

RIVERSIDE PUBLIC UTILITIES

UTILITY 2.0

WATER | ENERGY | LIFE



PUBLIC UTILITIES

RiversidePublicUtilities.com

PLANNING FOR UTILITY 2.0

Water and Energy flow through our lives. As a Utility that is owned by the customers it serves, we pride ourselves on the value we bring to the community. Strong reliability, good rates, and the benefits of local control are the hallmarks of our 120 year history.

An engaged community is a well-planned one. If RPU does not immediately engage and accelerate the changes necessary to move to Utility 2.0, customer satisfaction, reliability, financial benchmarks, and community value will be impacted. This book outlines the strategic planning structure for RPU and explains the vision, changes and actions required to thrive as a Utility of the Future. The journey begins with a well-researched plan that builds on RPU's stable foundation.

The landscape of the Utility industry has changed dramatically over the last decade. These changes are expected to multiply even more in the next decades. The trends identified here will set the stage for how an industry that has operated as a service provider for more than 100 years, must adapt to them. The impact of these changes will require us to reimagine the framework for RPU's success.

As we plan our future in an environment with rapid change, we will need to modernize our grid from a static delivery system to a more flexible, customer-driven enterprise. We will build our water system to be even more resilient to drought, while contributing to the economic well-being of our customers. As always, RPU will balance prudent financial decisions and capture opportunities for growth, while putting the customer's needs first.

I OWN IT

Riverside Public Utilities

Customer-owned since 1895

Dr. Raelene Fulford

is uncanny with cavities,
first-rate in flossing,
and great with gums.

She's a dentist at
Dental Associates of Riverside
and a customer-owner of
Riverside Public Utilities.

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PUBLIC UTILITIES

RiversidePublicUtilities.com

To see who else owns it, go to RiversidePublicUtilities.com/iownit

WHO WE ARE

The City of Riverside is committed to providing high quality municipal service to ensure a safe, inclusive, and livable community. The City Council is elected to four-year terms and represent all seven wards within the City of Riverside. They entrust community members who volunteer their time to serve on community boards and commissions. Board members and Commissioners for the City oversee several areas of the municipal government before the City Council makes the final decisions on behalf of the citizens. The City of Riverside has a Council/Manager form of government where the City Council is responsible for the legislative and policy making aspects of the City.

The Board of Public Utilities is comprised of nine volunteers who live in all seven wards of the City of Riverside. They are appointed by the City Council to four-year terms without compensation. Board members oversee Riverside Public Utilities' policies, operations, revenues, expenditures, planning, and regulatory compliance. In addition to bi-weekly Board meetings, members also serve on subcommittees to provide input on the development of new facilities and equipment; performance measures; programs to conserve energy and water resources; and appropriate technology to protect our water supply and secure our energy resources. The citizen-volunteers who serve on the Board of Public Utilities provide an ongoing, year-round review of all actions by Riverside Public Utilities before any measure is sent to the elected City Council representatives for final determination.

CITY COUNCIL

Mike Gardner - Ward 1

Andy Melendrez - Ward 2

Mike Soubirous - Ward 3

Paul Davis - Ward 4

Chris Mac Arthur - Ward 5

Jim Perry - Ward 6

Steve Adams - Ward 7

MAYOR

Rusty Bailey

BOARD OF PUBLIC UTILITIES

Darrell Ament - Ward 3

David Austin - Ward 4

Susan Cash - Ward 2

Ronald Cole - Ward 7

Nicolas Ferguson - Citywide

Jennifer O'Farrell - Ward 1

David E. Roberts - Ward 6

Justin Scott-Coe - Citywide

Andrew Walcker - Ward 5



YOU CAN COUNT ON US



Riverside is home to one of the most reliable public utilities in the nation.

The American Public Power Association recently designated Riverside Public Utilities as a Diamond Reliable Public Power Provider, its top designation. This means, when it comes to reliability, safety, workforce development and system improvements, Riverside Public Utilities is one of the very best. It also means that you can count on Riverside Public Utilities.

To learn more about this rare distinction, go to publicpower.org.

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WHO WE ARE

Established in 1895, Riverside Public Utilities (RPU) is owned with pride by the customers it serves. We provide high quality, reliable services to over 108,000 metered electric customers and almost 65,000 metered water customers throughout Riverside.

The Utility is committed to increased use of renewable energy resources and sustainable living practices that help reduce environmental impacts within the City of Riverside and the State of California. In addition to maintaining some of the lowest water and electric rates in Southern California, Riverside Public Utilities is proud to offer its customers a variety of programs that provide valuable rebates and services. All are designed to serve the needs of our customers and help promote a thriving community in which to live and work.

John Russo
City Manager

Girish Balachandran
Utilities General Manager

Kevin S. Milligan
Deputy General Manager
Water

Michael J. Bacich
Assistant General Manager
Customer Relations/Marketing

Laura M. Chavez-Nomura
Assistant General Manager
Finance/Administration

Pat Hohl
Assistant General Manager
Energy Delivery

Reiko Kerr
Assistant General Manager
Resources



RPU AT A GLANCE

Year established	1895	
% retail sales	90% residential 10% commercial	
Number of customers	108,000 electric 65,000 water	
City population	317,000	
	12th largest in California	
City size	90 square miles	
Climate zone	10	
Number of employees	Nearly 600	
Peak energy demand	610 megawatts on 9/15/2014	
Annual energy use	2,200 gigawatt-hours	
Electric budget	\$343.4 million	
Electric bond rating	Fitch Ratings AA-	
	Standard & Poors AA-	
APPA - RP ³ Certificate	Diamond - highest level	
Peak water use	90,020,000 gallons on 7/07/2013	
Annual water production	72,650 acre feet	
Water budget	\$ 68.6 million	
Water bond rating	Fitch Ratings AA+	
	Standard & Poors AAA	
	Moody's Aa2	

BUILDING ON A STRONG FOUNDATION

Riverside Public Utilities maintains a Capital Improvement Program to replace aging facilities, serve new growth and install infrastructure to ensure the reliability of the electric and water systems. The long-term stewardship on behalf of the customers we serve, has ensured the health of the utility, and positions it for industry changes that will fuel future growth.

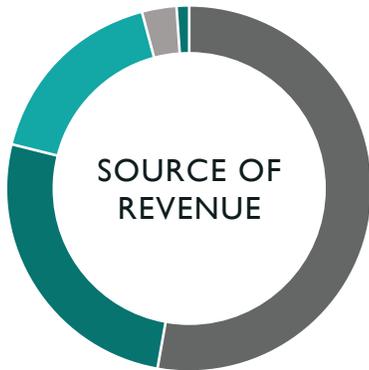
Major projects of the Electric System:

- Generating facilities such as Springs Generation Plant, Riverside Energy Resource Center and Clearwater Cogeneration Power Plant
- Major transmission projects such as the Riverside Transmission Reliability Project and Sub-Transmission Project
- Casa Blanca Power Project
- Current Magnolia-Plaza Reliability Project
- Substations upgrades, substation transformer additions, major 4 kilovolt to 12 kilovolt conversions, major feeders, distribution line extensions and replacement of deteriorating underground and overhead equipment.

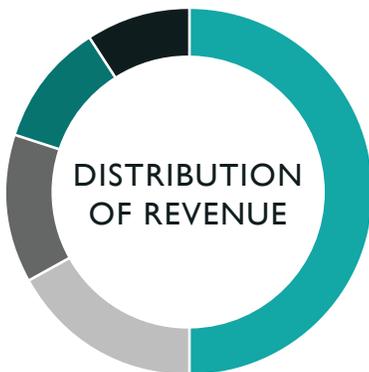
Major projects of the Water System:

- John W. North Water Treatment Plant
- Gage Well Construction Project
- Linden Reservoir Roof Replacement Project
- Evans Reservoir Replacement Project
- Whitegates Reservoir Project
- Main replacements, transmission mains, reservoir construction, facility rehabilitation and pump station replacements

2013/2014 WATER REVENUE AND RESOURCES



- Residential Sales 53¢
- Commercial Sales 26¢
- Other Revenue 17¢
- Other Sales 3¢
- Investment Income 1¢



- Operations and Maintenance 50¢
- Debt Service 17¢
- Additional Reserves 13¢
- Additions and Replacements to the System 11¢
- Transfers to the City's General Fund* 9¢

* Based on transfer of 11.5% of fiscal year 2012/2013 gross operating revenues including adjustments.



- San Bernardino Basin Wells 67%
- Riverside Basin Wells 33%
- Purchased Water 0%

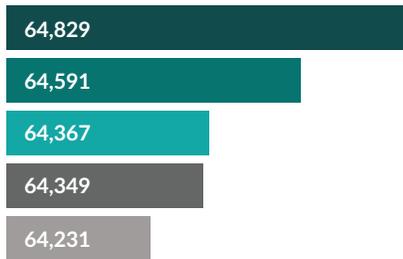
* Energy Resources are based on calendar year 2013 as filed with the California Energy Commission.

2014 2013 2012 2011 2010

GENERAL FUND TRANSFER (IN MILLIONS)



NUMBER OF METERS AT YEAR END



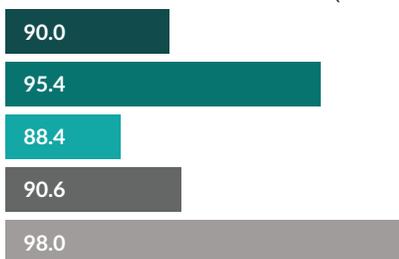
TOTAL OPERATING REVENUE (IN MILLIONS)



PRODUCTION (IN ACRE FEET)



PEAK DAY DEMAND (IN MILLION GALLONS)

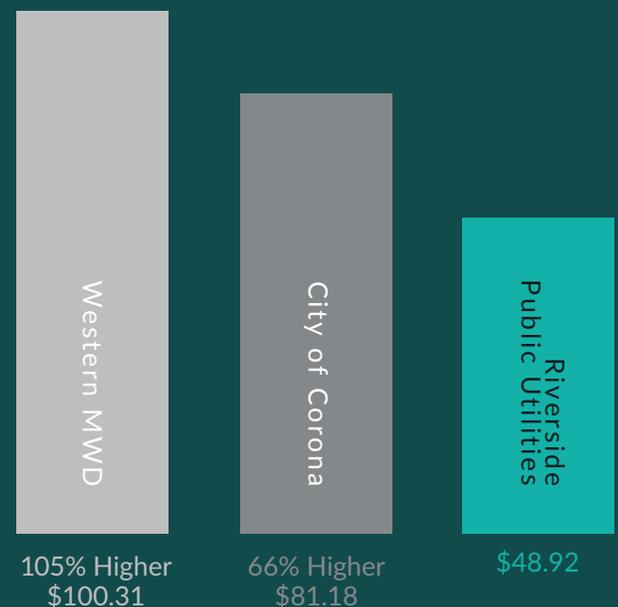


WATER FACTS AND SYSTEM DATA

Established	1913
Service Area Population	313,975
Service Area Size (square miles)	74.2
System Data:	
Smallest pipeline	2.0"
Largest pipeline	72.0"
Miles of pipeline	1,000
Number of domestic wells	54
Number of active reservoirs	15
Total reservoir capacity (gallons)	108,500,000
Number of treatment plants	6
Number of treatment vessels	84
Miles of canal	14
Number of fire hydrants	7,754
Daily average production (gallons)	63,597,627
2013-2014 Peak day (gallons)	90,020,000
07/07/2013, 99 degrees	
Historical peak (gallons)	118,782,000
08/09/2005, 99 degrees	
Bond Ratings	
Fitch Ratings	AA+
Moody's	Aa2
Standard & Poor's	AAA

RESIDENTIAL WATER RATE COMPARISON

25 CCF PER MONTH (AS OF JUNE 30, 2014)



In operation since 2008, RPU's John W. North Water Treatment Plant treats well water near the Santa Ana River previously used for irrigation. Using the latest filtration technology, the \$17 million plant adds to Riverside's drinking water supply by 10 million gallons a day - 10% of the city's supply.





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2013/2014 ELECTRIC REVENUE AND RESOURCES

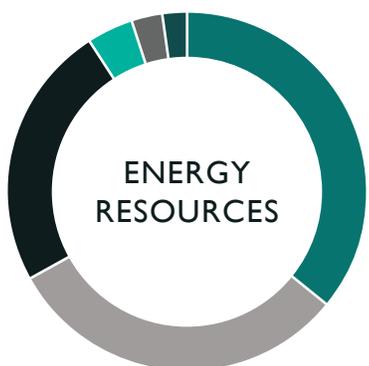


- Residential Sales 32¢
- Industrial Sales 31¢
- Commercial Sales 19¢
- Transmission Revenue 9¢
- Other Revenue 4¢
- Public Benefit Programs 2¢
- Investment Income 2¢
- Other Sales 1¢
- Wholesale Sales < 1¢



- Production 39¢
- Transmission 15¢
- Distribution 14¢
- Debt Service 14¢
- Transfers to the City's General Fund* 11¢
- Additional Reserves 3¢
- Public Benefit Programs 2¢
- Unamortized Purchased Power 1¢
- Additions and Replacements to the System 1¢

* Based on transfer of 11.5% of fiscal year 2012/2013 gross operating revenues including adjustments.



- Other Purchases 36%
- Coal 31%
- Renewables 24%
- Nuclear 4%
- Gas 3%
- Hydropower 2%

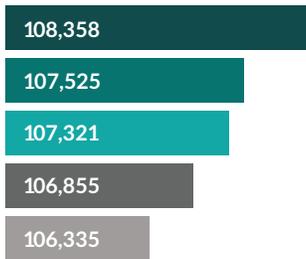
* Energy Resources are based on calendar year 2013 as filed with the California Energy Commission.

2014 2013 2012 2011 2010

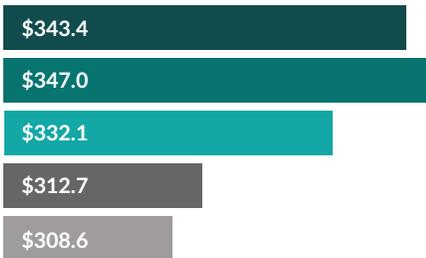
GENERAL FUND TRANSFER (IN MILLIONS)



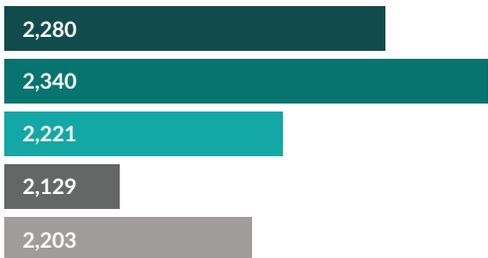
NUMBER OF METERS AT YEAR END



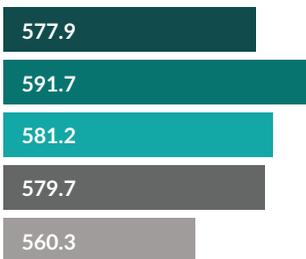
TOTAL OPERATING REVENUE (IN MILLIONS)



PRODUCTION (IN MILLION KILOWATT-HOURS)



PEAK DAY DEMAND (IN MEGAWATTS)



ELECTRIC FACTS AND SYSTEM DATA

Established 1895

Service Area Population 313,975

Service Area Size (square miles) 81.5

System Data:

Transmission lines (circuit miles) 98.6

Distribution lines (circuit miles) 1,327

Number of substations 14

2013-2014 Peak day (megawatts): 578

Highest single hourly use:
09/05/2013, 4 pm, 98 degrees

Historical peak (megawatts): 604
08/31/2007, 4pm, 106 degrees

Bond Ratings

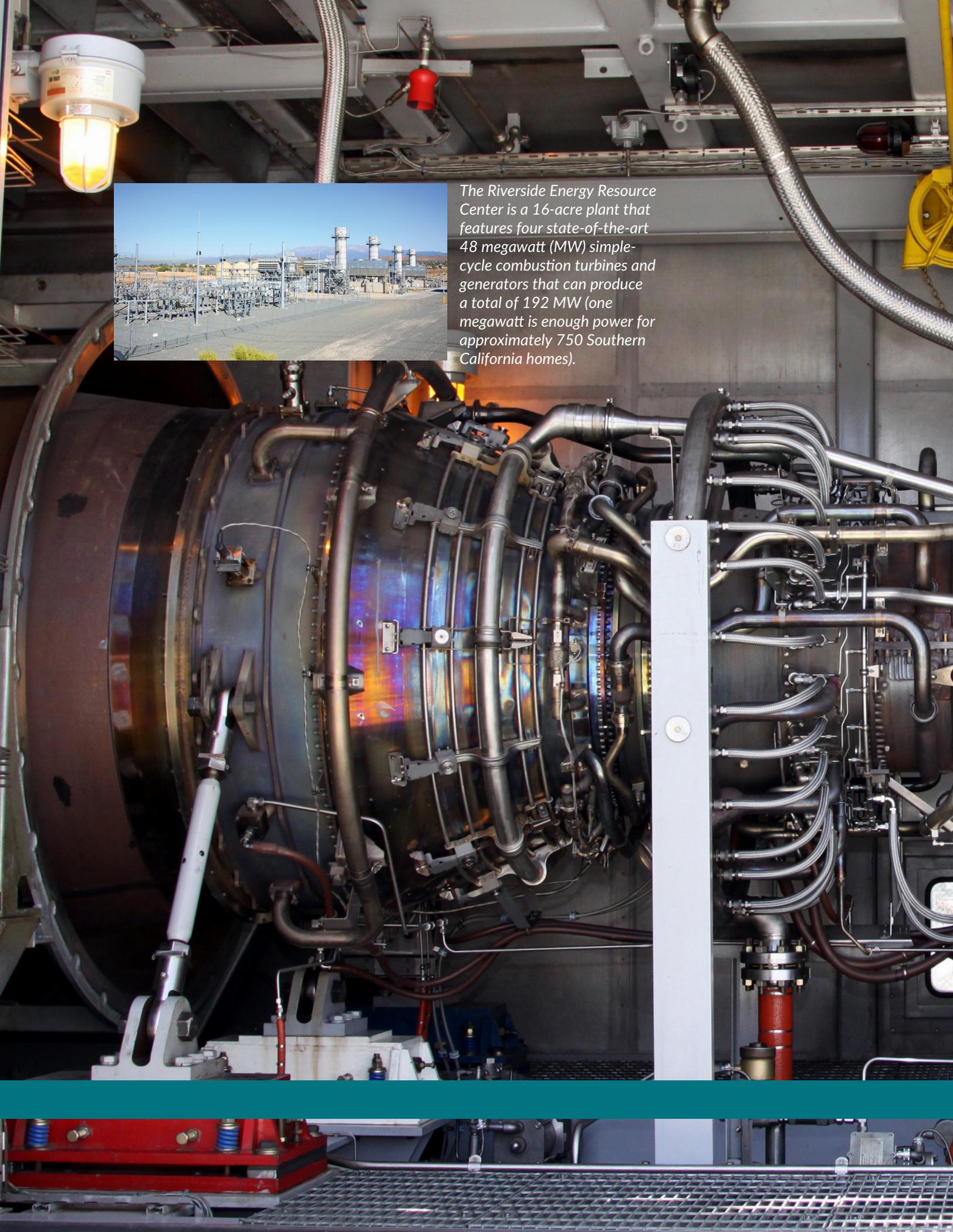
Fitch Ratings AA-

Standard & Poor's AA-

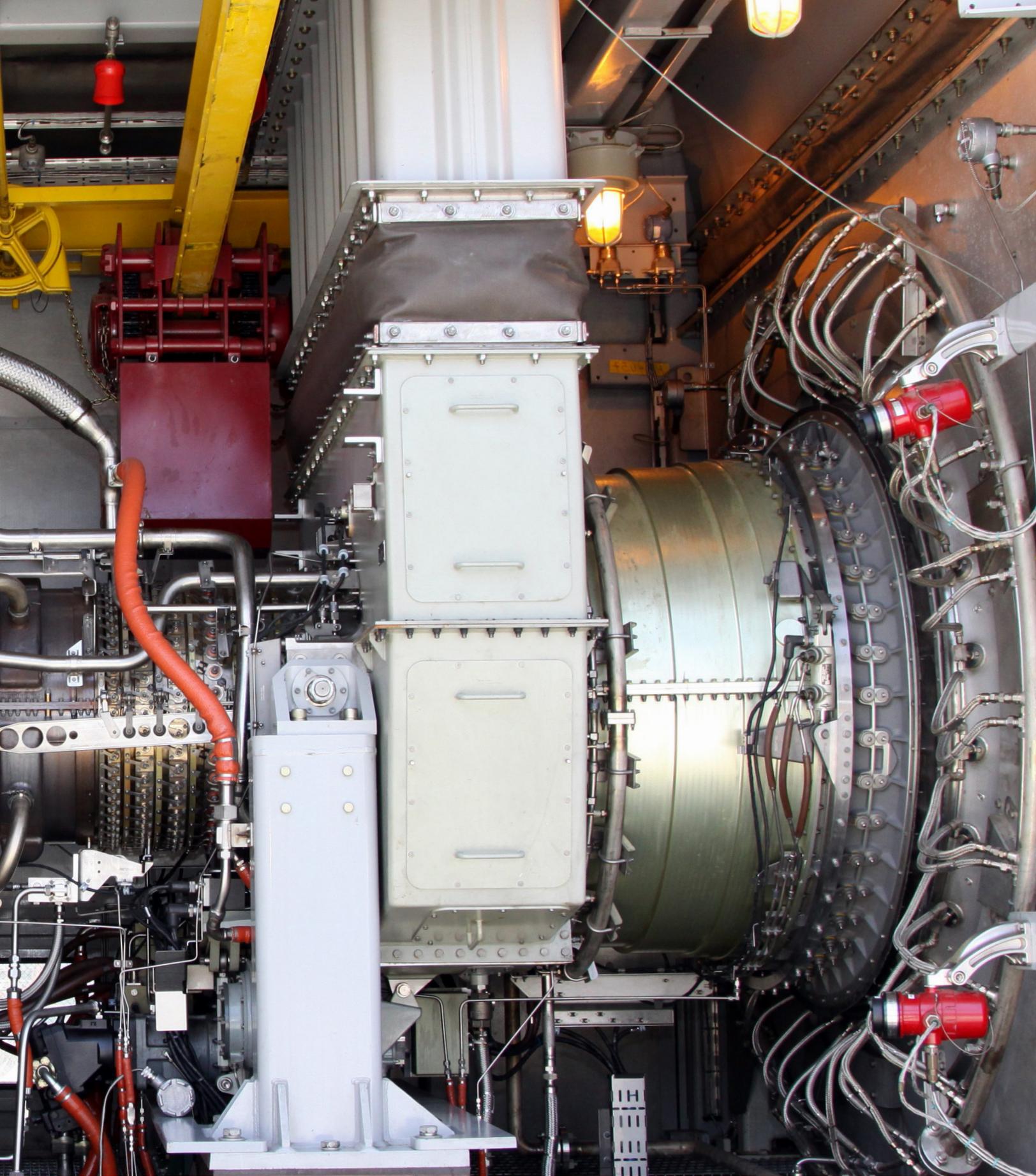
Debt Derivative Profile Score on Swap Portfolio 2
(1 representing the lowest risk and 4 representing the highest risk)

ELECTRIC RATE COMPARISON 750 KWH PER MONTH (AS OF JUNE 30, 2014)





The Riverside Energy Resource Center is a 16-acre plant that features four state-of-the-art 48 megawatt (MW) simple-cycle combustion turbines and generators that can produce a total of 192 MW (one megawatt is enough power for approximately 750 Southern California homes).



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HOW WE GET THERE



MISSION ~ Riverside Public Utilities is committed to the highest quality water and electric services at the lowest possible rates to benefit the community.

TEN-YEAR VISION ~ Our customers will recognize Riverside Public Utilities as a unique community asset with a global reputation for innovation, sustainability and enhanced quality of life.

CORE VALUES ~ Safety • Honesty and Integrity • Teamwork • Professionalism • Quality Service • Creativity and Innovation • Inclusiveness and Mutual Respect • Community Involvement • Environmental Stewardship

THREE-YEAR GOALS ~ Contribute to the City of Riverside's economic development while preserving Riverside Public Utilities' financial strength • Maximize the use of technology to improve utility operations • Impact positively legislation and regulations at all levels of government • Develop and implement electric and water resource plans • Create and implement a workforce development plan



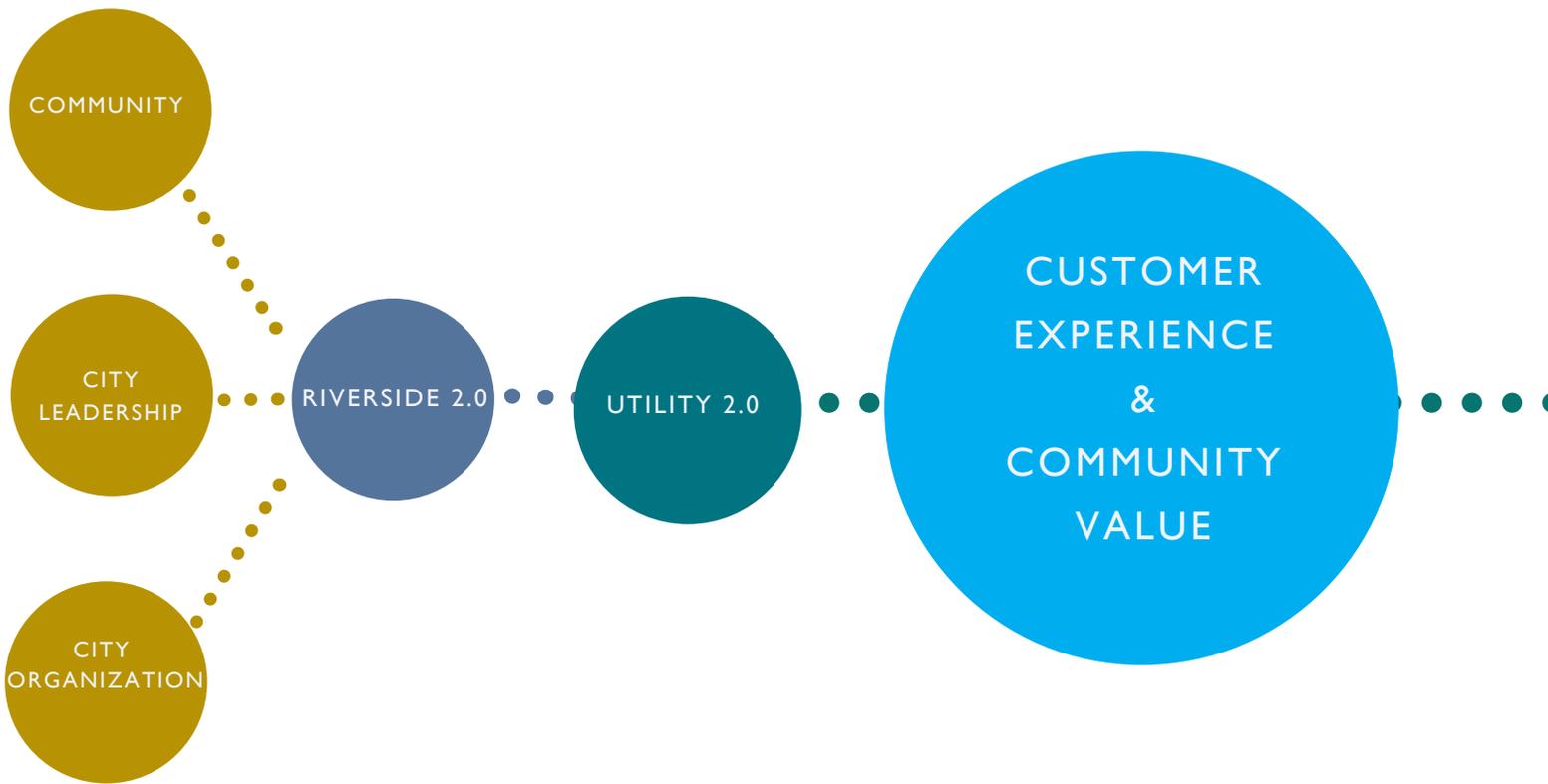
TEN-YEAR GOALS ~ Employ state-of-the-art technology to maximize reliability and customer service

- Foster economic development and job growth in the City of Riverside
- Communicate effectively the accomplishments, challenges and opportunities for the full utilization of our electric and water resources
- Develop fully our low-cost, sustainable, reliable electric and water resources
- Enhance the effective and efficient operation of all areas of the utility

LONG RANGE IMPLEMENTATION PLANS ~ Workforce Development Plan • Long Range Space Plan • Renewable Portfolio Standard Power Implementation Plan • Integrated Power Resources Plan • Riverside Transmission Reliability Project • Electric Distribution System Master Plan & Infrastructure Roadmap • Water Infrastructure Replacement Plan & Infrastructure Roadmap • Recycled Water Plan • Integrated Water Management Plan • Conservation/Efficiency Plan • Strategic Technology Plan • Ten Year Financial Pro-Forma • Fiber Business Plan



THE PLANNING PROCESS

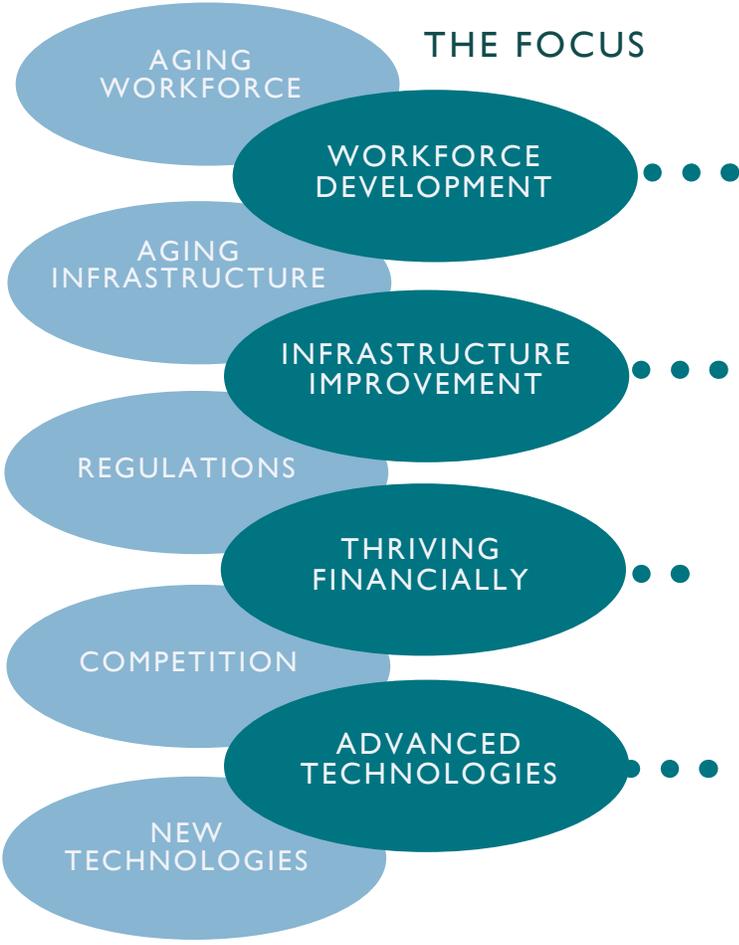


Riverside 2.0 was created after input from the Community through the Seizing Our Destiny process, the City Council's development of seven strategic goals in 2015, and the City Management's governing principles. This graphic illustrates the planning process and specifically outlines how RPU's plans fit within the City's broader plan.

HOW WE GET THERE

THE PLANS

INDUSTRY TRENDS



INDUSTRY TRENDS

The landscape of the Utility industry has changed dramatically over the last decade. These changes are expected to multiply even more in the next decades. The trends identified below will set the stage for how an industry that has operated as a service provider for more than 100 years must adapt to them. The impact of these changes will require us to reimagine the framework for RPU's success.

WORKFORCE~

With the largest generation of American workers at retirement age, the face of the workforce in all sectors of business is changing. The utility industry is also experiencing the outflow of workers and will have to adapt because:

- ~knowledge transfer of hands-on infrastructure systems is required for continued operations.
- ~new skill sets are required for the workforce to implement new technologies and upgrade infrastructure.
- ~skill sets for Utility 2.0 are in short supply.

INFRASTRUCTURE~

The skeleton of a utility that energy and water flows through is aging and in some cases as much as 100 years old. It is also faced with changing needs such as:

- ~the ability for two-way power to flow to facilitate dispersed energy resources like solar PV, electric vehicles and battery storage.
- ~smart infrastructure to improve resource efficiency and the customer experience.

REGULATION/COMPETITION~

Regulatory mandates continue to put pressure on the utility industry as policy makers seek:

- ~ mandatory reductions in resource consumption through efficiency and conservation.
- ~mandatory reduction in carbon emissions through switch to renewable resources, decarbonizing the economy and transportation electrification.
- ~mandatory drought restrictions.

Revenue loss due to:

- ~competition and decreased prices; more access to rooftop solar panels and battery storage bundled with smart technology in the home that manages usage.
- ~less electricity sales growth due to efficiency efforts.
- ~less water sales due to drought and conservation mandates.

NEW TECHNOLOGIES/CUSTOMER EXPECTATIONS~

As new technologies emerge at a rapid pace the industry needs to:

- ~ capture the use of smart technology that customers have come to expect, which is increased information and personalized interaction with their service provider.
- ~ respond to new methods of generation/use (e.g., battery storage, rooftop solar, electric vehicles)
- ~incorporate smart technologies and methods to track and increase resource efficiency.

RPU AREAS OF FOCUS

The utility industry is expected to experience many challenges over the next 10 years. In order to meet these challenges, staff assessed the health of the utility and identified four areas to concentrate their efforts in order to bring the current levels of customer satisfaction and community value up to the next level.

WORKFORCE DEVELOPMENT ~

A Workforce Development plan will:

- ~attract and select workers with the needed skill sets to take on the challenges of change, and identify the skill sets required to reach Utility 2.0.
- ~train and support existing employees to remain nimble in an environment where priorities may be fluid over the next five to ten years.
- ~retain current employees by developing a more engaging approach to the work environment, and put in place the mechanisms to solve compensation equality with competitors.
- ~transfer knowledge by creating methods to capture critical information held by retirees.

INFRASTRUCTURE IMPROVEMENT ~

Useful service life versus current replacement rate is being determined for both electric and water infrastructure. We need to be more proactive by replacing aging assets such as pipelines, reservoirs, transformers and substations.

THRIVING FINANCIALLY ~

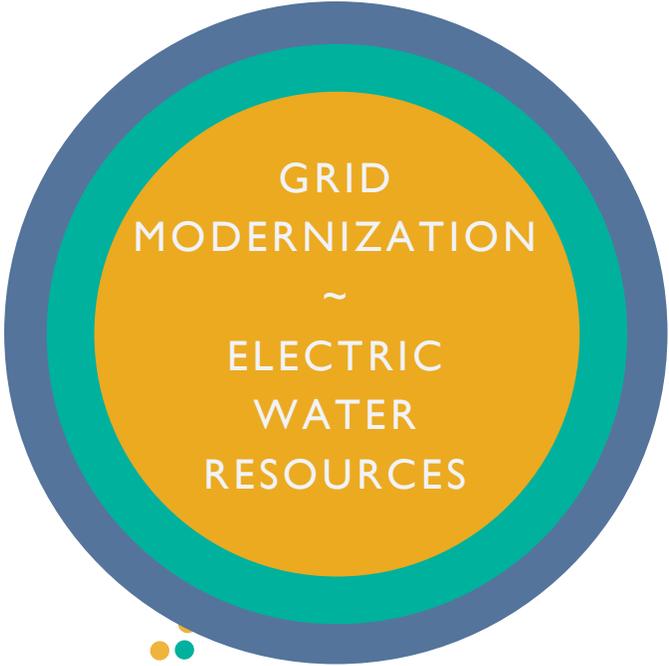
A ten year financial pro forma is being developed to determine the impacts to the Utility of all changes needed to thrive financially. The pro forma model will provide an overview of impacts to rates, reserve levels and bond coverage ratios. Additionally, recommendations for future pricing models will be made.

UTILIZING ADVANCED TECHNOLOGY~

The need to upgrade current technologies and develop uses for new ones touches all areas of the utility. The most critically impacted are customer experience and smart infrastructure efforts. The Utility has adopted a fast-follower approach to optimize costs versus risks of waiting so long that costs increase, customer satisfaction stagnates and we fall too far behind to catch up effectively.

Current projects address:

Grid Modernization, Distributed Automation, Customer Information System, Operational Data Management System, Advanced Meters, Geographical Information Systems, Work Order Management Systems





COMMUNITY
VALUE



UTILITY 2.0

These plans, when implemented, will take the utility to the next level in providing customers a high level of service. As customer expectations change we will change, adapt and continue to provide value to the community. At the center of all these changes is a focus on customer satisfaction and community value. We will remain flexible to changes and adopt innovation in all its forms to continue being a valued community asset. Utility 2.0 is upon us. We are up for the challenge. Let's navigate the next decade together and innovate, engage and make both Utility 2.0 and Riverside 2.0 a reality.

PLAN HIGHLIGHTS

2015

RECYCLED WATER	• CONCEPTUAL APPROVAL •
WATER INFRASTRUCTURE	• ASSET MANAGEMENT PLAN •
INTEGRATED WATER	• COMPLETED PLAN •
WORKFORCE DEVELOPMENT	• SMART GRID MAP •
FACILITIES PLAN	• CUSTOMER SERVICE MOVE •
RPS POWER IMPLEMENTATION	• 20% TARGET •
INTEGRATED POWER RESOURCES	• IMPLEMENT PLAN •
ELECTRIC INFRASTRUCTURE	• MPRP/SCADA/DA PILOT •
TRANSMISSION RELIABILITY	• PROPERTY ACQUISITION •
FIBER BUSINESS	• CREATE PLAN •
TECHNOLOGY	• COMPLETE PLAN •
CONSERVATION AND EFFICIENCY	• COMPLETE PLAN •
FINANCIAL PROFORMA - 10 YR	• COMPLETE PLAN •

ARE WE THERE YET?

2016

2017

2018

• CEQA/DESIGN •

• PHASE I •

• PHASE I •

• INFRASTRUCTURE PROJECTS •

• INFRASTRUCTURE PROJECTS •

• RUBBER DAM/CEQA/PERMITS •

• RUBBER DAM CONSTRUCTION •

• SUCCESSION PLAN • • CLASSIFICATIONS STUDY • • LEARNING MGMT. IMPLEMENTATION •

• MISSION SQUARE IMPROVEMENTS •

• UPDATE AS NEEDED •

• 25% TARGET •

• 27% TARGET •

• 29% TARGET •

• IMPLEMENT ANNUAL UPDATES •

• PREVENTATIVE MAINTENANCE •

• INFRASTRUCTURE PROJECTS •

• PHASE I - 69 KILOVOLT •

• PHASE 2 - 230 KILOVOLT •

• IMPLEMENT IN PHASES •

• OT OFFICE CREATED •

• PHASE I PROJECTS •

• PHASE 2 PROJECTS •

• CUSTOMER ENGAGEMENT •

• IMPLEMENT ANNUAL UPDATES •

• RESERVES & RISK ANALYSIS, RATE FORECAST •

• IMPLEMENT ANNUAL UPDATES •

LONG RANGE IMPLEMENTATION PLAN OVERVIEW

The following thirteen plans support the four areas of focus to position Riverside Public Utilities on a path toward Utility 2.0.

DESIGN AND CONSTRUCT RECYCLED WATER PLAN~

PURPOSE:	Creation of Recycled Water Plan that will help reduce amount of potable water used and provide alternate source of water to use for irrigation, fire suppression and more.
INTERNAL PARTNERS:	Public Utilities, Board, Council, Public Works, Water Division.
EXTERNAL PARTNERS:	Area water providers and wastewater treatment providers, Commercial water customers.
NEEDED RESOURCES:	Funding, citywide plan for implementation, public relations program to introduce, educate about non-potable water use.
POTENTIAL BARRIERS:	Cost, public perception of recycled water for irrigation use, etc. Regulatory fees to create recycled water project.
TASKS IN PROGRESS:	2015 Conceptual Approval 2016 California Environmental Quality Act/Project Design 2017 Phase 1 2018 Phase 2

IMPLEMENT WATER INFRASTRUCTURE PLAN & ROADMAP ~

PURPOSE:	Develop updated water infrastructure plans that will allow the Water Utility to continue to meet growing demands (despite unprecedented drought) and ensure resiliency, safety and reliability of water resources for the future.
INTERNAL PARTNERS:	Water Division, Water Resources, Water Engineering/Planning, Real Property. This initiative is also linked to and should be considered in context of the Recycled Water Plan, Integrated Water Management Plan, Strategic Technology Plan, Conservation/Efficiency Plan and the Ten Year Financial Pro Forma.
EXTERNAL PARTNERS:	Regional Water Providers; State, City.
NEEDED RESOURCES:	Funding, well sites, water transportation to RPU systems.
POTENTIAL BARRIERS:	Continued demands on already limited supplies; possible overuse of aquifer sources without replenishing supplies; revenue adequacy; customer acceptance.
TASKS IN PROGRESS:	2015 Develop Asset Management Plan 2016 Implement projects

IMPLEMENT INTEGRATED WATER MANAGEMENT PLAN ~

PURPOSE:	Create an integrated water management plan to assist in planning and maintaining water resources.
INTERNAL PARTNERS:	Riverside Public Utilities, All departments; residents and customers.
EXTERNAL PARTNERS:	Additional area, state, and national water purveyors, government agencies.
NEEDED RESOURCES:	Funding, Marketing and education awareness programs, conservation programs for customers, informative materials on available projects and programs designed to maximize water use and to promote water conservation programs.
POTENTIAL BARRIERS:	Funding issues, lack of participation by target customers.
TASKS IN PROGRESS:	2015 Plan Complete 2016 Rubber Dam Project CEQA 2017 Rubber Dam Permits 2018 Rubber Dam Construction

IMPLEMENT WORKFORCE DEVELOPMENT PLAN ~

PURPOSE:	The utility industry is undergoing tremendous change. A wave of retirements combined with the need for new skills to accommodate new technologies and regulatory requirements, increased competition for fewer qualified workers due to high demand for utility skills and a lack of a strategic vision or plan to meet these challenges, prompts the need for such a plan. The (talent management workforce) plan will encompass the entire workforce life-cycle – Attracting, Selecting, Engaging, Developing and Retaining.
INTERNAL PARTNERS:	RPU, Employees, Human Resources, Bargaining Units, City Manager’s Office, Board, City Council.
EXTERNAL PARTNERS:	Schools, Colleges, Universities, Consultants, other public power and water entities.
NEEDED RESOURCES:	Additional staff/HR resources to assist with strategic initiatives and tactical implementation.
POTENTIAL BARRIERS:	Funding, internal equity concerns, lack of resources dedicated to HR function, public perception.
TASKS IN PROGRESS:	2015 Staff Retirement and Smart Grid Heat Map, Career Ladders 2016 Learning Management System Implementation 2016 Classification Study



LONG RANGE IMPLEMENTATION PLAN OVERVIEW

CONTINUED

IMPLEMENT LONG RANGE SPACE PLAN ~

PURPOSE: The Public Utilities Board and City Council respectively approved the RPU long-range space plan in December 2012. The Board received an update to the plan in October 2014. The plan includes consider several aspects of facilities planning including consolidating work areas. The plan will be implemented to accommodate changing needs of the department.

INTERNAL PARTNERS: RPU, General Services, Legal, Board, City Council.

EXTERNAL PARTNERS: Contractors, Consultants, Engineering firms

NEEDED RESOURCES: Funding

POTENTIAL BARRIERS: Market conditions related to real estate conditions.

TASKS IN PROGRESS: 2015 Customer Service Move to Orange Square
Tenant Improvements - 5th Floor Training Rooms
2016 - Mission Square Engineering Ergonomic Improvements

IMPLEMENT RENEWABLE PORTFOLIO STANDARD POWER IMPLEMENTATION PLAN ~

PURPOSE: As per state law RPU must procure at least 33% of its power from renewable resources by 2020. AB32, the Global Warming Solutions Act also imposes regulations on RPU. Subsequent to these laws being passed, other regulatory pressures, technology innovations and customer demand continue to alter the landscape related to renewable power. In early 2015, Governor Brown announced his plan for the state to achieve 50% renewable power by the year 2030. This plan both implements existing state law and also implements actions to mitigate against future regulatory uncertainty and future cost increases.

INTERNAL PARTNERS: RPU, Legal, Information Technology, Human Resources

EXTERNAL PARTNERS: Southern California Public Power Authority (SCPPA), Outside legal assistance.

NEEDED RESOURCES: Funding, skilled workforce

POTENTIAL BARRIERS: Funding, skilled workforce

TASKS IN PROGRESS: 2015 20% renewable power target
2016 25% renewable power target
2017 27% renewable power target
2018 29% renewable power target

IMPLEMENT INTEGRATED POWER RESOURCES PLAN ~

PURPOSE: Plan used to guide decision making as RPU plans to meet its forecasted annual peak and energy demand (along with an appropriate reserve margin), using a combination of supply-side and demand-side resources over a period into the future. The plan describes current generation and transmission resources, and distribution electric system; discusses critical legislative/regulatory mandates and CAISO stakeholder initiatives; summarizes and assesses current EE/DSM programs and quantifies 5 year intermediate-term power resource forecasts and 20 year long-term forecasts.

INTERNAL PARTNERS: RPU

EXTERNAL PARTNERS: SCPPA, regulatory agencies such as California Energy Commission, California Air Resources Board and Federal Energy Regulatory Commission.

NEEDED RESOURCES: Skilled workforce, consultants, contractors, engineering firms.

POTENTIAL BARRIERS: Uncertainty of various factors related to markets and regulation.

TASKS IN PROGRESS: 2015 Approval, and put in to action.
Followed by Annual Updates

IMPLEMENT ELECTRIC INFRASTRUCTURE PLAN & ROADMAP~

PURPOSE: Review current and future plans for management of electricity reliability, resources, and maintenance of existing infrastructure while continuing to reach and surpass mandated goals for renewable resources.

INTERNAL PARTNERS: Energy Utility – Energy Engineering, Planning, Resources, Energy Delivery and Generation groups, City, sustainability team.

EXTERNAL PARTNERS: Public Power groups like APPA, CMUA, SCPPA, new generation opportunities, energy contracts.

NEEDED RESOURCES: Funding, ongoing power purchases, internal projects within city, external projects for sources outside of city; continued staff, board, council dedication and commitments to projects.

POTENTIAL BARRIERS: Cost of projects, timeliness.

TASKS IN PROGRESS: 2015 Magnolia Plaza Reliability Project
Supervisory Control and Data Acquisition (SCADA)
Distributed Automation Pilot
2016 Preventative Maintenance
2017 Infrastructure Projects
2018 Infrastructure Projects



LONG RANGE IMPLEMENTATION PLAN OVERVIEW

CONTINUED

DESIGN AND CONSTRUCT RIVERSIDE TRANSMISSION RELIABILITY PROJECT ~

PURPOSE: Design and construct a second transmission line from the high-voltage bulk power grid to Riverside. Riverside's electric demand surpasses the existing capacity on its sole transmission connection to the bulk power grid. A second connection will improve resiliency and reliability and serve future needs.

INTERNAL PARTNERS: RPU, Legal

EXTERNAL PARTNERS: Southern California Edison, outside legal, neighboring cities, engineering firms, consultants, contractors.

NEEDED RESOURCES: Funding, engineering firms.

POTENTIAL BARRIERS: Neighboring cities development initiatives, California Public Utilities Commission

TASKS IN PROGRESS:

2015	Right-of-Way Acquisition (within Riverside)
2016	Phase I - 69kV lines (within Riverside)
2017	Phase 2 - 230 kV lines - interconnection
2018	Phase 2 - 230 kV lines

IMPLEMENT FIBER BUSINESS PLAN ~

PURPOSE: To investigate the pros and cons of providing either leased or open-access communications services utilizing existing and new fiber optic assets and their benefits to the city and to the customer.

INTERNAL PARTNERS: Information Technology, Community and Economic Development Department, Human Resources, City Manager, Legal.

EXTERNAL PARTNERS: External utilities, wholesale communication providers, consultants, contractors.

NEEDED RESOURCES: Funding, workforce, contractors.

POTENTIAL BARRIERS: Funding, workforce, incumbent providers, legal issues.

TASKS IN PROGRESS: 2015 Create the Plan

IMPLEMENT STRATEGIC TECHNOLOGY PLAN~

PURPOSE: Implement Strategic Technology Plan to ensure that both the utility and customer have the latest in technology to both operate as a utility, its customer service functions and the technology and services the utility and its customers want and need to be a utility of the future. Catching up with the rest of the industry. Improve operations of the utility system, increase speed of response to customer needs.

INTERNAL PARTNERS: Riverside Public Utilities and Innovation & Technology.

EXTERNAL PARTNERS: Hardware and software partners providers, programmers.

NEEDED RESOURCES: Top equipment, support, programmers to install technologies needed, maintain them and keep upgraded to meet growing customer and/or utility demands and needs, and steps in place to continued growth as customer experience grows.

POTENTIAL BARRIERS: Funding, participation from customer-base, utility, lack of need.

TASKS IN PROGRESS:

2015	Complete Plan Hire Operational Technology Manager
2016	Phase 1 Projects
2017	Phase 2 Projects
2018	Phase 2 Projects

IMPLEMENT CONSERVATION/EFFICIENCY PLAN ~

PURPOSE: Implement ongoing Conservation and Efficiency Plans for the water and electric utilities.

INTERNAL PARTNERS: All departments.

EXTERNAL PARTNERS: Residential Customers, Commercial Customers, additional regional water and/or energy utilities.

NEEDED RESOURCES: Funding, Marketing Plans, Promotional Vehicles including print, radio, TV, advertising, marketing campaigns.

POTENTIAL BARRIERS: Costs

TASKS IN PROGRESS:

2015	Plan Complete Followed by Annual Updates
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LONG RANGE IMPLEMENTATION PLAN OVERVIEW

CONTINUED

IMPLEMENT TEN YEAR FINANCIAL PRO FORMA~

PURPOSE: Develop a ten year pro forma that shows the revenue, reserve, bond coverage ratio and rate impacts of most, if not all, utility initiatives. The data and analysis provided is for strategic planning and policy planning purposes and not for rate-making. New pricing models will also be studied and recommendations presented as part of rate adjustment proposals. This plan is required to ensure the utility is financially healthy under scenarios of competition, technology disruption, increased or reduced demand, regulatory and market risk. Implement ten-year financial plan.

INTERNAL PARTNERS: Resources, Finance, Administration

EXTERNAL PARTNERS: City of Riverside, Treasury

NEEDED RESOURCES: Staff to research and review course of action to ensure the continued fiscal and business plans of RPU meets the goals of the Utility as set forth by the Board of Public Utilities and the City Council.

POTENTIAL BARRIERS: Changes in abilities to provide reliable water and energy services at low costs to benefit the community. Continued drought, changing conditions in energy market.

TASKS IN PROGRESS: 2015 Complete Plan
Present Plan for Board and City Council
Followed by Annual Updates



In 2001, RPU began investing in solar PV by constructing projects in Riverside. Since Assembly Bill 32 was passed requiring utilities to receive at least 33% renewable energy by 2020, we have continued to find innovative and cost effective ways to reach our goals. The latest project is located atop the decommissioned Tequesquite Landfill which will convert unusable brownfield land into a 7MW solar PV generation plant.



UTILITY 2.0 RESOURCES

DEFINITIONS~

Acronym:	Name:	Definition:
~	Non-Potable Water	Water not suitable for drinking.
~	Recycled Water	Reclaimed wastewater that is treated three times until it is suitable for landscaping irrigation.
CEQA	California Environmental Quality Act	A statute that requires state and local agencies to identify the significant environmental impacts of their actions.
DA	Distributed Automation	Smart technologies applied to outage alert systems that improve service response times
DER	Distributed Energy Resources	A device that produces electricity, and is connected to the electrical grid, either at the customer's premise, or on the utility's distribution system.
DG	Distributed Generation	Distributed generation is power produced at the point of consumption, giving consumers control of their energy.
DSM	Demand Side Management	Demand Side Management is an array of programs designed to stabilize the energy consumption while promoting efficiency and conservation.
EE	Energy Efficiency	Measures used to save energy.
ODMS	Operational Data Management System	Capability to manage data in a real-time environment.
PV	Solar Photovoltaic	Devised used to capture energy from the sun.
RPS	Renewable Portfolio Standard	Regulation that requires the increased production of energy from renewable energy sources.
SCADA	Supervisory Control and Data Acquisition	A software application used for process control and to gather real time data from remote locations.

READING MATERIAL~

Fox-Penner, Peter S. *Smart Power: Climate Change, the Smart Grid, and the Future of Electric Utilities*. Washington: Island, 2010. Print.

"2014 Strategic Directions: US Water Industry." Black & Veatch Report. Web.

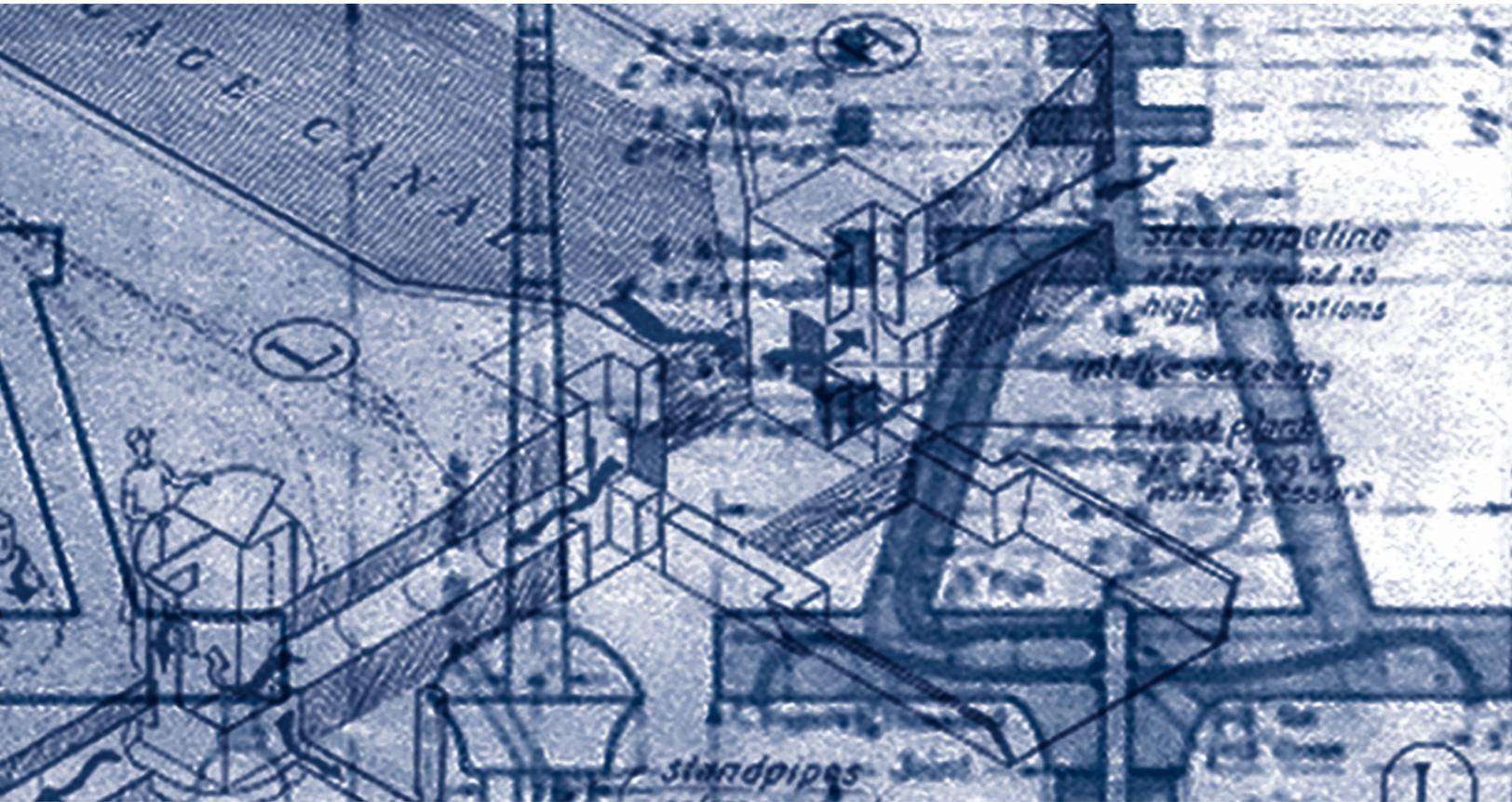
Farrell, John "Beyond Utility 2.0 to Energy Democracy." Institute for Local Self Reliance. Web.

Kind, Peter "Disruptive Challenges: Financial Implications and Strategic Responses to a Changing Retail Electric Business." Energy Infrastructure Advocates. Edison Electric Institute. Web.

GREEN POWER REPORT RADIO SHOW~

Since 2007, RPU has been educating the public with a weekly radio show heard on AM590, The Answer. There have been over 120 guests, all focused on environmental sustainability and visionary solutions to resource conservation. Scan the QR code or go to GreenRiverside.com/gpr to learn more about our changing industry from guests like Peter Fox-Penner, author of *Smart Power, Climate Change, The Smart Grid and the Future of Electric Utilities*.





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WATER | ENERGY | LIFE



PUBLIC UTILITIES

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