



# Addressing Environmental Issues on the U.S.-Mexico Border

**New Mexico Legislative Finance Committee**

Deming, New Mexico

October 4, 2019

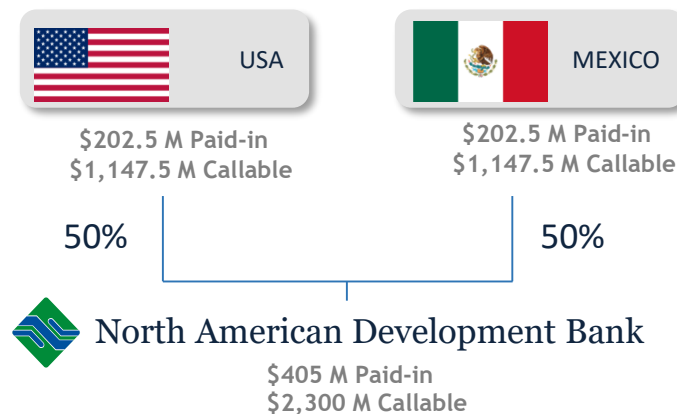
Daniel Gutierrez  
Interim Director of Project and Loan Administration



# North American Development Bank (NADB)

- ◆ Established in 1994 under a bilateral agreement between the United States and Mexico.
- ◆ Mission: To finance infrastructure projects that **preserve, protect or enhance** the environment in order to advance the well-being of border residents, as well as providing technical and other assistance to support the development of such projects.
- ◆ Headquartered in San Antonio, Texas, with an office in Ciudad Juárez, Chihuahua, Mexico.

## Structure



- ◆ NADB is capitalized and governed equally by the governments of both the United States and Mexico.
- ◆ NADB is rated Aa1 by Moody's and AA by Fitch Ratings

# Governance

- ◆ NADB has a ten-member, binational Board of Directors, with an equal number of representatives from each country.

U.S. Members	Mexico Members
<i>Secretary of the Treasury</i>	<i>Secretary of Finance and Public Credit (SHCP)</i>
<i>Secretary of State</i>	<i>Secretary of Foreign Affairs (SRE)</i>
<i>Administrator of the Environmental Protection Agency</i>	<i>Secretary of the Environment and Natural Resources (SEMARNAT)</i>
<i>U.S. Border State Representative</i>	<i>Mexican Border State Representative</i>
<i>U.S. Border Public Representative</i>	<i>Mexican Border Public Representative</i>



# Leveraging Infrastructure Investments

June 30, 2019

- ◆ With an initial \$405 million in paid-in capital contributions from the U.S. and Mexico, NADB has leveraged investments totaling \$8.65 billion in the development of sustainable infrastructure.



- ◆ NADB has also managed \$665.1 million in EPA grants, bringing the total number of projects funded to 259 and total investment to \$9.8 billion benefitting more than 17 million residents.

# NADB Jurisdiction

## ◆ U.S. Border:

- » 37 counties in four states
- » Population: 9.6 million  
(3.1% of U.S. population)

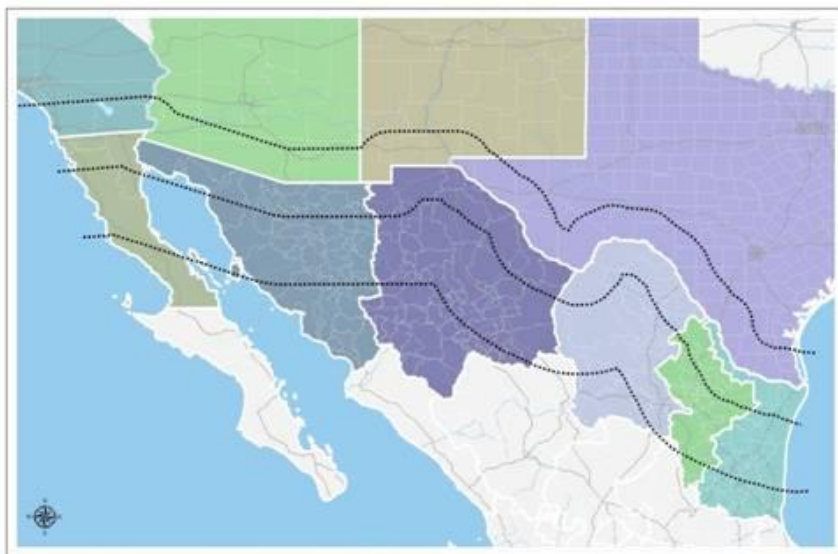
Source: U.S. Census Bureau, 2010 census

## ◆ Mexican Border:

- » 213 municipalities in six states
- » Population: 16.6 million  
(14.8% of Mexican population)

Source: INEGI, 2010 census

## Geographic Jurisdiction



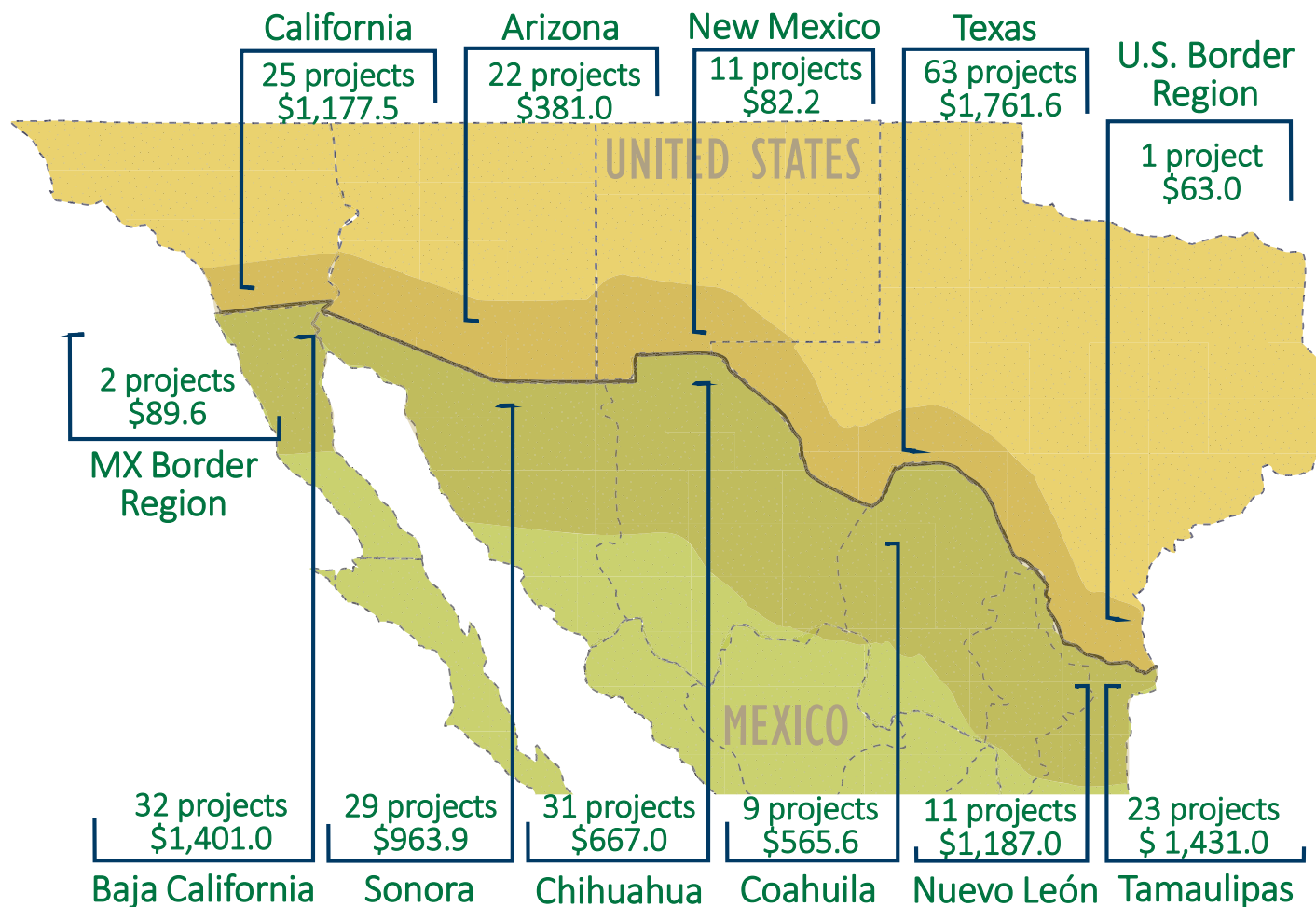
## Population within Jurisdiction

Mexico	
State	Population
Baja California	3,155,070
Chihuahua	3,094,944
Coahuila	1,832,232
Nuevo Leon	4,610,918
Sonora	1,650,527
Tamaulipas	2,243,135
<b>Total</b>	<b>16,586,826</b>

United States	
State	Population
Arizona	1,354,780
California	5,459,482
New Mexico	268,736
Texas	2,559,239
<b>Total</b>	<b>9,642,237</b>

- ◆ 100 km (62 miles) north of the international boundary and 300 km (186 miles) south of the border. Projects beyond these areas may be eligible if they remedy a transboundary environmental or health problem.

# \$9.8 billion total investment in 259 projects



# Environmental Sectors and Projects



## WATER

- Water supply, treatment and distribution
- Wastewater collection treatment and reuse
- Water conservation
- Storm drainage and flood control.



## AIR QUALITY

- Street paving and other roadway improvements
- Public transportation
- Ports of entry
- Reduction of industrial emissions
- Methane capture.



## CLEAN AND EFFICIENT ENERGY

- Solar
- Wind
- Hydroelectric
- Geothermal
- Biogas & biofuels
- Equipment replacement
- Building retrofits.



## WASTE MANAGEMENT

- Sanitary landfills
- Dumpsite closure
- Collection & disposal equipment
- Recycling & waste reduction
- Hazardous waste treatment & disposal
- Industrial site remediation.



## BASIC URBAN INFRASTRUCTURE

- Projects that consist of a mix of works from various sectors, such as street paving, installation of water and sewer lines, storm drainage and public lighting.

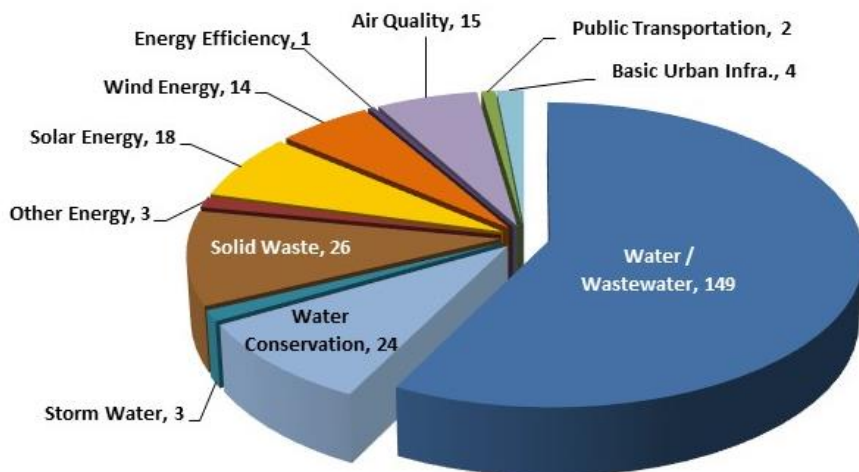
# Loan Program: Distribution by Project and Sector

## Loans & Related Financial Services

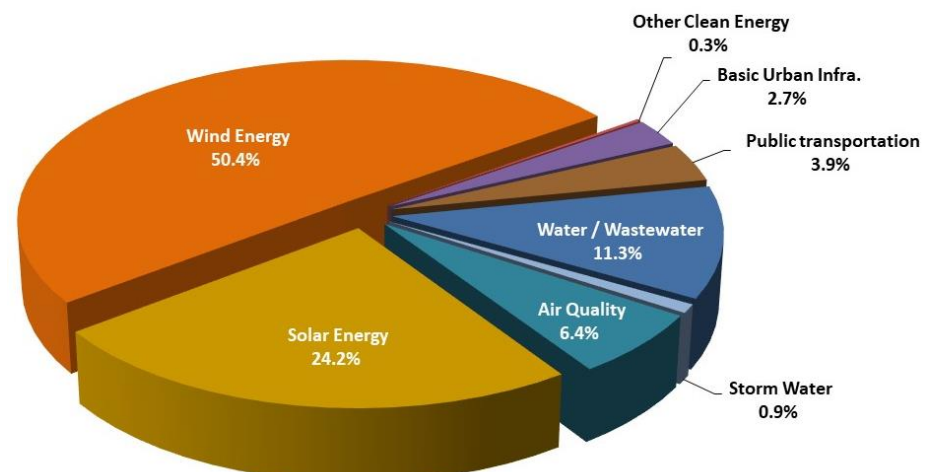
- » Direct financing to public and private entities
- » Up to 85% of total project cost, with tenors of up to 25 years
- » Fixed or variable rates in U.S. dollars or Mexican pesos
- » Technical support, due-diligence coordination and project structuring services.

June 30, 2019

Project Types



Outstanding Loans





# Grant Programs

<b>Grants</b>	<b>Community Assistance Program (CAP)</b>	<ul style="list-style-type: none"> <li>» NADB-funded grants for up to US\$500,000</li> <li>» Public-sector projects in low-income communities</li> <li>» Available for all sectors, with priority given to water, wastewater, water conservation and solid waste infrastructure</li> </ul>
	<b>Border Environment Infrastructure Fund (BEIF)</b>	<ul style="list-style-type: none"> <li>» EPA-funded grants for priority water and wastewater projects</li> <li>» Projects must be located within 100 km of both sides of the border</li> </ul>

## ◆ CAP

- **US\$14.09 million** in NADB **retained earnings** allocated to program
- **US\$7.16 million contracted** for **19** water and solid waste projects
- **US\$5.42 million** disbursed, 76% of the funds contracted
- Of the **19** projects financed with CAP: 12 completed, 3 under construction, 4 in bidding or preparing to bid

## ◆ BEIF

- Of the 124 projects financed with BEIF, 113 have been completed
- **US\$678.9 million** in funding from EPA for project construction since program inception; **99%** allocated to certified projects
- **US\$665.2 million contracted** for water and wastewater projects ~97% disbursed.
- **US\$8.69 million available** for 18 projects in development

# Technical Assistance

<b>Technical Assistance</b>	<b>Technical Assistance Program (TAP)</b>	» NADB-funded grants and technical expertise for planning, designing or developing projects, strengthening capacities through seminars and workshops, as well as generating knowledge and exploring emerging sectors
	<b>Project Development Assistance Program (PDAP)</b>	» EPA-funded grants to support communities in the development of water and wastewater projects that have been prioritized by EPA to receive a BEIF grant
	<b>Border 2020</b>	» Administrative support for this binational program developed by EPA-SEMARNAT » EPA funds local initiatives focused on improving the environment and protecting the health of residents within 100 km of both sides of the border

EPA= U.S. Environmental Protection Agency  
SEMARNAT = Secretaría de Medio Ambiente y Recursos Naturales

# Outcomes & Impact

June 30, 2019



**25** water treatment plants and **323 miles** of water distribution pipes installed



**50** wastewater treatment plants and **1,239 miles** of sewer lines installed



**23** water conservation projects in irrigation districts and **3** storm drainage projects



**14** municipal landfills built or expanded and **16** dumpsites closed



**17** solar plants in operation with **463 MW** of generation capacity installed



**14** wind farms in operation with **2,091 MW** of generation capacity installed



**2** biogas facilities (landfill waste-to-energy and cogeneration)

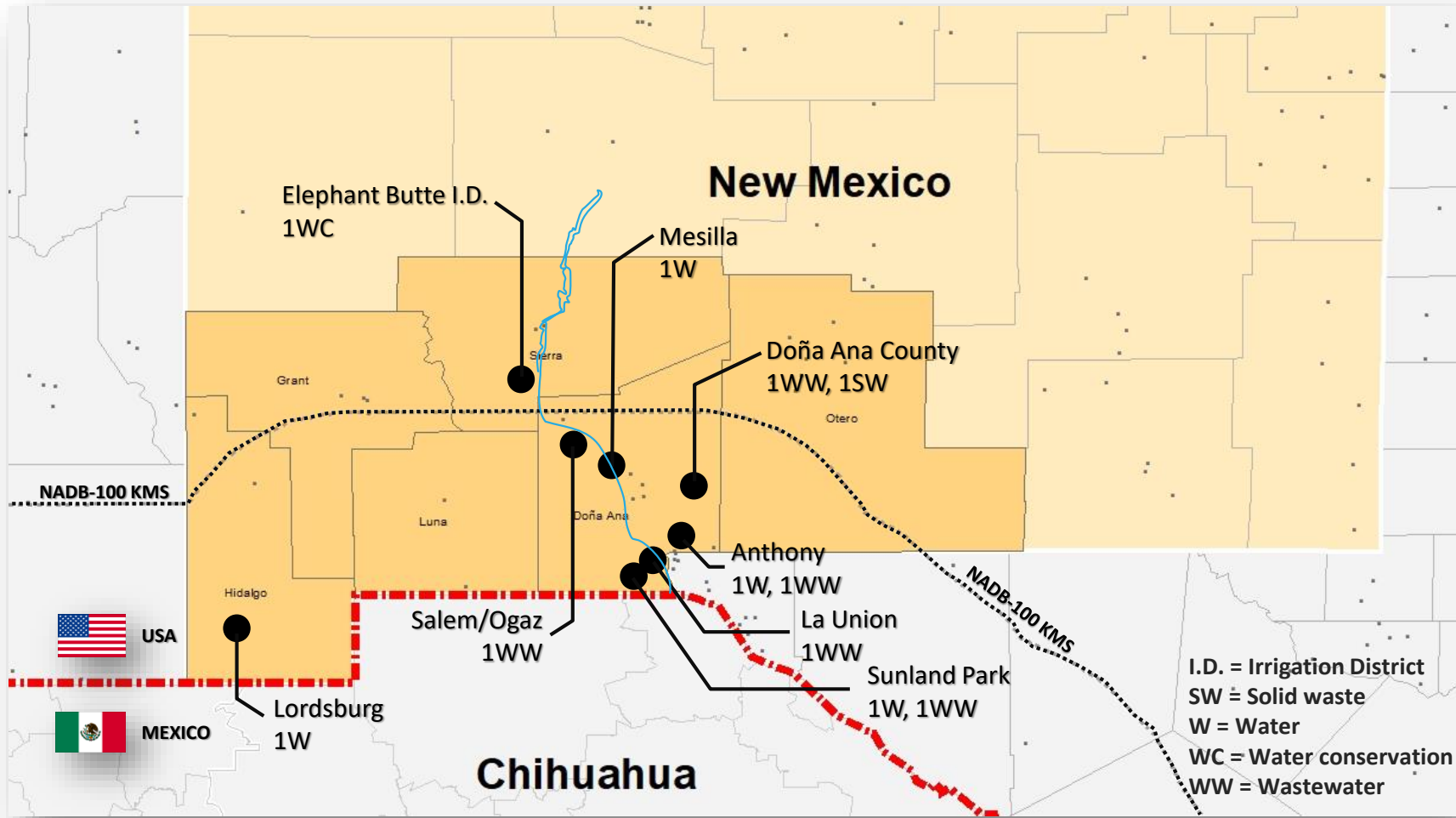


**14.4** million square meters of paved streets



**722** low-emission buses in circulation in **8** communities

# NADB Participation in New Mexico



# New Mexico Results

June 30, 2019

- ◆ 11 projects financed, 10 completed
- ◆ US\$41.21 million in financing contracted, US\$38.7 million disbursed (94.0%)
- ◆ Benefiting a population of 178,061
- ◆ 1.5 million gallons a day of increased treatment to improve water quality
- ◆ 2.3 million gallons a day of increased wastewater treatment capacity
- ◆ 9,561 acre-feet/year in water savings in an irrigation district
- ◆ 1 regional landfill expanded

# Projects in New Mexico

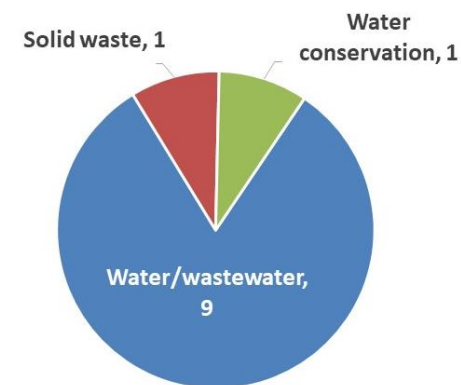
June 30, 2019

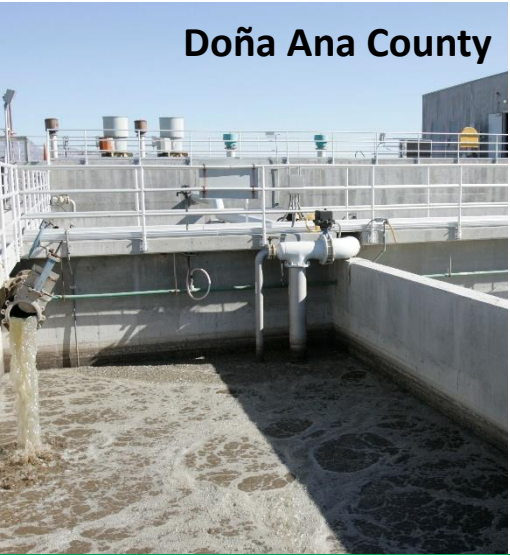
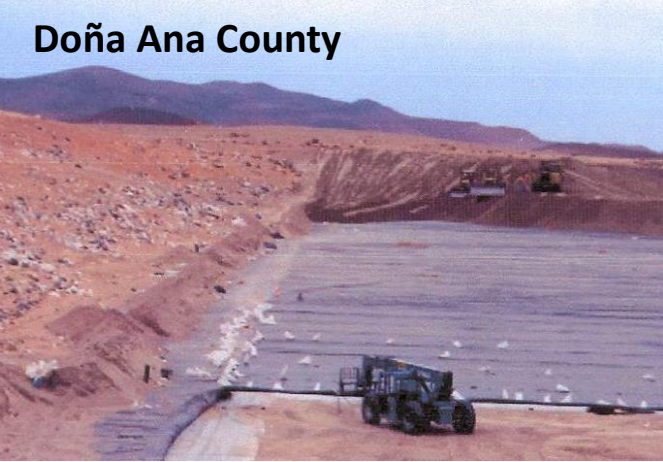
US\$ Million

Community	No. of Projects	Financing Contracted	Total Cost	Projects
Anthony	2	\$5.57	<b>\$11.64</b>	Water improvement / Lift Station Replacement Project
Doña Ana County	2	15.59	<b>32.93</b>	Landfill Expansion / Wastewater Collection System
Elephant Butte ID	1	4.00	<b>8.49</b>	Pipe Installation on Unlined Earthen Laterals
La Union	1	4.24	7.60	Wastewater Collection and Treatment System
Lordsburg	1	0.70	<b>2.00</b>	Water Treatment Improvements
Mesilla	1	0.69	<b>0.76</b>	Water System Improvements Project
Salem/Ogaz	1	0.99	<b>3.00</b>	Wastewater Collection and Treatment System
Sunland Park	2	9.41	<b>14.06</b>	Wastewater Treatment Project / Meter Replacement
Total	11	\$41.21	<b>\$80.49</b>	

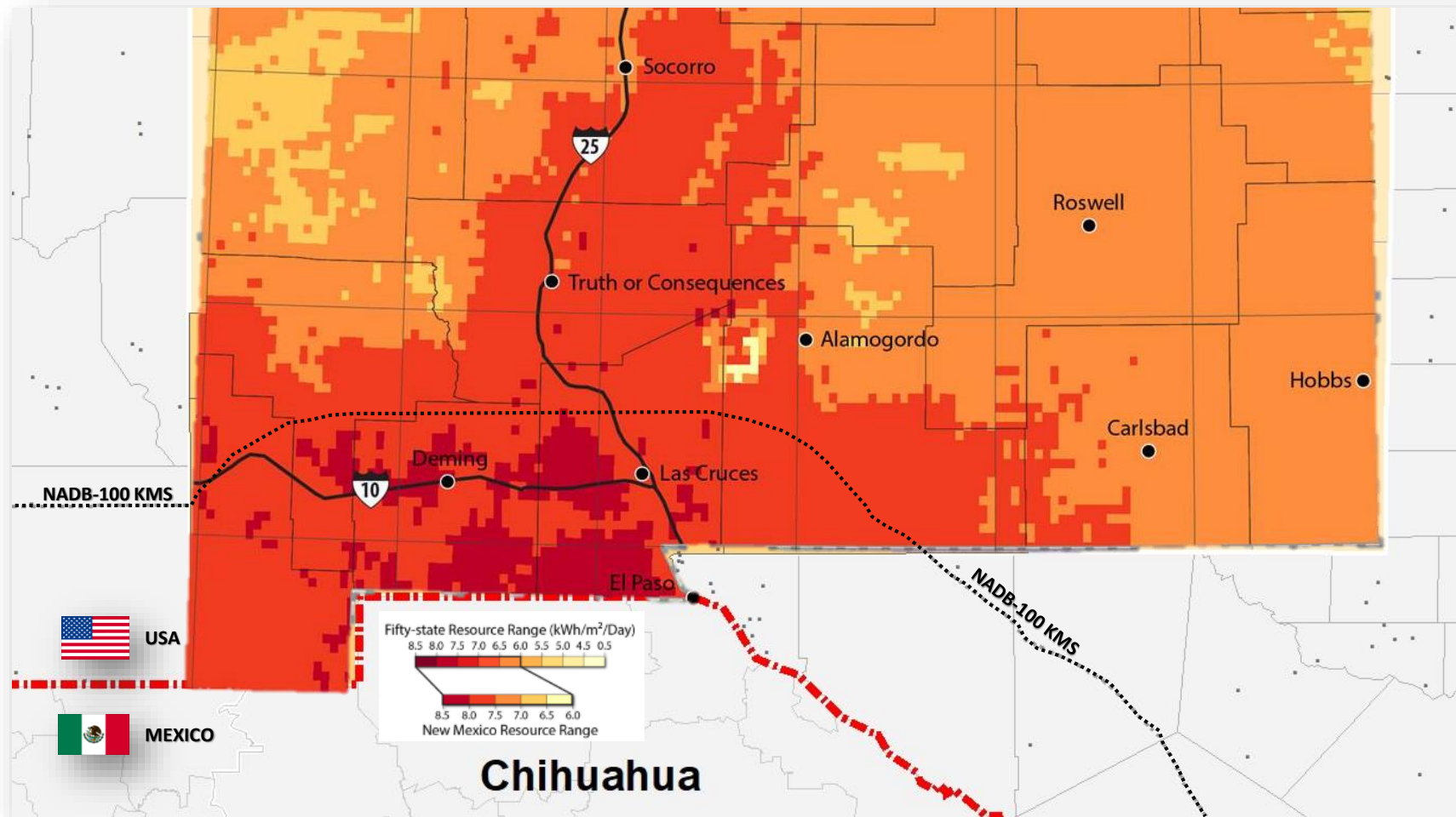
ID = Irrigation District

- ◆ NADB resources can relieve dependence of federal funds
- ◆ Coordination with legislative processes can save time
- ◆ State Legislature has greater confidence that the money invested has gone through rigorous investment decisions.





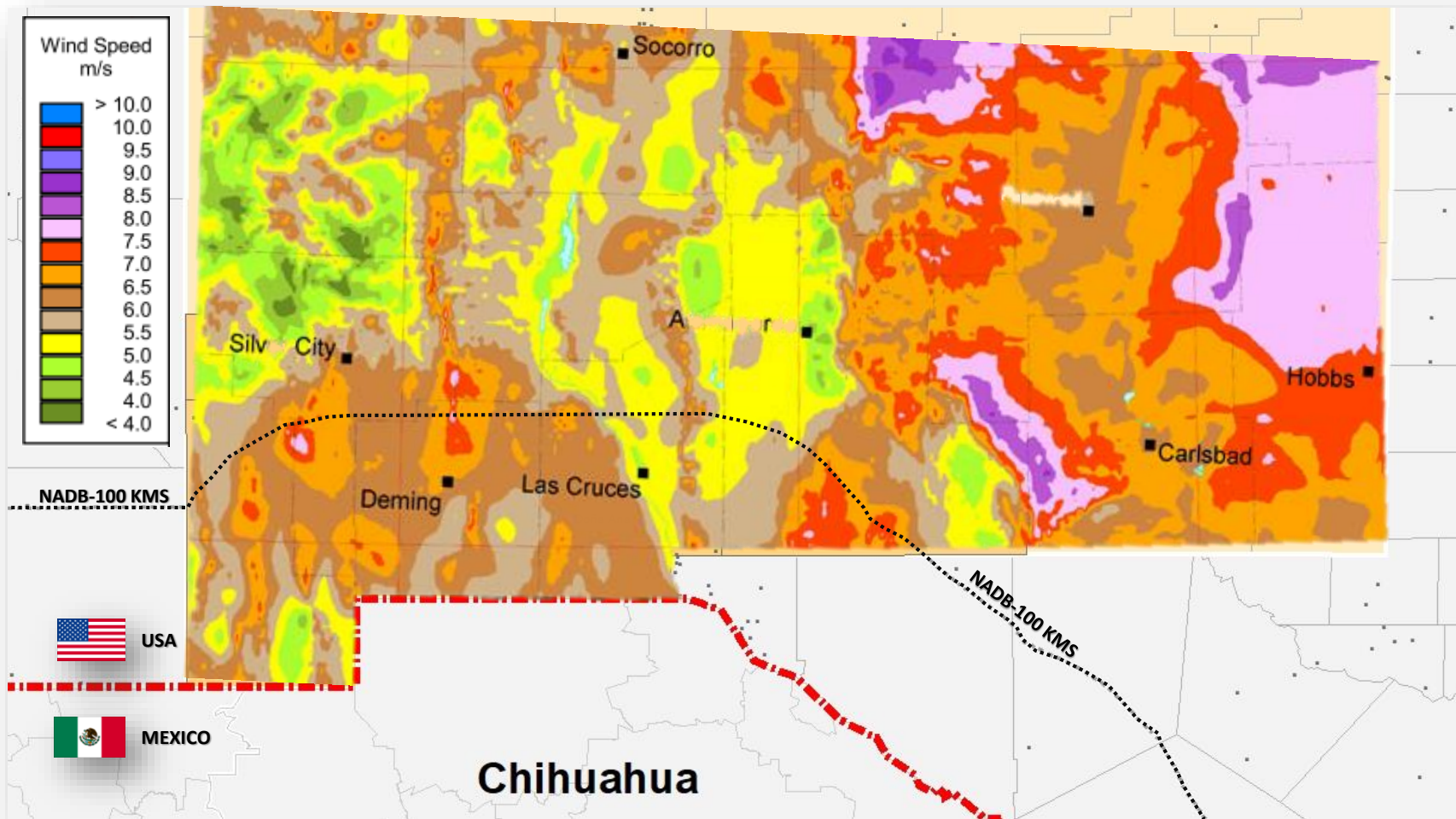
# Solar Resource in New Mexico



New Mexico increased its overall RPS target in March 2019 to 100% of electricity sales from carbon-free generation by 2045, up from the previous target of 20% renewable generation by 2020.



# Wind Resource in New Mexico



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# Appendix



# 1. Anthony, NM

BEIF Construction Grant of up to US\$2,762,762 signed on 08/2011

<b>Project:</b>	Water Improvements Project
<b>Total Cost of Project:</b>	US\$8,824,408
<b>Sponsor</b>	Anthony Water and Sanitation District (AWSD)
<b>Project Description:</b>	<ul style="list-style-type: none"> <li>• Construction of two water wells with a capacity of 600 gallons per minute (gpm) and 1100 gpm, respectively.</li> <li>• Equipment to change Well #3 from a 1200 gpm pump to a 600 gpm pump</li> <li>• Equipment to change Well #6 from a 1200 gpm pump to a 500 gpm pump</li> <li>• Installation of a Reverse Osmosis (RO) Unit with a capacity of 600 gpm</li> <li>• Installation of ~15K ft. of PVC lines</li> </ul>
<b>Other Funding Sources:</b>	Loans and grants from both the U.S. Department of Agriculture-Rural Development (USDA-RD) and the New Mexico Finance Authority (NMFA).
<b>Main Benefits:</b>	<ul style="list-style-type: none"> <li>• Reduction in arsenic concentrations to acceptable levels in compliance with federal regulations, thus protecting the health of the local population.</li> <li>• AWSD's increased ability to draw water from all wells, lessening the local burden on the aquifer and ensuring a reliable and sustainable water supply.</li> </ul>
<b>Results:</b>	<ul style="list-style-type: none"> <li>• Drilling of wells #1 and #4 has been completed. Construction of the transmission lines was completed in July 2012. Work on the reverse osmosis treatment system was completed in February 2014, thus completing the entire certified project.</li> </ul>



## 2. Anthony, NM

### BEIF Construction Grant of up to US\$2,811,400 signed on 06/2016

<b>Project:</b>	Anthony Lift Station Replacement Project
<b>Total Cost of Project:</b>	US\$2,811,400
<b>Sponsor</b>	Anthony Water and Sanitation District (AWSD)
<b>Project Description:</b>	<ul style="list-style-type: none"> <li>• New lift station including a double wet-well for duplicity, three 105-horsepower, variable frequency drive (VFD) pumps; electronic controls; a backup generator; an electrical control building; and a biofilter for odor control.</li> <li>• A 21" gravity line, extending 3,500 linear feet with 14 four-foot diameter manholes, to reroute wastewater from the existing lift station to the new lift station.</li> <li>• A 12" force main, extending 7,100 linear feet to connect the new lift station to the AWSD Wastewater Treatment Plant.</li> </ul>
<b>Other Funding Sources:</b>	Loans and grants from both the U.S. Department of Agriculture-Rural Development (USDA-RD) and the <b>New Mexico Finance Authority (NMFA)</b> .
<b>Main Benefits:</b>	<ul style="list-style-type: none"> <li>• Doubling the average flow of the existing lift station to 0.9 mgd, which will convey nearly 90% of AWSD's wastewater to the treatment plant.</li> <li>• Reduction in energy consumption, as well as operation and maintenance costs for the utility as other six lift stations are decommissioned.</li> <li>• Elimination of the risk of sewage overflows in a populated area near the existing lift station.</li> <li>• Prevention of direct exposure to untreated wastewater, as well as the risks of water pollution and waterborne diseases.</li> </ul>
<b>Results:</b>	<ul style="list-style-type: none"> <li>• Construction of the lift station, force main and gravity line began in August 2018.</li> <li>• Construction of the force main was completed in November 2018. Lift station and gravity line are ~62% complete.</li> </ul>

# 3. Doña Ana County, NM

Solid Waste Environmental Program (SWEP) Grant of up to US\$ 999,600 signed on 08/2014  
 Market-Rate Loan in the form of a Municipal Revenue Bond of US\$1,510,000 closed on 02/2005

<b>Project:</b>	Solid Waste Landfill Expansion, Transfer Station Improvements and Equipment Replacement Project
<b>Total Cost of Project:</b>	US\$3,137,545
<b>Sponsor</b>	South Central Solid Waste Authority (SCSWA)
<b>Project Description:</b>	The project consists of the expansion of the Corralitos Regional Landfill by completing a second 13-acre cell, improvements to existing transfer and recycling stations, and replacement and purchase of equipment.
<b>Other Funding Sources:</b>	The remaining costs will be funded by SCSWA with its own funds.
<b>Main Benefits:</b>	The expansion of the landfill and other improvements will allow the facility to continue to serve its customers and will help reduce illegal dumping in and around the city and county.
<b>Results:</b>	Landfill cell 2B was completed in April 2004 and went into operation in July 2004. Rehabilitation of the transfer station, including the purchase and delivery of equipment, was completed in September 2005.



## 4. Doña Ana County, NM

BEIF Construction Grant of up to US\$12,243,625 signed on 06/2002 and Transition Grant Assistance of up to US\$838,544 to reduce the overall impact of increased debt service payments on the city's ratepayers as a result of the project (Total funding: US\$13,082,169)

<b>Project:</b>	South Central Regional Wastewater Collection and Treatment Facilities for Vado/Del Cerro, La Mesa/San Miguel, Berino and Chamberino Communities.
<b>Total Cost of Project:</b>	US\$29,796,317 in two phases.
<b>Sponsor</b>	Doña Ana County, NM
<b>Project Description:</b>	<ul style="list-style-type: none"> <li>Construction of individual sewer systems and residential hook-ups for six Doña Ana County communities (379,100 ft. of gravity sewers and 78,100 ft of force main pipes, 2,200 residential hookups and decommissioning of on-site disposal systems).</li> </ul>
<b>Other Funding Sources:</b>	<ul style="list-style-type: none"> <li>Grant from the New Mexico Environment Department (NMED) through the EPA Colonias Fund Program</li> <li>Loan provided by the NMED through its State Revolving Fund (SRF) program.</li> <li>NADB (f.k.a. Border Environment Cooperation Commission or BECC) also provided grant funds for final design of the project.</li> </ul>
<b>Main Benefits:</b>	Eliminating the use of on-site septic tanks and cesspools Constructing the necessary infrastructure to provide first-time wastewater collection and treatment services to the residents in Doña Ana County, New Mexico.
<b>Results:</b>	Construction on the South Central WWTP, which will service all six communities, was completed in November 2003 and is in operation. Construction of sewer systems is complete.

# 5. Elephant Butte Irrigation District, NM

**Water Conservation Investment Fund (WCIF) Grant of up to US\$4,000,000 signed on 09-2003**

<b>Project:</b>	Pipe Installation on Unlined Earthen Laterals
<b>Total Cost of Project:</b>	US\$ 8,494,705
<b>Sponsor</b>	Elephant Butte Irrigation District (EBID)
<b>Project Description:</b>	The project consisted in the replacement of 14.18 miles of open, unlined, earthen irrigation laterals with 48-inch aluminized steel pipe throughout the three main irrigation systems over a three-year construction period.
<b>Other Funding Sources:</b>	The District will contribute in-kind services to cover design, labor, heavy equipment and supervision costs.
<b>Main Benefits:</b>	<ul style="list-style-type: none"> <li>• Projected savings of 9,561 acre-feet of water a year</li> <li>• Increase in overall district operating efficiency to about 65%.</li> <li>• Reduced use of herbicides for weed control along the laterals and the reduced risk of water contamination as laterals will be protected from illegal dumping.</li> <li>• Savings in time and money as a result of reduced maintenance requirements associated with mowing, dredging and herbicide spraying.</li> </ul>
<b>Results:</b>	Pipeline installation to replace open-air canals has been completed.





# 6. La Union, NM

BEIF Construction Grant of up to US\$3,933,030 signed on 06/2002 and Transition Grant Assistance of up to US\$306,202 to reduce the overall impact of increased debt service payments on the city's ratepayers as a result of the project (Total funding: US\$4,239,232)

<b>Project:</b>	Wastewater Collection and Treatment System for La Union, Doña Ana County, New Mexico
<b>Total Cost of Project:</b>	US\$7,596,251 in two phases.
<b>Sponsor</b>	Doña Ana County, NM
<b>Project Description:</b>	Design and construction of a wastewater collection and conveyance system, including a future expansion of the existing treatment plant in a second phase.
<b>Other Funding Sources:</b>	<ul style="list-style-type: none"> <li>• Grant from the NADB (f.k.a. BECC)</li> <li>• Project Development Assistance Program (PDAP) for the design elements</li> <li>• Loan from the New Mexico Environment Department (NMED), through its State Revolving Fund program for the remaining portion of the construction costs.</li> </ul>
<b>Main Benefits:</b>	Provide residents with first-time wastewater collection and treatment services thereby significantly reducing public health and safety risks.
<b>Results:</b>	The sewer system and transmission line is complete and in operation.



# 7. Lordsburg, NM

Border Environment Infrastructure Fund (BEIF) Construction Grant of up to US\$700,000 signed on 04/2007

<b>Project:</b>	Water Treatment Improvements
<b>Total Cost of Project:</b>	US\$ 2,000,000
<b>Sponsor</b>	City of Lordsburg, NM
<b>Project Description:</b>	Construction of an activated alumina treatment system at the well entry site. and also includes 1,200 linear feet of waterline to connect the Smith Well to the treatment plant, and 3,720 linear feet of sewer line to dispose of backwash flush water.
<b>Other Funding Sources:</b>	Remaining costs covered by additional grant funding from the State of New Mexico, the U.S. Department of Agriculture- Rural Development and an EPA State and Tribal Assistance Grant, as well as a cash contribution from the City utility.
<b>Main Benefits:</b>	Reduction of fluoride concentrations to acceptable levels in compliance with federal regulations, thus protecting the health of the local population
<b>Results:</b>	Installation of the water treatment system was completed in May 2009 benefiting a population of 3,379.



# 8. Mesilla, NM

## BEIF Construction Grant of up to US\$698,115 signed on 02/2016

<b>Project:</b>	Water System Improvements Project
<b>Total Cost of Project:</b>	US\$761,646
<b>Sponsor</b>	Town of Mesilla, New Mexico
<b>Project Description:</b>	The project consists of three separate waterlines that will provide looping to improve the distribution system, as well as hookups to 12 residences. All of the new lines will connect to existing waterlines.
<b>Other Funding Sources:</b>	Grant funds from the New Mexico Environment Department
<b>Main Benefits:</b>	The project will increase access to potable water service, improve service reliability and eliminate stagnate conditions that negatively impact water quality, contributing to the reduction of the risks associated with waterborne diseases. Additionally, it will provide first-time access to potable water services for 12 households.



# 9. Salem/Ogaz, NM



BEIF Grant of up to US\$840,354 signed on 06/2002 and Transition Grant Assistance of up to US\$151,558 to reduce the overall impact of increased debt service payments on the city's ratepayers as a result of the project (Total funding: US\$991,912)

<b>Project:</b>	Construction of a Wastewater Collection and Treatment System
<b>Total Cost of Project:</b>	US\$2,999,043
<b>Sponsor</b>	Doña Ana County, NM
<b>Project Description:</b>	<ul style="list-style-type: none"> <li>To build infrastructure that allows Salem and Ogaz residents to receive wastewater collection and treatment services.</li> </ul>
<b>Other Funding Sources:</b>	<ul style="list-style-type: none"> <li>Grants from Community Development Block Grant (CDBG) administered by the New Mexico Department of Finance and Administration-Local Government Division (DFA-LGD) and from the EPA Colonias Funds administered by the New Mexico Environment Department (NMED).</li> <li>Loan provided by the NMED through its State Revolving Fund (SRF) program.</li> <li>NADB (f.k.a. BECC) provided grant funding for the final design</li> </ul>
<b>Main Benefits:</b>	<ul style="list-style-type: none"> <li>To reduce the likelihood of disease transmission through contact of raw wastewater through first-time wastewater collection and treatment services to Salem and Ogaz residents.</li> </ul>
<b>Results:</b>	Construction of sewer system and WWTP is complete and both are in operation.

# 10. Sunland Park, NM

BEIF Construction Grant of up to US\$9,000,000 signed on 05/2015, increased by \$1M on 01/2018

<b>Project:</b>	Camino Real Regional Authority Wastewater Treatment Project
<b>Total Cost of Project:</b>	US\$12,700,000
<b>Sponsor</b>	Camino Real Regional Utility Authority (CRRUA)
<b>Project Description:</b>	Replacement of the North WWTP with the construction of a new 1.0 MGD package WWTP using an extended aeration technology.
<b>Other Funding Sources:</b>	The remaining funding will be provided through grants from the State of New Mexico.
<b>Main Benefits:</b>	Increase wastewater treatment capacity to a total of 3.3 MGD eliminating the risk of untreated or inadequately treated wastewater discharges.
<b>Results:</b>	Construction of the new WWTP began in July 2017. and was completed in March 2019, along with the rehabilitation of the View Pointe Lift Station. The plant is in operation.



# 11. Sunland Park, NM

## Community Assistance Program (CAP) Grant of US\$411,407.61 signed on 09/2013

<b>Project:</b>	Drinking Water System Improvement Program – Meter Replacement
<b>Total Cost of Project:</b>	US\$1,369,204.31
<b>Sponsor</b>	Camino Real Regional Utility Authority (CRRUA)
<b>Project Description:</b>	<ul style="list-style-type: none"><li>• Purchase and installation of an estimated 2,150 meters and related interface units and box lids.</li><li>• Meter reading equipment: Two drive-by receivers, one hand-held receiver, and two laptops; and data collection and billing software.</li></ul>
<b>Other Funding Sources:</b>	The remaining costs will be covered by CRRUA.
<b>Main Benefits:</b>	<ul style="list-style-type: none"><li>• Improved water resource management and conservation by helping the utility to detect leaks in the distribution system and develop conservation strategies.</li><li>• Reduction of time required for meter reading from 240 to 150 man-hours/month, reducing the cost of this monthly task and freeing up utility resources for other operation and maintenance activities.</li></ul>
<b>Results:</b>	<ul style="list-style-type: none"><li>• Installation of 3,194 water meters in two phases.</li><li>• Purchase of related meter reading equipment, data collection and billing software.</li><li>• Phase II completed in 06/2015 and included the installation of 1,362 water meters.</li><li>• Meter reading time has been cut from 240 hours per month to 16 hours per month</li></ul>

