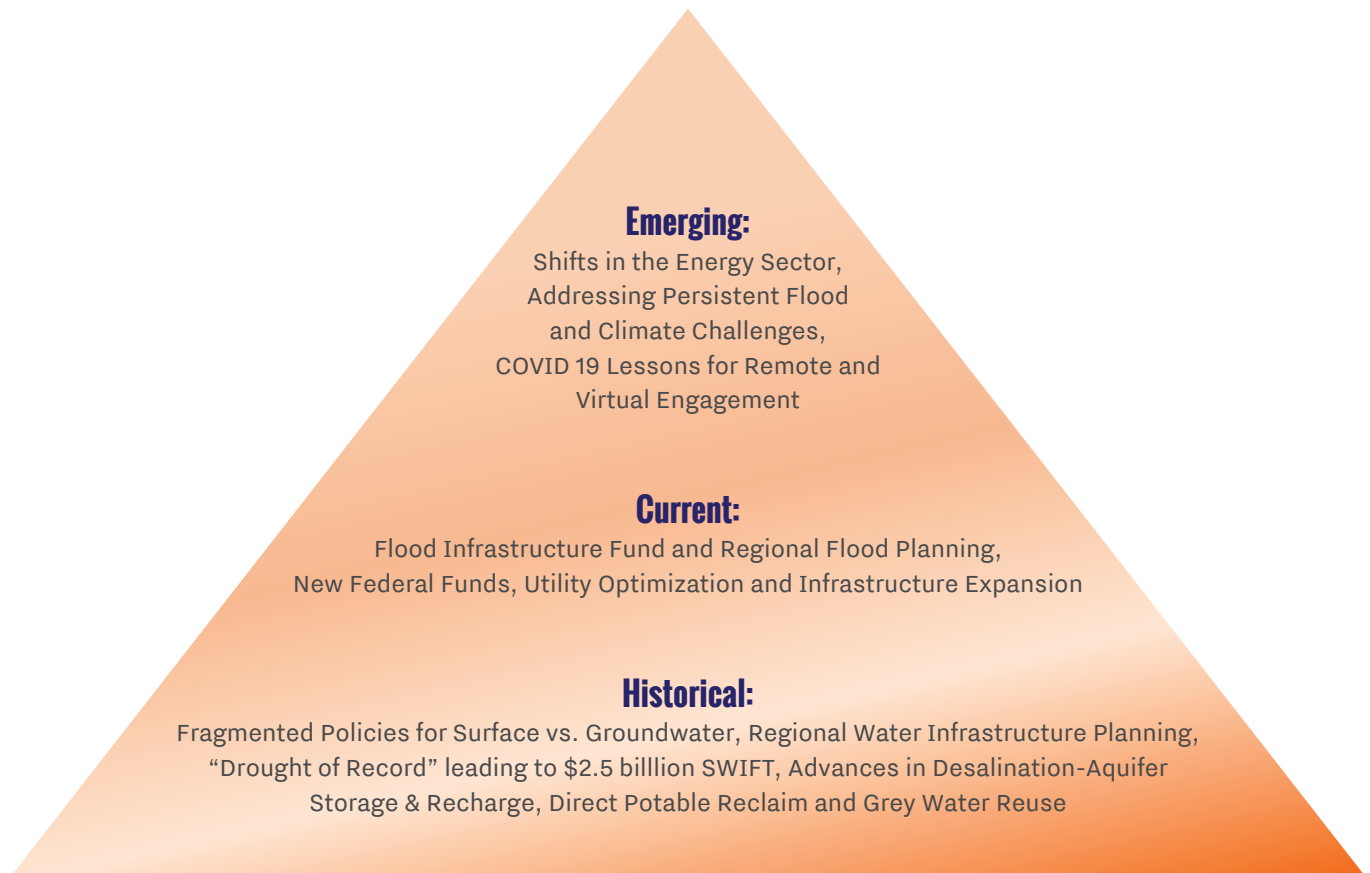
A Market Intelligence and Business Development Path for Immediate, Near- and Long-Term Dutch Success



The significant Dutch expertise and historical understanding of flood, stormwater, and disaster mitigation coupled with unique technical integration of advanced water management should be highly attractive to Texas' \$9 billion marketplace. However, for early-stage entrepreneurs and mature companies alike, weaving through myriad agencies, programs, resources, and decision-makers can be daunting. Consider this report's findings and recommendations as a road map for engaging, presenting, and selling to public and private sector water operators, program managers, investors, and strategic partners.



The "Building Blocks" of Texas' Water Technology Scenarios: Understanding the Policies, Cultures, and Practices



The layers of Texas water technology scenarios – begun well over 100 years ago – remains intact today, and builds-upon legal, economic and sector “frameworks” for technology adoption. Understanding these scenarios – historical, current, and emerging – provide important context for engaging with decision-makers at the government and corporate levels. Further, the cost of doing business in Texas as compared to market development in European, Middle Eastern, and African markets must be considered in context to previous scenarios that signal the future demands for innovative, proven, and scalable solutions. Overall operational costs including labor, manufacturing, transportation are competitively priced. Additionally, Texas is also an entryway to the US Gulf Coast and Southwest States as well as a point of access to the Caribbean, Latin and South America where continued growth in water-related opportunities remain strong. Additional insights on these “Building Blocks” can be found in the Appendix I (page 13).

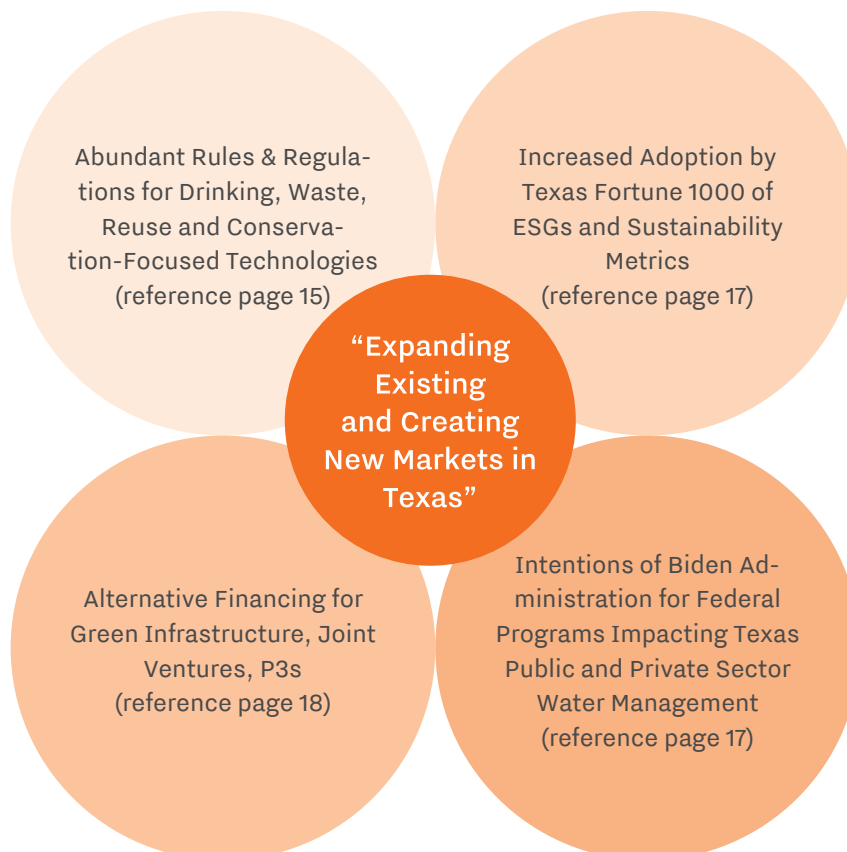
Drivers of Texas Adoption for Water Technologies

Four “market drivers” have significant influence on the creation of your business development strategy, and therefore how best to spend time and resources more efficiently. Abundant federal-state rules and regulations often signal the demand for technical solutions to address intended rules and regulatory oversight of water management.

With the attraction of more European and Asian companies to the State’s economy, increased adoption of global ESG metrics is creating demand for non-US technical solutions knowledgeable of sustainability requirements. Alternative financing and joint ventures are unleashing innovative solutions into the

built-environment including public-private partnered projects.

Water – and its alignment with resilience, sustainability and smart-cities projects – has begun to attract financing for retrofits, new construction, and unique project delivery where public finance may not be available or there are gaps in funding. And the emergence of the Biden Administration’s policies and investments in infrastructure, adoption of more nature-based programs, and a stronger appreciation of water-related needs for underserved populations will influence municipal and regional initiatives.



Targeted Water Technology Sectors and Opportunities: Aligning with Texas Needs and Challenges



Agriculture



Oil and Gas, Petrochemical and Plastics



Power: Traditional and Renewable



Land-Use and Water Planned Real Estate



Public Water Utilities and Systems



Electronics, Light Manufacturing



Ports, Transportation, Logistics

With over 20,000 potential industry sector end-users – from farmers and ranchers to ground-water district and utility operators - Dutch water technology companies have a plethora of market development opportunities. Yet, understanding each sector and sub-sector to increase the value proposition for your product or equipment is vital to gaining the trust of highly different decision-makers. In turn, many Dutch technical solutions can be deployed across sectors through “dual-use” – what works in one sector can be adapted to another.



Technology Opportunities

Texas Needs

Agricultural Nexus (Smart Irrigation)

Persistent and predictive droughts in the Texas Panhandle (Northwest) and the Rio Grande Valley (South) demand uninterrupted water supplies including desalination, reuse of greywater, innovative drip and delivery systems, reductions in nitrate/other fertilizers, and increased growing season options.

Groundwater Management and Aquifer Recharge

Regional and statewide oversight of groundwater supplies include removal of naturally occurring radon-iron-other quality issues and the regulatory framework for recharging thousands of aquifers for near-term storage capacity.

Water Utility Efficiency

With over 7000+ utilities with narrow financial margins, identifying operational efficiencies in workflows, highly connected capital improvement program management, innovative SCADA and metering networks, energy and sustainability, and other similar measures. Add winterization and resilience-related infrastructure, supply chains.

Wastewater Treatment (Municipal and Industrial)

Recognizing the amount of additional acre feet of water supply that can be found by better wastewater treatment scenarios, both municipal and industrial facilities managers are seeking more efficient filtration, less chemical use, additional benefit from secondary use of by-products, and more recent measurement of COVID-19 and other future public health concerns.

Resilience (Ecological, Building with Nature)

Drive by myriad water - and weather-related disasters that have costs public and private sectors billions in dollars of losses, the retrofit of existing and design of future facilities has increasingly called for more nature-based approaches - including use of unique materials, green-energy supplies, inclusion of parks and greenbelts. The introduction of new partnerships with land conservancies, non-profits, and large-scale real estate development will emerge with available government tax credits and incentive programs.

Action Plan: 2021 and Beyond

Based on the work of the Netherlands Business Support Office in Houston and the goals of this report, we have provided a suggested action plan for sparking immediate and long-term success.

Market	Technology Focus	Opportunity	Critical Action
Residential	Conservation, Reuse, Toilet-to-Tap, Flood Mitigation	Immediate to Near-Term	Engagement of homebuilders, developers; leverage incentives in rules, regs for mitigation, resilience, sustainability
Commercial	Conservation, Reuse, Atmospheric Generation, Flood Mitigation	Near-Term	Engagement of real estate developers, engineer and consulting firms
Industrial	Recycling, Reuse, Environmental Impact, Light Manufacturing Operations	Near-Term	Engagement with HSE, Sustainability officers- programs, plant management firms
Agriculture	Conservation, Reuse, Irrigation Systems, Nitrate reduction	Immediate to Near-Term	Engagement with irrigation districts, regional agriculture organizations, universities
Oil and Gas	Reduction, Recycling, Aternative to Disposal	Near-Term	Engagement with oil and gas produced water suppliers
Public Utilities	Waste-Treatments, SSO-CSO Reduction, Energy Offset, Quality	Immediate	Engagement with Texas water utility associations, virtual programs and events



These six market segments require differentiating your product and service; therefore, we suggest review of your company’s market and business development messages, communications, and materials based on these “formulas”:

Focus + Scope Definition + Resources to Compete

By clearly establishing a focus for product, equipment, and/or service components offered by your company – based either on its end-user impact or value proposition – we strongly recommend narrowing the lens to a specific scope definition to be achieved by your customer. Simply, does your solution generate, conserve, reuse, reclaim, and/or secure future sources of water, and at what cost per gallon? By assessing your solution against various end-use requirements, a road map will emerge around the resources needed for competing side-by-side with incumbent products already in use and positioning to separate your company from the “pack” of those competitors.

Competitive Intelligence + Sector Diligence + Customized Strategy

Upon determining focus, scope and resources for entry, Dutch companies should have a high-level of competitive intelligence and the sources of information, data, and curated materials for ongoing intelligence gathering. Because of the scale and size of the Texas market, choosing a sector and conducting extensive due diligence is vital to determining the “SWOT” analysis (“Strengths, Weaknesses, Opportunities, Threats”) leading to the KPIs for presenting to customers and decision-makers.



Overcoming Barriers to Achieve Market Success: Introducing Your Business Case

We have identified six critical elements for overcoming barriers in the Texas water technology market and to achieving successful business development for Dutch companies. “Barriers” include the branding, communications, engagement, and demonstration of value to decision-makers in procurement, contracting, investing, and forming strategic partnerships with engineering or distribution services. By having accurate market data and customer information, your company can create its

unique engagement and presence among the various sectors and opportunities discussed in our report. However, showcasing and positioning the technical and economic value of your product or equipment will change the perception for using a global solution over a local or national one. Further success can be achieved by combining value with the competitive ‘edge’ for addressing institutional and operational limitations (e.g. reduction in manpower or workflow, improvement in treatment through energy or chemical savings, etc.). A thorough ‘business case’ with side-by-side comparisons of your competitors and alternative solutions will hasten access to decision-makers. (For additional insights to overcoming barriers: page 31).



This is a continuous cycle of business development – and while your company may start at any stage based on your level of experience in the US markets – we strongly encourage conducting an initial assessment or working with a local expert in reviewing your approach and remaining open to critique of each stage for accelerating successful performance.

Aligning Unique Application of Dutch Expertise with Texas Opportunities: Defined Tactics

The depth of Dutch water technology expertise does encourage additional market entry strategies for the types of products, equipment, and integrated solutions including modeling, measurement, and data analytics across sectors and industries. Therefore, we suggest the following tactics and best practices:

Service Companies with Specialized Expertise/ Consultative Insights

While our report has been technology-centric, by no means are companies excluded that have specialized knowledge, best practice expertise, and unique consultative insights for advising Texas public and private sector water management interests. The significant value of Dutch historical water-related design, development and delivery programs has already been well received since the aftermath of Hurricane Harvey.

Tactic: Peer-to-Peer Knowledge Sharing is a vital element for Dutch businesses, academic research institutions, and technology companies through future workshops, training, workforce, and similar opportunities. Identifying collaborative partners for said collaborations include Texas professional water associations, workforce entities such as community colleges, engineering societies, and civic institutions focused on resilience.

Product, Technology and ‘Platform’ Companies

Often product companies seek to enter markets or pursue competitive opportunities alone without consideration of the interconnected and interdependent technological needs that address multiple challenges for integrating across operations, roles, impacts, and performance.

Tactic: By combining expertise and capability among two or more products, a “platform” can be presented as a one-stop solution which could be adopted and adapted across facilities, infrastructure, legacy equipment. With a greater attention to “optimization” water managers in all sectors seek more efficient and effective results from a single but highly integrated engineered approach.



Data and Analytics, Modeling, Predictive Hydrological

not only has digitization reached significant levels of adoption but the demand for advanced data curation and analytics supporting new modeling and predictive hydrology is THE most critical element for so-called ‘smart water’ projects for Texas operators and managers. Both the application of sensors, meters, communications tools WITH traditional and emerging hardware and equipment fundamentally has changed consumer, customer and citizen engagement.

Tactic: The Netherlands extensive capacity for developing and utilizing data and modeling provides a strength that is world-class.

However, we are drowning in data and thirsty for intelligence, and thus requires leading with the specific actions, benefits, and performance derived from investing in information-driven solutions.

Additional Insight on Sector Strategy: Cross-Functional, Dual Use Technologies:

Many Dutch companies have existing or emerging filtration solutions (RO, UV, etc.) and therefore could view multiple opportunities to promote their products to the Oil and Gas, Food and Beverage, and Public Utilities. We caution that technology providers MUST be laser-focused on addressing the specific, scientific, technical, health, engineering, and economic challenges that are unique for the highest and best end-use of your product. Such counsel is not limited to filtration processes and applications; myriad market development failures can be attributed to a broad message that appears to position as “all things to all users”.

Tactic: Though we have strongly advised to be highly focused in your market and business development approach, we suggest that certain sectors may be less of an opportunity and requires a pivot in your targeting. Simply, do not become fixed to one sector and only one sector if there are newer scenarios for applying your technology.



About AccelerateH2O

AccelerateH2O is a Texas-based non-profit organization launched by the Governor and civic leaders across the State in 2015, concerned with the significant impact of the “Drought of Record” on the livelihoods of citizens and economic competitiveness of industries. Over the course of six years,

AccelerateH2O has conducted four InvestH2O Forums for technology companies and investors, twelve Industry Roundtables for corporate-academia-government in off-the-record discussions of critical water topics, launched three Demonstration Hubs with public utilities and regional water interests, published three reports on the Texas Water Technology Cluster, held five customized and confidential briefing sessions for Fortune 500 entities, and advised over 200 early- and growth-stage technology companies. For more information on AccelerateH2O and its recent spinout organization –

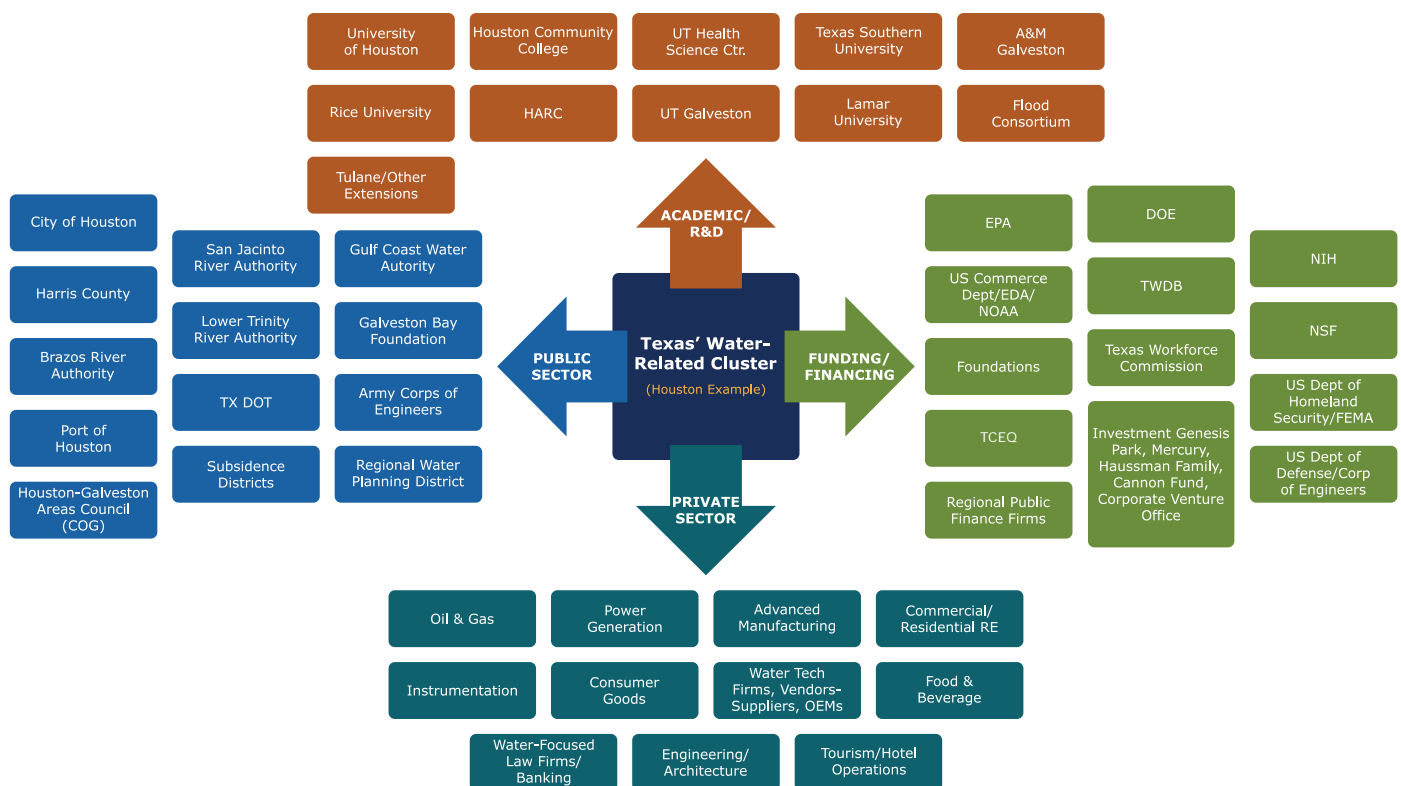
The Resilience Innovation Hub for the Insurance Information Institute: www.AccelerateH2O.org and www.ResilienceInnovationHub.com



APPENDIX I: Context for Innovative Water Technologies, Products, Services in the Texas Market

Any business development journey and road map exercise require understanding the context for establishing a market strategy that is competitive and feasible for your company, team, investors, and resources allocated to achieve near-term success.

Perception of market access and barriers to achieving initial successful entry also demand an understanding of the cultural and economic dynamics across myriad end-users. From residential, commercial-industrial, agriculture, and public sector organizations, institutions, facilities, and utilities, Dutch interests can be easily overwhelmed by the magnitude – and perceived difficulties – to gain a foothold in the procurement and contracting processes. Therefore, understanding the multiple market-channels identifies a pathway forward that should achieve immediate and near-term interest in Dutch products, equipment, and services across the array of the *Texas Water Technology Cluster*.

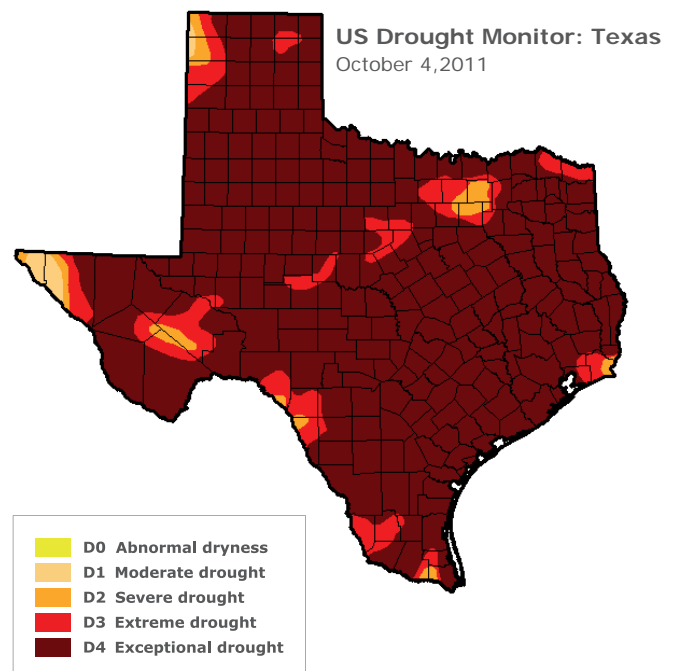


Understanding the “Building Blocks” of the Texas Water Technology Scenario

Historical Perspective: Drought versus Storms, Hydrological Analytics, Value of Water

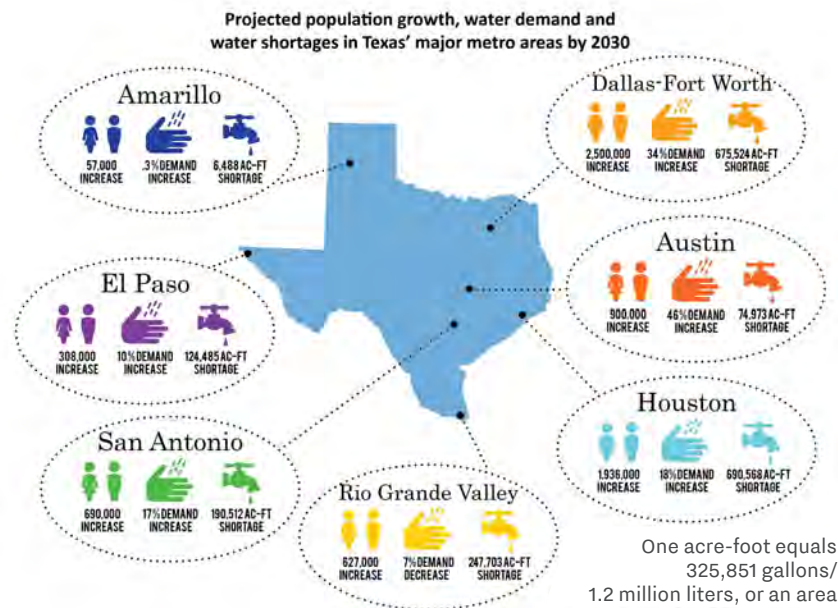
The ‘drought of record’ in 2010-2014 sparked a long overdue and necessary discussion among statewide elected officials, legislative policy-makers, and civic leaders whom for the first time in modern times were faced with water use moratoria and significant curtailment of promised supplies. Communities and industries alike made difficult decisions about rationing limited resources across homeowners, farmers, manufacturers, and utilities.

The extensive impact from the drought included emergency declarations by federal, state, and local governments to address unintended competition for supplies, and evolving legal infighting among adjacent end-users. Texas’ arcane water laws cover the ownership, use, delivery, and in certain situations the value of surface, ground, produced, processed, reclaimed, quality and quantity measures.



What was once an interest of engineers, public officials, a broad range of utilities, and a host of agencies and associations, suddenly “water hydrology” rose to the attention of consumers, citizens, voters, ratepayers, and investors. In 2011, the combined recognition of the Governor, the Texas Legislatures, statewide business groups, and political advocates collaborated to pass and approve the use of over \$2 billion for a new infrastructure fund and the reorganization of the Texas Water Development Board from a planning agency to a project funding entity.

Further, several counties and municipalities identified special purpose districts and financing mechanisms to launch emergency facilities and infrastructure projects including graywater, toilet-to-tap, and similar use or conservation initiatives. Abundant forums, conferences, policy hearings, and reports were generated between 2011 and 2017 determined to address Texas' need for *"...uninterruptible supplies of water..."*, encouraging larger volumes from desalinated sea- and groundwater as well as aquifer recharge and storage.



Infographic by Texas Water Development Board

The lack of water at a scale not seen since the 1930s raised the profile on how a growing economy and population could withstand future droughts, bringing together academic researchers, economic developers, industry sectors, and foundations that has shifted the importance of technology, innovation, and alternative solutions to the forefront. Then, the multiple yearly storms and nuisance flooding were surpassed by hurricane Harvey in 2017, shifting the focus from not enough to too much water. Finally, the Big Freeze in 2021 left hundreds of thousands of households without water due to the inadequate water infrastructure, highlighting a new major challenge!





Current Perspective: Resilience for Uninterruptible Supplies, Economic and Population Growth

Since Texas is a “whole other country” with a population of over 29 million citizens and a gross domestic product (“GDP”) of \$1.9 trillion, the uncertainty of water supplies due to persistent drought and flood over the past decade has caused elected officials and civic leaders to examine the current ‘landscape’ of policies, practices, and processes for achieving water security through uninterrupted supplies during times of severe curtailment regardless of the causes.

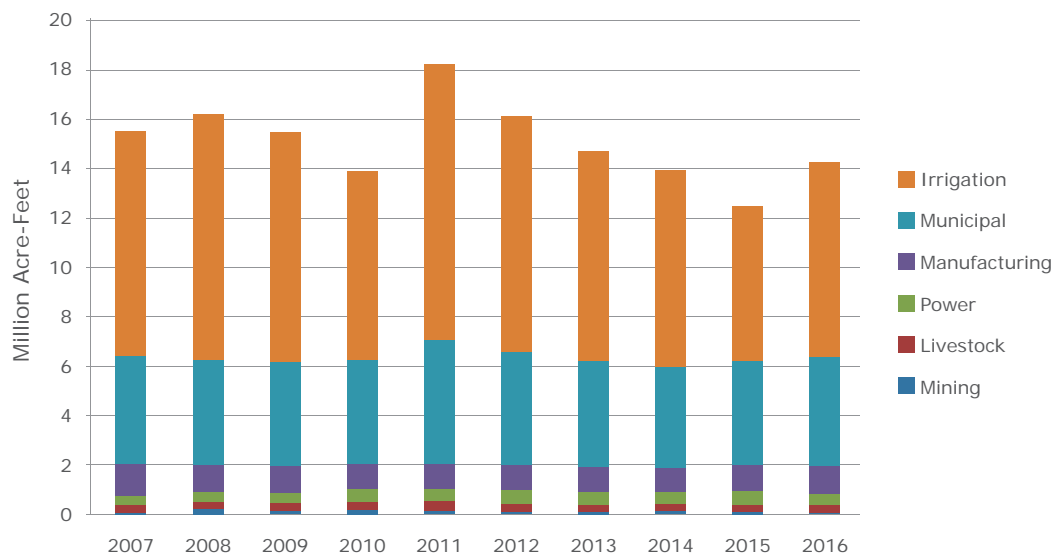
The four inland floods from Central Texas down to the Gulf Coast region, followed by Hurricane Harvey’s devastation along the entire coast of the State caused those same officials, business and community leaders to seek over \$20+ billion in federal, state, county and municipal funds for flood mitigation. More recently, citizens have approved additional bonding capacity for nearly \$6 billion for risk mitigation across urban and rural locations.

With an estimated need of nearly \$56 billion in water infrastructure for optimization, replacement, and resilience, the State of Texas and its economic sectors remain vulnerable to the persistent challenges of climate change, growth, and demand for supplies in regions and communities that are unique in their hydrological conditions, employment patterns, and usage.

Along the way, as Texas began the program design and funding competitions for flood mitigation, while its ongoing response to prior droughts continued, COVID 19 changed yet again the importance of water operations, delivery, and performance!

Emerging Perspective: Significant and Disruptive Shifts in the Marketplace

Over the period from 2007-2017, Texas water use changed little with the largest share by agriculture purposes. In 2018, mining – or specifically oil and gas explorations – jumped to the number one highest end-user due to significant demand on in drilling activities. Obviously since last March 2020, falloff in demand has corresponded to the reduction in carbon-based fuel by consumers and commercial drivers during the COVID-19 pandemic. And yet, the transition from carbon-based oil, gas, and plastic derivatives was already underway due to increased focus on sustainability, clean-, and alternative fuels.



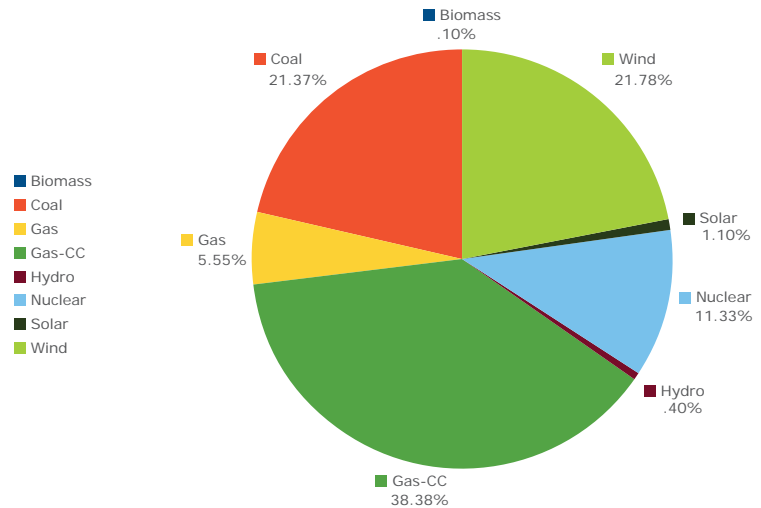
The Shifts in the Energy Sector Impacting Water

As a result of the recent downturn in the energy sector due to reduced use of vehicles and the global glut of resources from major producers, coupled with evolving focus on non-carbon and green alternatives, the Texas oil and gas industry may be less of a market scenario until 2022-2023 when capacity-demand cycles return. Currently, the measurement of water-use is tied directly “rig-count” parameters – the active number of drilling sites and operating wells.

Understanding the terminology is vital to market position and engagement, including where to direct business development within the operating units, divisions, and departments of majors (national, global companies with more than \$1 billion in assets) and independents (medium-size companies with less than \$500 million in assets). Additionally, the geographic location for these activities continues to have specific challenges and therefore unique opportunities. Onshore versus Offshore. Basin versus Coastal.

The Texas Railroad Commission is the State Energy Department per se – and thus tracks not just current and future permits for zones in West and South Texas (the most prominent oil and gas investment) but is now in charge of managing water-related use in the “shadow of the rig” which defines the regulatory setting. These rules and oversight roles include Midstream (production, drilling, delivery of raw product = “produced”) versus Downstream (manufacturing, processing, refinement-treatment, shipment = “processed”).

Texas Energy Production by Source YTD, 2019



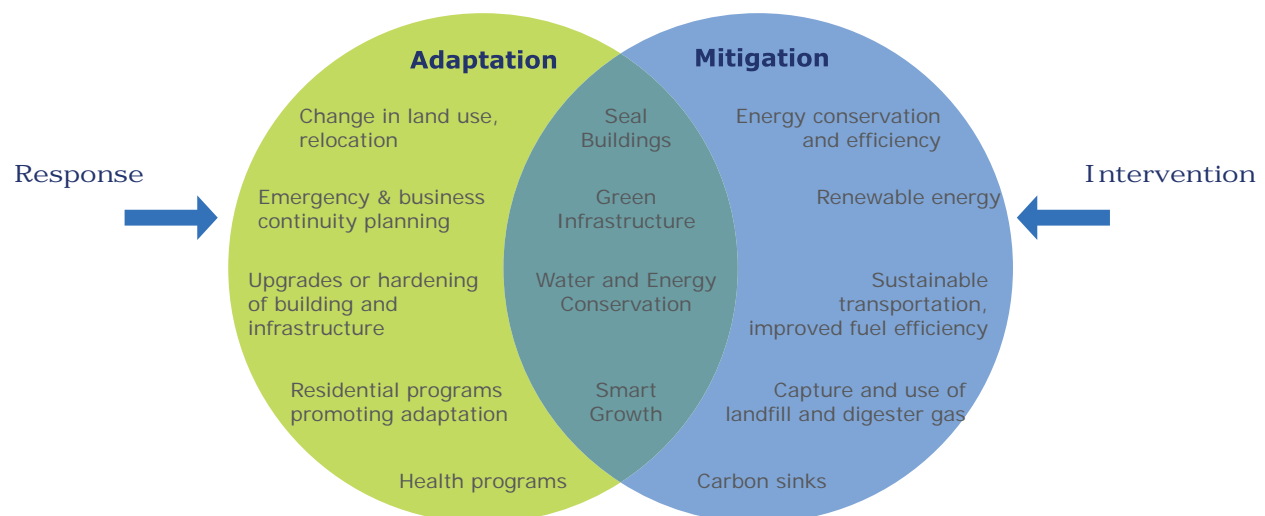
And yet all of these market scenarios have begun a massive shift towards carbon capture, wind, solar and even hydrogen programs within the “majors” (Chevron, ExxonMobil, Oxy, etc.) as well as significant venture capital-backed growth companies attentive to the various supply-chains in the Clean Energy sector (including battery storage, hybrid systems, low-impact production).





Addressing Persistent Flood and Climate Challenges

In less than a decade, Texas has suffered through a “Drought of Record”, a Big Freeze and several floods, hurricanes, wet-weather events. The region from Dallas-Fort Worth in North Texas to San Antonio in South Texas has been labeled “Flash Flood Alley” while the Upper Gulf Coast continues to rebuild after three years of a the most active hurricane seasons. With over \$1 trillion in public and private insurance losses along the entire US Gulf Coast, federal agencies and the insurance sector have aligned to identify pre-disaster risk mitigation that includes adaptation of infrastructure and alternative technologically engineered solutions. A combination of best practices in design, engineering-architecture, construction, and investment has sparked significant interest in water-related products, equipment, data analytics, modeling, and integrated platforms. Increasing state and local governments in Texas are exploring “nature-based” mitigation as advantages to traditional concrete-and-rebar infrastructure, and 2021 signals more interests in transformational engagement around “resilience” as a theme for public-private partnership project development.



Lessons Learned from COVID-19: Remote and Virtual Response to Critical Infrastructure

Maintaining and uninterrupted supply of water during any crisis or disaster remains the priority of Texas' 7000+ utilities and operators. COVID-19 generated a number of lessons for public water managers and facilities teams including stretching the limited but growing demand for remote, virtual asset management. While focused on Supervisory Control And Data Acquisition (SCADA) systems in the past, the demand for digitization is now applied to enhanced network of sensors, meters, and an entire array of cellular, internet, satellite communications.



Current and Future “Drivers” of the Texas Marketplace

Rules and Regulations: Understanding Regulatory Settings in the US and Texas for Drinking, Waste, Reuse, Conservation Policies

The context for any technology company entering the Texas, let alone the US market, is to understand the byzantine rules and regulations that drive the use of products, equipment, software, data, and technical services. Water is viewed as a private asset until it is not! Unlike the Dutch perspective, water is a competitive commodity even at the community level. The source of the water can be viewed as a result of land ownership at the surface and ground-level or is the responsibility of the most recent user for treatment and/or disposal of related waste streams, by-products. Jurisdictions are often overlapping at best, competitive with each other at worse. Understanding the current and evolving regulatory settings requires the sub-sector and geography for deploying a technology.

Intentions of New White House Administration and Impacts on Texas

The differences in perspectives could not be more significant between the more interventionist policies of the new White House Administration and the laissez-faire market-driven policies of Texas. However, there is more alignment in technology, investment, economic developments than the traditional differences may suggest. For instance, Texas’ rise to national prominence as an alternative energy supplier from solar and wind, the recognition of shifting patterns in carbon-based fuels, and the demand for pre-disaster risk mitigation through more European-style resilience suggests that Dutch water technology companies may provide an immediate competitive advantage for strategic partnerships with US and Texas companies seeking to accelerate their pivot based on these shifts.



Expected federal infrastructure programs will include pumping over \$2 trillion into upgrading, modernizing and retrofitting existing facilities, especially water-related public facilities. Observing initial policy pronouncements from the new Administration includes departmental and agency grants and competitions as well as rulemaking from these federal agencies then assigned to respective state agencies:

Federal-National Agency	State of Texas Agency
Environmental Protection Agency – Water Division	Texas Commission on Environmental Quality (TCEQ)
US Department of Energy – Renewable, Sustainable, Alternative Program Offices	Texas Railroad Commission; Texas Public Utilities Commission
US Department of Homeland Security – Federal Emergency Management Administration	Texas Department of Emergency Management
US Department of Housing and Urban Development – Community Development Block Grant – MIT (Mitigation, Disaster Response)	Texas General Land Office; Texas Department of Housing
US Department of Interior – Bureau of Reclamation	Texas Water Development Board; Texas Soil-Conservation Agency

Community, Industry Programs and Projects: Increased Awareness and Performance for Reuse, Resilience, and Required Response to Human Health, Supplies

More US and Texas corporations are adopting Environmental, Social and Governance (“ESG”) goals since Chief Financial and Chief Operations Officers have recognized the impacts for not just branding but bottom-line economic and shareholder value. Due to the number of Fortune 1000 national and global headquarters based on Texas, and the identification of Chief Sustainability Officers within their ranks, “water” has become a focus of attention post the 2014-2016 drought-of-record when several companies had mandated reductions or complete loss of supplies. Presenting Dutch technology solutions for water reuse, resilience and response to the Health-Safety-Environment (“HSE”) managers should be top of mind to assist Texas end-users achieve their ESG goals.

New Funding and Investment Mechanisms: Green Infrastructure, Joint Ventures, and Non-Traditional Sources (US Army Corp of Engineers - Galveston, TWDB, GLO, TDEM, Counties-Cities)

With the rollout of various funding and investment mechanisms across Texas' innumerable public agencies an additional perspective has emerged for supporting projects that are performance-based around green and nature-based, spark joint ventures for cost-sharing, and attract non-traditional sources of funding. However, this is still early in the process as these agencies are relatively new in the creating the "governance structures" for moving beyond more traditional forms of grants and contracts. An example is the [Clearinghouse](#) under the [Texas Water Development Board](#).

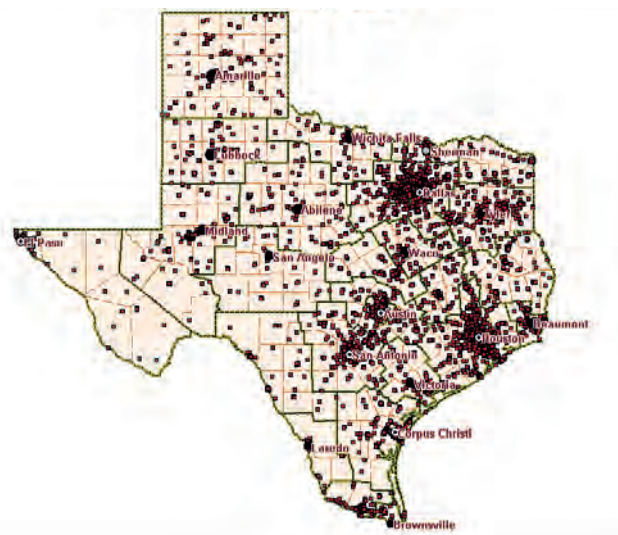
Perspectives on Opportunities in Specific Sectors and Sub-sectors

Oil and Gas, Petrochemical and Plastics: Produced and Processed (Middle and Downstream) including Separation and Refinement

Though currently suffering from several market challenges – shift into clean energy, reduction in demand from COVID 19-related travel restrictions, global economic-political competition – the future of oil and gas production for the next decade will require myriad treatment protocols, and therefore technologies, equipment, and practices.

Because the State meteorological forecasts for the next decade suggests increased drought conditions, especially in areas where ongoing drilling and production will occur, the Texas Legislature and Railroad Commission are continuing to spark reuse of produced water during the "midstream" phase and are supporting advanced filtration, reuse coupled with desalination during the "downstream" phase of processed waters.

**Petroleum Refining and Chemical Product Cluster
Core Industry Sectors**



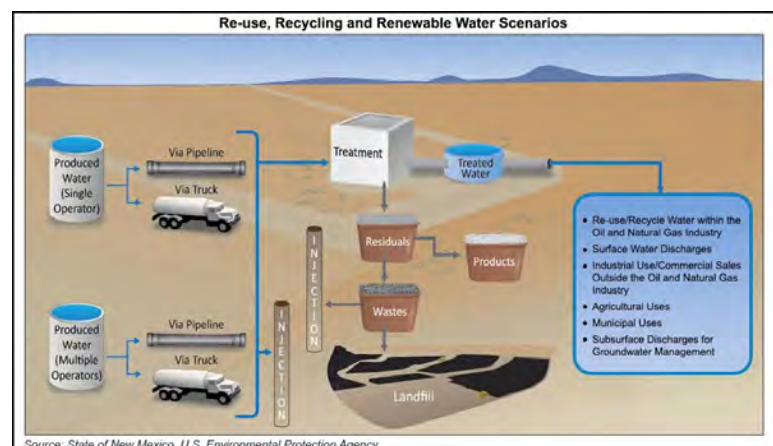
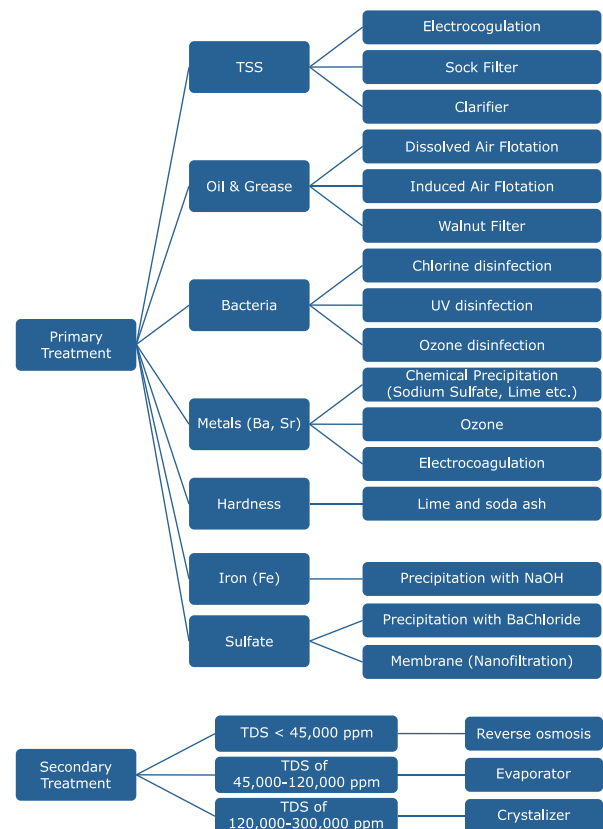
The entire value-chain for water sourcing, onsite management, reuse, disposal, and alternative use requires extensive array of technologies and equipment on which Dutch companies should determine before tackling this unique market.

Opportunities include responding to emerging mandates for water quality challenges in the reuse and “export” of water from the production basin to other end-uses (agriculture, public systems) by showcasing a combined water-sourcing, water monitoring, and water recovery systems approach.

Key agencies and organizations for Dutch technologies to engage include:

- Texas Railroad Commission (see Resource section and Appendix I)
- Texas Commission on Environmental Quality (see Resource section and Appendix I)
- [Texas Oil and Gas Association](#)
- [Texas Independent Producers and Royalty Owners](#)
- [Produced Water Society](#)
- [Permian Basin Petroleum Association](#)
- [South Texas Energy Roundtable \(Eagle Ford\)](#)
- [Texas Water Recycling Association](#)

USA Shale Gas Produced water Treatment Insight Report



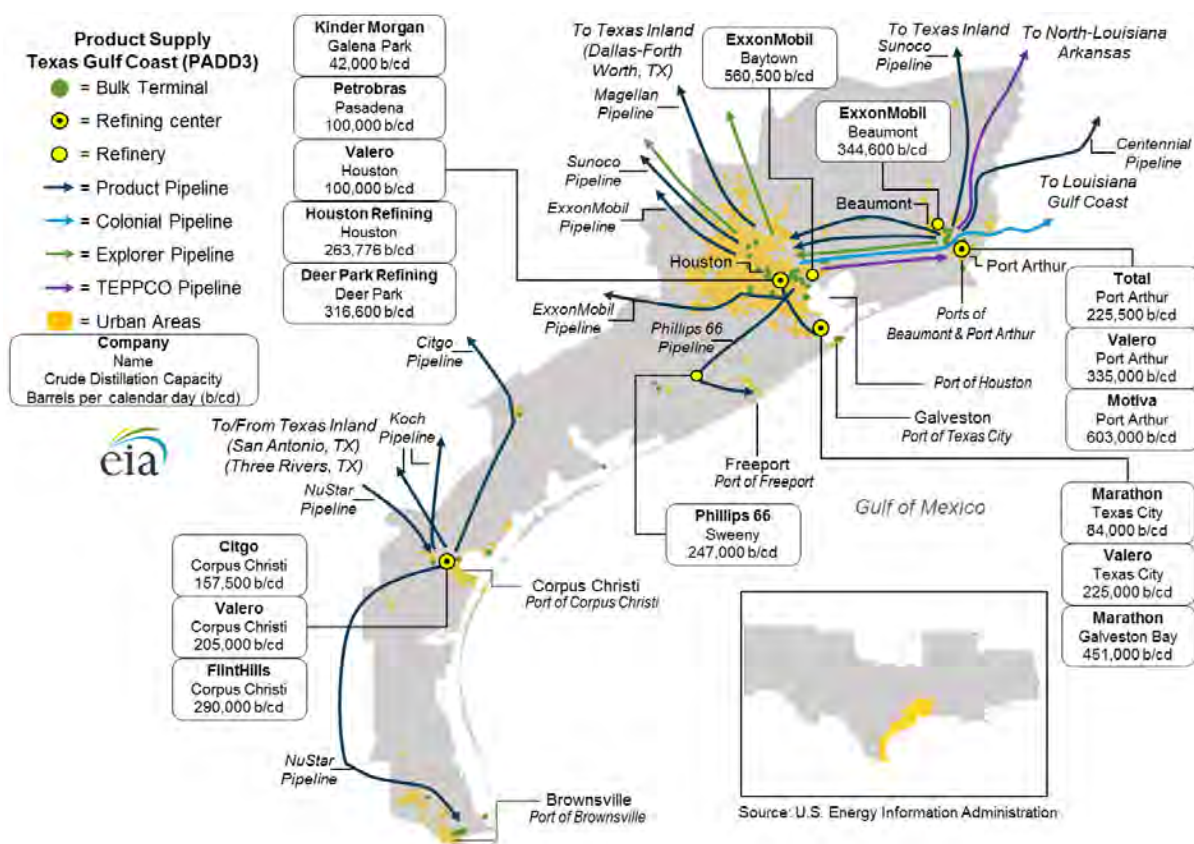
Port, Transportation and Logistics: Reuse, Resilience-Flood Controls, Spills-Leaks

The extensive global activities along the Texas Gulf Coast and its six major ports provide multiple opportunities for customizing solutions that serve the needs of operations and maintenance at a scale similar to the Dutch interests in the MENA Region (“Middle East North Africa”) with global port, transportation and logistics operations and management companies. Each port in Texas is an independent entity with an office of health-safety-environment (“HSE”) focus, and water being a significant portion of their program delivery.

Contacts for engaging Texas ports are:

- [Texas Department of Transportation](https://www.txdot.gov/)
- [Texas Ports Association](https://www.texasports.org/)

Opportunities include water quality and stewardship, prevention and mitigation of spills and leaks leading to fires, prevention of invasive species from inbound shipping, sensors and monitoring of logistics to reduce waste.



Source: <https://www.eia.gov/analysis/transportationfuels/padd1n3/>

Power and Energy including Facilities and Large-Scale Operations: Heating, Controls, Emergency Supplies

It takes significant amount of water to generate the electricity that ‘powers’ Texas communities and industries, and therefore requires managing water issues as any other sector. However, what has often been under the category of “sustainability” these power and energy providers are beginning to engage their own “Water Managers” with financial and implementation authority. Texas Public Power Association (“TPPA”) represents the approximately 38+ municipally owned utilities, while the Association of Electric Companies of Texas (“AECT”) represents the for-profit and non-government providers. The Texas Public Utilities Commission (“PUC”) is the regulatory body that oversees ALL of the power and energy sector outside of oil and gas. Each of these entities support the growing demand for water management due to persistent drought and storm challenges to their plants, stations, and powerlines. In turn, each is encouraging greater consumer and community engagement for home, residential use reductions, while partnering with commercial and industrial customers to recapture HVAC and plumbing waters for zero-footprint performance.

Opportunities include engaging with commercial and industrial real-estate developers as well as local power utilities to align your product and service into the early design phase of facilities seeking to recapture and reuse onsite water supplies. In turn, an immediate opportunity exist for working with power utilities in their own water management challenges for optimization.

Contact information:

- [Texas Public Utilities Commission](#)
- [Texas Public Power Association](#)
- [Association of Electric Companies of Texas](#)



Electronics, Light Manufacturing: Reuse, Recapture

Texas is 'home' to over 5000 corporate campuses including several national and global electronic and consumer product manufacturers – from Texas Instruments' computer chips in North Dallas to Tesla's Giga Factory for battery production in Austin. Seeking to achieve corporate sustainability and resilience goals, Texas' light manufacturers have moved quickly to adopt reuse and recapture at astounding levels (for example, Texas Instrument's reuses over 70% of water on their production floors). Often overseen by regional and local plant managers, several regions in the State have manufacturing associations, welcoming vendors-suppliers to connect with their members during myriad business and professional gatherings.

Major Electronics Companies in Texas

Select firms with corporate, research, or manufacturing facilities in the state



Representative sample only.
Map does not include all company locations.

Opportunities include conducting onsite assessments of water use and management for manufacturers that may not have staff nor internal skill sets to determine best-practices for applying your technology capabilities within their operations. Of special note is the recovery of metals and chemicals abundantly produced in the manufacturing process that often are considered waste or by-product that could be recaptured for secondary use or resell.

Contact information:

- [North Texas](#)
- [Greater Austin-Central Texas](#)
- [Greater San Antonio](#)

Agriculture: Water Supplies and Drought-Proofing; Water-Stressed Crops and Genetics; Smart Irrigation through Sensors and Meters

To assess where Dutch water technology companies have a great advantage in Texas would be to explore the significant breadth and depth of the State's agriculture, food and beverage production sub-sectors. Agriculture – often defined by plant-crop or animal breeding and production - has myriad organizations at the statewide, regional and local levels to engage farm and ranch operations and decision-makers. Supported by localized irrigation districts for obtaining water supply and post-use treatment, the nearly 10,000+ ranches alone in Texas can be self-contained eco-systems for crops to feed both animals and humans, any number of animal breeds (pork, beef, poultry, lamb, goat, fish), and of course surface and groundwater supplies.

To gain additional insights the following organizations should be explored:

- [Texas Department of Agriculture \(Ag Stats\)](#)
- [Texas Department of Agriculture \(The Water Source\)](#)
- [Texas Farm Bureau](#)
- [Texas Cattle Raisers Association](#)
- [Texas Goat and Sheep Raisers Association](#)
- [Texas Pork Producers Association](#)
- [Texas Shrimp Association](#)
- [Texas Agriculture Council](#) (representing Crop Associations)
- [Texas A&M University AgriLife Extension Programs](#)
- [Texas Tech University](#)

Due to the significant levels of ongoing operations, food and beverage production has emerged as another economic engine and sub-sector for water technologies. Onsite water reduction methods and reuse systems have been sparked initially by the 2010-2014 drought, but have expanded because many companies are designed, engineered and/or operated with European best practices.



Texas has become a leading location for advanced food and beverage water management: Frito-Lay's 100+% recycling of waste products including water, to 100s of microbreweries with internal zero footprint systems, Coca-Cola and its regional bottlers have worked to clean the Rio Grande River along the Texas-Mexico border with reclaimed water, Pepsi and its food brands has sought to diminish demand for local water during drought conditions, Campbell Soups makes all of its North American tomato products in Texas, HEB Grocers supports a vast network of local and regional suppliers.

Opportunities include region-wide applications of your technology or service across multiple end-users of farms and ranches as well as the “cooperatives” and irrigation partnerships that seek to increase water sourcing on more efficient and economical level.

Additional information and contacts:

- [Texas Food Processors Association](#)
- [Texas Organic Farmers](#)
- [Texas Aquaculture Association](#)

Land-Use and Master Planned Communities: Residential and Commercial Reuse, Risk Mitigation and Green

Because of Texas' continued high-growth and population increases – making it one of the fastest growing areas of the state and North America – the role of master-planned communities with 100s of homes and amenities have been become some of the largest land-users in major metropolitan areas. These residential settings are supported in their planning and water management through Municipal Utility Districts (“MUDs”) that invest in the supply, treatment, and ongoing maintenance of systems as well as drive adoption of innovative solutions with their clients. In turn, adjacent retail and small commercial centers (typically medical and health related) support these communities. As a result, land-use regulations require a certain level of flood mitigation and/or water quality management.

Contact for additional insight:

- [Association of Water Board of Directors](#)
- [Urban Land Institute Chapters of Residential, Commercial Developers \(Austin, Dallas, Houston, San Antonio\)](#)
- [Texas Association of Builders](#) (Homebuilders with local chapters)

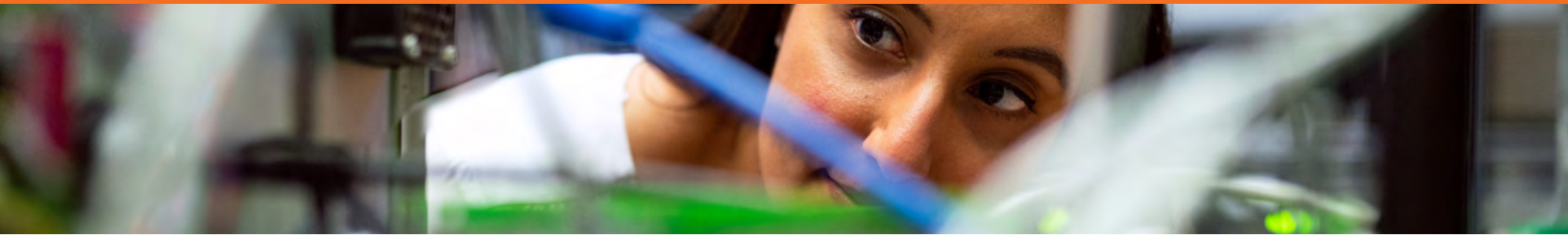
Further adjacency to major business and commercial centers where corporate headquarters and mixed-use developments are anchored has increased densification in urban and suburban areas of Texas. Combined – residential, retail, commercial – real estate projects have become a part of the overall reuse, risk mitigation, and green/nature-based architecture, design, engineering, and development. Incentives, building codes, and other forms of tax credits are driving deployment of ‘smart water technologies’ inside, external and near homes and facilities.

Understanding emerging rules and programs directed by city and county housing agencies, best practices supported by land-use organizations and professional societies, and the evolving role of alternative financing and social impact investing will be vital for Dutch water technology companies in 2021 and ahead. Examples of municipal programs include:

- [City of Austin](#)
- [City of Austin Water Forward](#)
- [City of Dallas](#)
- [City of San Antonio](#)

Opportunities include the expansive growth in Texas’ master planned communities of 1000+ homesites and mixed-use development requiring adherence to local water regulations, sparking increased application of data-driven solutions and technologies to monitor demand, flood mitigation, and quality. In turn, the acceptance of environmentally-sound design into newer community development requires companies that have extensive experience unlike local competitors.





Overcoming Barriers to Entry for Dutch Companies

As Dutch technology companies examine their 2021 plans for growth, entering any new market requires a certain level of patience and persistence to understand “how to do business” in a particular culture or setting. While Texas’ size, scale and scope can be overwhelming, the realities for overcoming “barriers to entry” require preparation in **six critical elements**:

Information

We have provided in above sections a number of information tools and sources on Texas’ unique water-technology market. Conduct research on these entities, programs, previous reports and documents. Review myriad recorded webinars and forums to hear from decision-makers and competitors. Conduct the necessary “SWOT” – strengths, weaknesses, opportunities, threats – to better understand and communicate to the Texas market. Do not rely solely on a local agent nor business development firm; take the time to proactively learn what the rules, regulations, financial, economic, and ultimately the engineering-technical requirements are!

Engagement and Presence

Until travel restrictions change, obviously remote engagement will remain the ongoing scenario instead of a physical presence. However, use the digital meeting tools to your advantage so that once in-person sessions return, those one-on-one conversations can be converted to a “close” rather than a beginning. There are additional opportunities for “...begin present with future customers...” including attending online conferences, briefings, and select forums where your interests are aligned with speakers and panelists on your target list. Find their emails and contact information prior to the digital event to introduce your company or send an immediate follow-up to the event. And of course, use LinkedIn or similar platforms to further connect with your new market targets.

Positioning Value

Conducting target-list information, research and market intelligence should strengthen side-by-side product differences and comparisons. Assure entry into the Texas market by showcasing performance, costs, results, impact on operations, manpower, budgets, maintenance, or whatever separates the proposed solution from others.

Perceptions of National versus Global Sources

Texans by nature are skeptical about the “latest fad, new offering, novel idea” unless it has a combination of tested, proven and scalable performance vis-à-vis a recognized, respected source of review. And even then, a pilot or demonstration may be necessary to showcase a company’s responsiveness to the delivery as well as the operation and maintenance post training, installation, integration.

Institutional, Operational Limitations

With nearly 16,000 potential targets for marketing in Texas, recognizing certain limitations to be encountered is an important strategic approach. For instance, a majority of water utilities are small and rural systems with no full-time engineering staff and budget cycles that reflect limited resource allocations. On the other hand, the larger urban systems have extensive engineering and technical staffs as well as an array of consultants on standby to response to any number of challenges. Further, these larger systems and entities have annual, three – and five-year CIPs (Capital Improvement Plans) in the millions of dollars, ratepayers, and revenue enterprises. Yet no matter the scale of the entity, identifying the appropriate market entry point is often a task that requires recognizing and appreciating how a solution could actually assist in overcoming such limitations for the customer.

Access to Decision-Makers

As has been previously discussed, the fragmented nature of Texas' water management structures, size of various markets, and unique operational and financial settings demands Dutch water and technology companies to selectively identify and engage key decision-makers with resources and authority. Reaching and obtaining their attention can be initiated through

- [Engineering and Consultants](#)
- Subject Matter Experts
- [Academic Researchers](#), [Texan by Nature](#) and [Texas Water Data](#)
- Association and Professional Organizations (see Resource section)
- Social Media and Technical Digital Platforms (see Resource section)



What You Need to Know About Business Development in the Texas Water Sector

Procurement, Contracting: Vendor Approvals, Paperwork, and Bid Processes

The so-called ‘tender scheme’ in the US is fairly straight forward but often requires pre-application processes including registration as a US and/or Texas-based entity, with appropriate insurance and bonding, inclusion of in many cases certain financial and organizational paperwork. The process can also take many forms- RFI (Request for Interest), RFQ (Request for Qualifications) or RFP (Request for Proposals). In certain situations, procurement seeks no more than three bids for a transparent competition, but traditionally the process is broad and inclusive of all potential parties.

Additionally, some public sector procurement and contracting seeks to reward bidders with incentives or “points” for including minority and diversity sub-contractors. Of late, performance-based contracting has become a new procurement approach to drive economic value and outcomes. Participating in all pre-bid conferences and forums, meeting with procurement officers well before a competition begins, and obtaining a list of prior awards provides a useful introduction to a successful submittal.



Project Development: Unsolicited Proposals, Pilots-Demonstrations, and Multi-Party Opportunities

A Dutch technology provider may wish to consider more novel and innovative approaches for business development that include a so-called “test drive, kick the tires” scenario for opening the door to a longer-term relationship. An unsolicited proposal – minus certain proprietary information – could spark interest by a target customer and is not often extraordinary in today’s highly competitive technology market.

Further proposing or exploring if a customer would conduct a pilot and demonstration at the facility, on their system is increasingly a viable option. Aligning with a funding source – a third-party with whom a grant is available – has become a welcome approach to cash-strapped public entities. Foundations with a social impact, nature-based, and/or green infrastructure focus are now partnering with public and community leaders to transform water operations and management.

In limited scenarios, a public entity may be awarded a “sole source” bid for contracting if the parties can demonstrate unparalleled uniqueness and lack of competition in the marketplace.

Strategic Partners: General Contractors, Architect-Engineers, Alternative Financing, P3s

Increasing the importance of aligning technology products and providers with strategic partners as a go-to-market scenario has evolved due to the delays and burdens of traditional procurement and contracting processes. Forming an alliance with contractors and architect-engineer consultants coupled with alternative financing around a public-private partnership “vehicle” is receiving significant attention from federal, state and local governments along with industry and investment firms.



APPENDIX II • Resources and Reference Materials

Procurement, Bids, and Opportunities

All companies should consider registering to receive access to bids, procurement by various agencies and programs via the State of Texas main site.

[Link](#)

Understanding the Texas Water Management Programs, Policies

- Texas Water Development Special Report 2019
- Texas agriculture and crop map by region
- Meadows Center, Texas State University Compendium (2013)

[Link](#)

[Link](#)

[Link](#)

Ongoing Knowledge of US and Texas Water Technology Scenarios

- The Water Environment Federation – the leading organization that hosts the annual water technology conference and forum, alternating between Chicago and New Orleans
- American Water Works Association – the leading organization for all-things public utilities
- The Water Reuse Association - focused on utility and industry reuse, recycling issues
- WaterNow - one of several side organizations that seeks to connect thought leadership, events, and content
- American Flood Coalition – fast growing advocacy and research organization focused on climate-related coastal and flood related challenges
- GlobalWater Works - a US focused water network of technologies, communities of practice
- The Water Network - a global network of water professionals with various “working groups” and “communities”
- WaterLoop - blog and podcasts on specific water challenges, topics

[Link](#)

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APPENDIX III

Texas Water Technology Funding Programs (as of April 2021)

Entity	Program	Funding/ Resource Scenario	Immediate Opportunity
Texas Water Development Board (TWDB) TWDB Innovative Water Technologies	Flood Infrastructure Fund; Innovative Water Program	The \$750+ million program for flood mitigation regional and local projects coupled with new regional flood mitigation boards; ongoing studies and technology assessments	FIF grant programs are currently being distributed in phases and competition rounds; Dutch companies MUST be a strategic provider or vendor to a public-sector applicant as defined in the program criteria. However, TWDB does conduct demonstration studies, typically with an engineering consultant partner
Texas Commission on Environmental Quality (TCEQ)	Water Quality and Planning Division	Oversees various federal and state enforcement including permitting of new technologies, studies	TCEQ is in constant contact with regional industrial and corporate HSEs, as well as public water utilities on permits – therefore have an immediate understanding of needs for new solutions, products
Texas General Land Office (GLO)	Community Development Division manages the US Housing & Urban Development CDGB-MIT Program for Texas	CDBG-MIT Competitions	Second round of CDBG-MIT grant process is underway and will continue until all funds are distributed; GLO seeks housing materials and alternative housing products for review, end-use

Entity	Program	Funding/ Resource Scenario	Immediate Opportunity
Texas Department of Emergency Management (TDEM)	TDEM oversees state-wide, county and municipal disaster programs including US FEMA related grants	Hazard Mitigation Grants Program	Administration of FEMA BRIC Program
Texas Department of Agriculture (TDAG)	TDAG oversees statewide and rural community water infrastructure projects for irrigation, agriculture districts	Publication	Connect with regional TDAG representatives – determined by product impact, benefit to specific geographic markets
Texas Railroad Commission (TRC)	TRC is the equivalent statewide regulatory body to the US Department of Energy, and oversees certain programs related to oil and gas production including produced-water management	Resource Center	Introduction of product, solution and benefits via outreach to RRC staff in the Environmental Division
Texas Soil & Water Conservation Board	Supporting the soil and conservation programs tied to agriculture and rural communities, including discharges from farming, ranch operations	TSSWCB manages certain grants and reimbursable expenses including flood control repair projects	\$150 million grant program for modernizing and replacing over 2000 earthen dams – typically in more rural communities – with approximately 600 in a declared state of required replacement.

Entity	Program	Funding/ Resource Scenario	Immediate Opportunity
<u>Water Environment Association of Texas (WEAT)</u>	Focus: Water Quality, Environment Issues with regional chapters and 32 working committees	Market access to management and technical staffs with funds, budgets	Consider joining as a member and/or participating in forums, conferences where product showcases occur
<u>Texas Water Conservation Association</u>	Oldest water association in Texas; focus on ground- and surface water policies and program delivery; heavily attended by consultants and engineering reps	Market access to management and technical staffs with funds, budgets	Consider joining as a member and/or participating in forums, conferences where product showcases occur
<u>Texas Rural Water Association</u>	750 rural utilities + 200 suppliers, vendors; significant technical assistance on water, wastewater systems	Market access to management and technical staffs with funds, budgets	Consider joining as a member and/or participating in forums, conferences where product showcases occur
<u>Association of Water Board Directors (MUDs)</u>	Leadership of appointed boards and managers of Texas municipal utility districts (of, by master planned communities, real estate developers)	Market access to management and technical staffs with funds, budgets	Consider joining as a member and/or participating in forums, conferences where product showcases occur

Entity	Program	Funding/ Resource Scenario	Immediate Opportunity
Regional: Various initiatives and funding for water-and weather-related technologies, resilience strategic developments			
Regional Flood Planning	TWDB now oversees a regional flood planning process for future distribution of grants, contracts, and studies	Introduction of technology, product, solutions early into planning with regional process design	Identify the engineering, consulting firm advising the Flood Planning group in each region
Harris County Flood Control/ City of Houston Houston Water Chief Recovery Officer	Harris County Flood Control and City of Houston Public Works obtained approval for \$2.5 billion each in additional flood mitigation project delivery, including additional technology use in support of operations, maintenance	Procurement, RFP, and related unsolicited proposals are in consideration until funds are expended; City of Houston Chief Recovery and Resilience Officers oversee locate use of federal, state dollars	Register for procurement updates and align with a regional, local engineering firm to present qualifications so as to be designed-into proposals
Austin Watershed/Austin Water	Through the Austin Watershed and Austin Water Departments, the City is implementing its Austin Water Forward Plan	Both departments are launching grant and pilot programs for alternative conservation, quality initiatives	Register for procurement updates and align with a regional, local engineering firm to present qualifications so as to be designed-into proposals
San Antonio River Authority (SARA)	SARA oversees programs and funding in support of conservation, quality and Edwards Aquifer protections	Periodically funding is available for pilot and demonstration projects	Register for procurement updates and align with a regional, local engineering firm to present qualifications so as to be designed-into proposals

Entity	Program	Funding/ Resource Scenario	Immediate Opportunity
Councils of Government (COGs - several) Houston-Galveston Area Council (Greater Houston 11 counties) Coastal Bend Council of Governments (Corpus Christi Region)	Councils of Government represent multiple counties and municipalities within a region, including Water and/or Resilience Committees; said COGs receiving funding via federal and state programs to administer regional and watershed-level initiatives	COGs are awaiting a distribution from GLO for additional regional flood and risk mitigation in addition to applying for specific federal grants related to regional resilience.	Contact COG senior staff in charge or water, environmental, sustainability and similar regional programs for introduction to elected officials on key committees, working groups



This playbook is a made by Accelerate H2O on behalf of NBSO Texas.

For more information, please contact us at:

office@nbso-texas.com
www.nbso-texas.com

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