

6. Adjournment

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

Board of Directors

Meeting of the Governance Committee

May 9, 2018

9:00 a.m.

Meeting Location: 5000 Overlook Ave, SW, Room 407

AGENDA

1. Call to Order	Ellen Boardman, Chairpersor
2. DC Water Works! Update	Korey Gray, Compliance Officer
3. Blue Drop Update	Alan Heymann, Chief Marketing Office
4. IP Monetization Update	Biju George, Chief Operating Office
5. Executive Session *	

*The DC Water Board of Directors may go into executive session at this meeting pursuant to the District of Columbia Open Meetings Act of 2010, if such action is approved by a majority vote of the Board members who constitute a quorum to discuss: matters prohibited from public disclosure pursuant to a court order or law under D.C. Official Code § 2-575(b)(1); contract negotiations under D.C. Official Code § 2-575(b)(1); legal, confidential or privileged matters under D.C. Official Code § 2-575(b)(4); collective bargaining negotiations under D.C. Official Code § 2-575(b)(5); facility security under D.C. Official Code § 2-575(b)(8); disciplinary matters under D.C. Official Code § 2-575(b)(9); personnel matters under D.C. Official Code § 2-575(b)(11); decision in an adjudication action under D.C. Official Code § 2-575(b)(13); civil or criminal matters where disclosure to the public may harm the investigation under D.C. Official Code § 2-575(b)(14), and other matters provided in the Act.





FY 18 PROGRAM UPDATE

Presented to the

Governance Committee

Ellen Boardman, Chairperson

Wednesday, May 9, 2018



DC WaterWorks Program

As part of the Board's Strategic Initiative #2, the DC WaterWorks encourages and supports the development and employment of local residents as employees on DC Water construction and service projects.

Program Goals

- Fifty-One percent (51%) of the total contractor workforce will be local residents.
- Sixty percent (60%) of new jobs created by contracts or procurements entered into by DC Water with contractors will be filled by local residents.
 - New Jobs mean both union and non-union job openings, including vacancies created as a result of internal promotions, terminations or other separations, and expansions of the contractor's workforce.



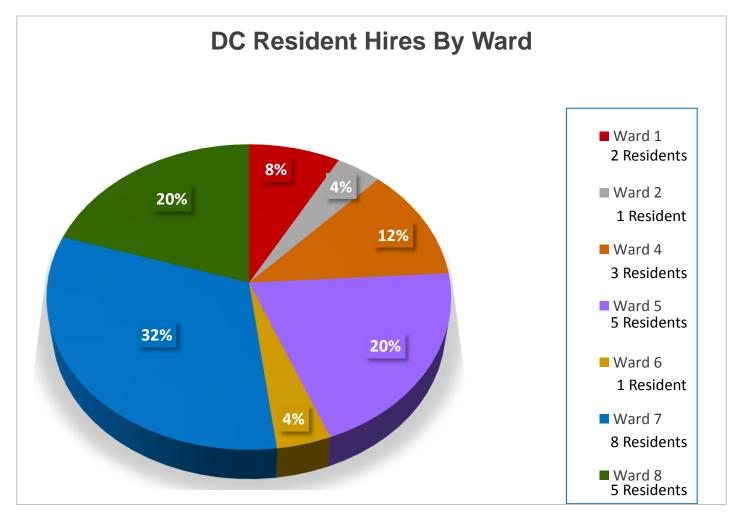
New Opportunities filled through Water Works (October 1, 2017 – March 31, 2018)





New Opportunities filled through Water Works (October 1, 2017 – March 31, 2018)

DC Resident Hires by Ward
Total DC Resident Hires: 25





District of Columbia Water and Sewer Authority George S. Hawkins, CEO and General Manager

New Opportunities as of March 31, 2018

Summary of Open Positions

Total Open Positions: 23

Laborer Positions

- Driver 1
- Laborer (with CDL) 3
- Skilled Laborer 5

Management Positions

- Foreman 1
- Project Manager 2
- Safety Manager 1

Operator Positions

- Boom Truck 1
- Excavator 1

Skilled Positions

- Engineer 1
- Estimator 1
- Mechanics 3
- Technicians 3



Commercial Driver's License Training Program





Commercial Driver's License Training Program

- DC Water, through the Department of Facilities, is conducting a Second CDL training cohort.
- > Twelve (12) Participants.
- Participants earn \$15.00 per hour as Temporary Employees with MB Staffing.
- Training Goals:
 - o 80% Graduation (10)
 - o 50% Placement of the Graduates (5)

Status:

- Training Still On Going
 - o Slight Delay in CDL testing due to scheduling with DMV
- Participants are interviewing
- 11 Still in the Program
 - o 1 participant not able to continue (Doctor's Instruction)





Green Infrastructure





Green Infrastructure

Pursuant to the MOU between DC Water and the District, there is a goal that **51%** of new hires on GI projects in the Rock Creek and Potomac River sewersheds with Green Infrastructure (GI) should be District residents.

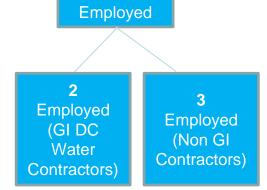
DC Water is partnered with the University of the District of Columbia to train and prepare District residents to successfully complete the National Green Infrastructure Program (NGICP) exam.

Curricula was developed in partnership with DC Water, the Water Environment Foundation, and other partners across the nation.

So far in FY 2018, One cohort was completed. There are two other cohorts actively running.

Results: Cohort 1 Cohorts 2 & 3 NGICP Graduates Cohorts 2 Enrollees

2 Unemployed



(Training Still Ongoing)



DC Water Facilities Department

Training Program









Department of Facilities Training Program

- DC Water's Department of Facilities in partnership with the District Department of Employment Services' Project Empowerment will select (up to) six District residents for six month training program with summer employment.
 - o Program Duration June through December
 - o Expected Work Hours 6:00 am to 2:30 pm
 - o Participants are fully subsidized by Project Empowerment
 - o Participants will have a dedicated mentor (from DOES)
 - o Participants get exposure to a variety of facilities trades: Carpentry, Building and Grounds, and Painting.
 - o In addition to the On-the-Job experience provided, individuals will also participate in classroom-style training inclusive of:
 - OSHA-10
 - CPR
 - Conflict Resolution
 - Workplace Safety
 - Job Readiness
 - Refrigerant Transition and Recovery Certification

Participant Requirements:

- Must be a District Resident
- Minimum Requirements are:
 - o High School Diploma or GED
 - o CASAS Testing (10 for Math/11 for Reading)
 - Valid DC Driver's License
 - o Reliable/Dedicated Transportation
 - o Successfully completed a Job Readiness Training from a recognized organization
 - o Some Work Experience
 - o Be and Remain Drug Free
- Veterans and Women Preferred



FY 2018 DC Water Non-Major Construction Projects Employment Data

The following data summarizes the non-major construction employment data (Cumulative) for FY 18, as of March 31, 2018

In FY 17 (October 1, 2017 – March 31, 2018), there were:

- > Twenty-Eight (28) Active Projects
- ➤ 1,282 contractor job positions on Non-Major Construction contracts.
 - o 961 positions (74%) were filled (transfers and new hires) by residents within DC Water's User Jurisdiction.
 - 216 positions (16.8%) were filled (transfers and new hires) by District of Columbia residents.

User Jurisdiction	> User Jurisdiction		
0	DC		
0	PGC		
0	MC		
0	FC		
0	LC		
Outside User Jurisdiction			
Total			

# of Positions	%
961	74.0%
216	16.8%
542	42.2%
86	6.7%
115	9.0%
2	0.1%
321	25.0%
1,282	



FY 2018 DC Water Major Construction Projects Employment Data

(e.g., Clean Rivers, Enhanced Nitrogen Removal, Tunnel Dewatering Pump Stations and Biosolids Management)

The following data summarizes the major construction employment data (Cumulative) for FY 17, as of March 31, 2018

In FY 17 (October 1, 2017 – March 31, 2018), there were:

- > Thirteen (13) Active Projects
- ➤ 4,243 contractor job positions on Major Construction contracts.
 - o 1,993 positions (47%) were filled (transfers and new hires) by residents within DC Water's User Jurisdiction.
 - 485 positions (11%) were filled (transfers and new hires) by District of Columbia residents.

> User Jurisdiction		
0	DC	
0	PGC	
0	MC	
0	FC	
0	LC	
Outside User Jurisdiction		
Total		

# of Positions	%
1,993	47.0%
485	11.4%
786	18.5%
263	6.2%
369	8.7%
90	2.1%
2,250	53.0%
4,243	

JECT: Approval to Authorize the General Manager to





Governance Committee Update

personnel, and procurement functions and responsibilities of the District of Colu-Water and Sewer Authority shall be established exclusively pursuant to rules adopted by its Board of Directors." D.C. Code § 1-204.96(a); and

of Columbia created DC Water pursuant

ented and Adopted: November 3, 2016

Establish Blue Drop, LLC

Alan Heymann
Chief Marketing Officer -President, Blue Drop Chief Marketing Officer, DC Water

President, Blue Drop WHEREAS, District of Columbia Home Rule Act states, "[n]otwithstanding any o provision of this chapter or any District of Columbia law, the financial management





Consulting Customers

- All existing engagements center around external affairs and stakeholder engagement.
 - Springfield (Mass.) Water and Sewer Commission (communications strategy and campaign development)
 - Upper Blackstone Water Pollution Abatement District (rebranding)
 - Denver Metro Wastewater Reclamation District (communications strategy)
 - New Orleans Sewerage and Water Board (customer service, communications strategy)





Upcoming Conferences

- NACWA Strategic Communications: H2O
 - June 6-7, Chicago (Alan likely speaking)
- Blue Drop staff also attending:
 - NACWA summer conference
 - WEFTEC
 - AWWA ACE
 - WEF Biosolids and Residuals





Board Members

- Six existing Board members continue.
- Next meeting: Friday, June 1. DC Water Board members invited for lunch.
- Three potential new Board members under consideration by Chairperson. Two would represent the Bloom side of the business.













rilliam "Willy" Walker

Rachna Butani Bhatt

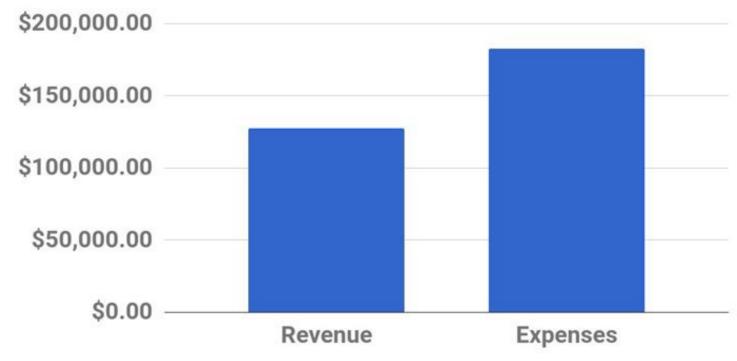
Governance Committee Update

May 9, 2018





Blue Drop Revenue and Expenses FY18



Governance Committee Update

May 9, 2018



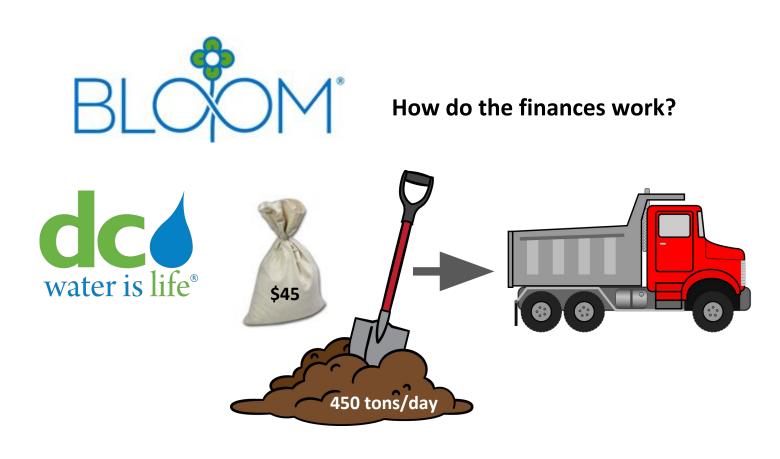




- Recent highlights
 - April 23: production sold out
 - First sales to Maryland farms
 - Blended material sales
 - Virginia farm sales pending
 - Bags are coming!







Total cost to DC Water: \$7M+/year



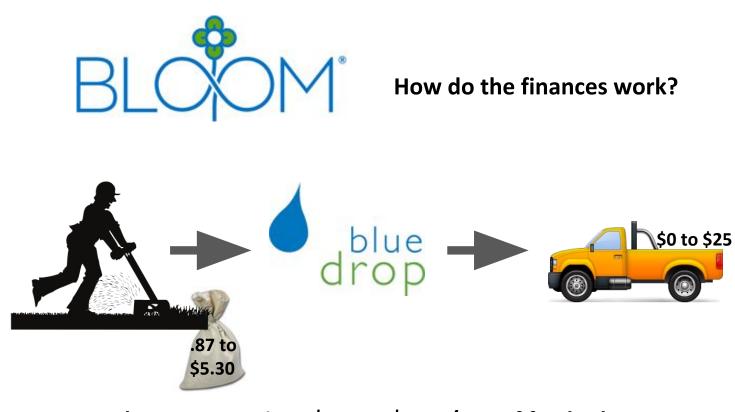




How does the business work?

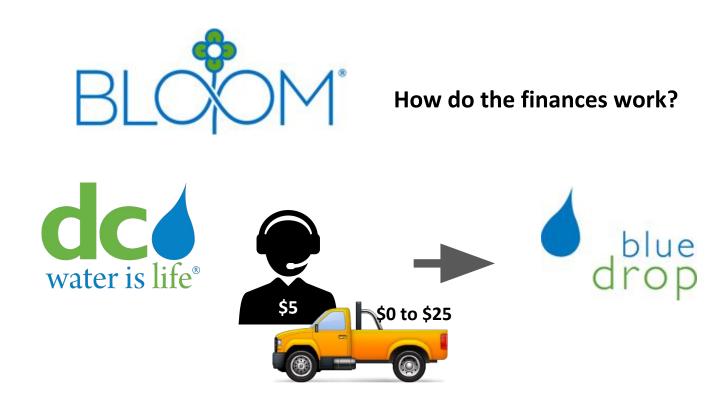
- Marketing and sales agreement through Fiscal Year 2019.
- Blue Drop supports DC Water operations team in marketing and sales program.
- Blue Drop contracts with local haulers and arranges transportation to customer if needed.
- Blue Drop handles invoicing, payment processing and customer relationship management.
- DC Water pays Blue Drop a per-ton marketing fee.
- DC Water reimburses Blue Drop for subsidized local hauling.





Blue Drop receives \$.87 to \$5.30/ton of fresh Bloom. Cumulative sales revenue to date: ~\$38,000





Bottom line: DC Water saves \$15 to \$40/ton. Cumulative savings to DC Water to date: ~\$436K





Bloom Marketing and Sales

FY18 through 4/18		
Tons diverted	5,476	
Blue Drop		
Marketing Fees	\$27,378	
Sales Revenue	\$15,469	
Total to Blue Drop	\$42,847	
DC Water		
Original Land Application Cost		
(\$45/ton)	\$246,403	
Cost of Hauling	-\$33,270	
Marketing Fees to Blue Drop	-\$27,378	
Cost Savings to DC Water	\$185,755	





Other Updates

- Blue Drop to apply for 501(c)(3) status in May
- Still planning an office move in October
- Executive Coaching service offering
 - Training underway
 - Service in conjunction with DC Water Leading Blue program to begin in July
- No contractual or staffing updates since last presentation

JECT: Approval to Authorize the General Manager to





Further questions? Alan Heymann

Alan Heymann

ented and Adopted: November 3, 2016

Establish Blue Drop, LLC

Chief Marketing Officer, DC Water

President Plus D President, Blue Drop alan@bluedrop.co (202) 765-3292 x101 WHEREAS, District of Columbia Home Rule Act states, "[n]otwithstanding any o not-for-profit entity under the la provision of this chapter or any District of Columbia law, the financial managen

and procurement functions and responsibilities of the District of Colu-Authority shall be established exclusively pursuant to rules



Governance Committee Update

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY



May 9, 2018 Biju George, Chief Operating Officer



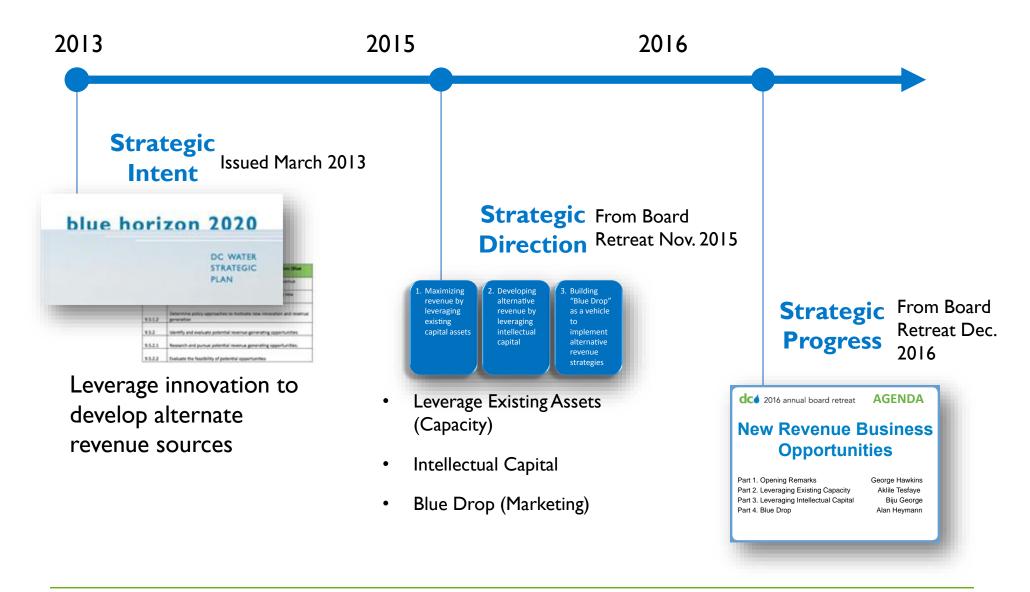
Overview

In this presentation, DC Water will:

- Review strategies for alternative revenue
- Provide a status update for intellectual property assignments and royalty agreements
- Discuss 3M Catalyst project and DC Water's implementation



Journey





How does DC Water Govern Revenue Activities?

Three parallel tracks:

DC Water Board

Blue Drop Board

Blue Drop President



Chief Operating Officer

AGM Blue Plains

- Blue Plains WWTP
- Resource Recovery and Renewable Energy
- Rent Unused Capacity or Structures



Innovations Chief

- Water/Wastewater
 Process Innovation
- Smart Systems (leveraging sensors and analytics)



Blue Drop

- Bloom[™] Marketing
- Consulting and Shared Services
- Utility peer-to-peer portal





What are DC Water's guiding principles?

- Guiding Principles to Date:
 - Exploration of <u>opportunities</u> before making commitments
 - Maximize revenue while minimizing risk

I. Minimize Financial Risk to DC Water

- Share and transfer risk
- Contract with American entities operating overseas
- Limit liability through caps in contracts
- Learn operating rules of host countries

2. Maximize Revenue to DC Water

- Create multiple, diverse revenue streams
- Build a complete technology portfolio
- Identify partners with existing capabilities and market presence



DC Water's Intellectual Property

- Intellectual Property (IP): creations of the mind, such as inventions, literary and artistic works, designs, and symbols, names, and images used in commerce
- IP types: patents, trademarks, copyrights, and trade secrets
- DC Water's IP: Core to our strategic plan and vision
 - Includes patents, patent applications, and know-how
 - 9 granted patents, 7 in progress, and 3 provisional patents¹
 - IPs and associated technologies are collaborative partnership efforts
 - Currently 5 IPs are in commercialization



DigestivorePADTM

Description	A multi-stage sludge digestion solids destruction and enhanced dewatering	
Benefits	Reduced costs by 15-30% solids reduction	
Patent Status	Granted in 2010	
Inventors (Bold=DC Water)	Murthy, Novak, Bailey, Daigger, Schafer, Peot	
Assignee	DC Water	
Royalty Agreements	InternalMurthy 8.5%Bailey 8.5%Peot 8.5%	ExternalNo agreements
Marketing	Licensed to Ovivo Sept. 2016	
Territories	United States and Canada	





Description	A strategy to selectively probacteria to "short-cut" the cremoval process	
Benefits	Reduced chemical and energy costs	
Patent Status	Four granted in 2016	
Inventors (Bold=DC Water)	Wett, Omari , Regmi, Miller, Bott, Murthy	
Assignee	DC Water and Hampton Roads Sanitation District	
Royalty Agreements	InternalMurthy 8.5%Omari 8.5%Peot 8.5%	ExternalDC Water 33.5%HRSD 33.5%Wett 33.5%
Marketing	Licensed to World Water Works Sept. 2015	
Territories	United States and Canada	



Screen Enhancement for Deammonification

Description	Enhanced control of bacteria to improve a continuous nitrogen removal process and increase capacity	
Benefits	Reduced chemical and energy costs, avoids cost of plant expansion	
Patent Status	Three active at USPTO	
Inventors (Bold=DC Water)	Dockett, Giraldo, Murthy , Bailey , De Clippeleir, Wett	
Assignee	DC Water	
Royalty Agreements	InternalMurthy 15%Bailey 15%	 External DC Water 40% Dockett 10% Giraldo 30% Wett 10% DeClippeleir 10%
Marketing	Joint licensing agreement with ARA Consult on patents for DEMON process January 2017	
Territories	ARA Consult GmbH Europe, Japan, Singapore	DC Water Any not specifically listed for ARA



inDENSETM

Description	A cyclone system to improve the settleability of solids and increase capacity of activated sludge processes		
Benefits	Avoids costs of plant expansion		
Patent Status	I granted 2016, I granted 2017, I active before USPTO		
Inventors (Bold=DC Water)	Nyhuis, O'Shaughnessy, Wett, Bott, Murthy, De Clippeleir		
Assignee	DC Water and Hampton Roads Sanitation District		
Royalty Agreements	InternalMurthy 10%DeClippeleir 10%	ExternalDC Water 27.1%O'Shaughnessy 18.8%Wett 27.1%HRSD 27.1%	
Marketing	Licensed to ARA Consult March 2018		
Territories	Worldwide		



Manhole Lifter

Description	A tool for ergonomic lifting of heavy objects including manhole covers		
Benefits	Reduced risk of injury from ergonomic design		
Patent Status	I granted 2017		
Inventors (Bold=DC Water)	Brooks, Clarke		
Assignee	DC Water		
Royalty Agreements	InternalBrooks 25%Clarke 5%	ExternalNo external inventors	
Marketing	Approach under discussion		
Territories	Marketing approach under discussion		



Post Denitrification

Description	Nitrogen Polishing with Partial Denitrification		
Benefits	Decrease the use of Methanol, a greenhouse gas consuming external carbon		
Patent Status	I active before USPTO		
Inventors (Bold=DC Water)	Murthy, De Clippeleir, deBarbadillo, Bott, Klaus, Wett		
Assignee	DC Water and HRSD		
Royalty Agreements	InternalMurthy 10%De Clippeleir 10%deBarbadillo 10%	ExternalNo Agreements	
Marketing	Licensed to ARA Consult May 2018		
Territories	Worldwide		



Pasteurization

Description	Approach to manage viscosity and heat balance for a mix of waste streams undergoing thermal treatment		
Benefits	Maximize digestion and dewatering efficiency and throughputs		
Patent Status	I active before USPTO		
Inventors (Bold=DC Water)	Murthy, Higgins, De Clippeleir, Wett		
Assignee	DC Water, Higgins, Wett		
Royalty Agreements	InternalMurthy 15%De Clippeleir 15%	ExternalNo Agreements	
Marketing	Proof-of-principle needs to be confirmed		
Territories	Not applicable		



Membrane Biofilm Reactor

Description	Use of advection or convection to overcome diffusional limitations		
Benefits	Energy efficient nutrient removal		
Patent Status	I active before USPTO		
Inventors (Bold=DC Water)	Murthy, Giraldo, Goel, De Clippeleir, Wett		
Assignee	DC Water, Giraldo, Wett		
Royalty Agreements	InternalMurthy 15%De Clippeleir 15%	ExternalNo Agreements	
Marketing	Proof-of-principle needs to be confirmed		
Territories	Not applicable yet		



3M Catalyst



Objectives and Overview

- DC Water was selected for pro bono consulting by the 3M Corporation as part of their Catalyst program
- Two projects proposed:
 - Innovation Management Process Development:
 - Develop a transparent, soup-to-nuts process to manage DC Water's innovation program, ensuring appropriate decision-making, oversight, and organizational buy-in to maximize revenue and minimize risk to DC Water
 - Product Launch and Marketing:
 - Create a model for product development based on delivering value to end customers, including insights on product pricing, market segmentation, evaluation, market forecast, and best practices in segmented annual sales target setting.
- Projects resulted in recommendations to formalize an innovation process, operationalize marketing tools, and enhance governance



Scope and Key Questions

Strategy

BLUE HORIZON 2020

"As a premier provider of water-related services, DC Water may be in a unique position to provide additional valuable services to customers, which may offset some otherwise necessary rate increases. These ideas will be identified, evaluated, prioritized and, if appropriate, implemented."

Commercialization

- What is our commercialization process to increase probability of success?
- What is our guiding principles for managing IP?
- What ground rules will we adhere to in order to decide on prioritization?
- How will we optimize the resource time within DC Water?
- What is the framework we will use to determine market attractiveness?

Governance

- Who is accountable for process?
- How will we coordinate the approaches across functions to drive consistency?
- · Who will enforce decisions?
- How will we ensure decisions are aligned to strategy?
- What is our process for communicating decisions and proposals across the organization?



Approach

Assess Current State to Understand Needs Benchmark & Best Practice Identification

Innovate, Ideate & Create Solutions

Develop Proposal & Deployment Plan

W h o

- Team of 3M executives from around the country and world.
- Over 170 years of experience in labs, marketing, sales, and business management across a range of service areas.

W h a

- DC Water Stakeholder engagement
- External stakeholder engagement
- Broad based employee engagement
- Document securement
- Collect practice examples around new product introduction
- Internal/External Literature research
- Collection of SME input
- Alignment on current state/gaps
- Generation of ideas for possible solutions
- Evaluation of solution ideas
- Prioritization of recommendations

- Prioritized actions to be taken to address gaps
- Building out process and tools to fit DC Water needs
- Implementation roadmap for post project actions

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- Voice of Customer Interviews for all stakeholder groups
- Board meeting attendance
- Internal document reviews
- Site tours

- Leverage both internal and external networks
- Direct engagement with subject matter experts (SMEs)
- Review of external content on innovation and IP Mgmt.
- Nominal group technique for idea generation and prioritization
- Agile Scrum including Kanban process
- Stakeholder check-ins for alignment

- Divide and conquer
- Expertise of individual team members for task assignments
- Open and honest debate and decision making



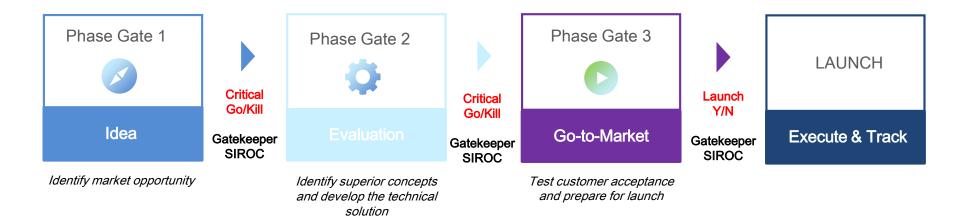


Recommendations

- I. Formalize DC Water innovation process to include gate approvals with established targets
- 2. Operationalize marketing tools to better understand the market, customer, and market share opportunities
- 3. Implement a governance team that champions and empowers employees and drives results



Recommended Innovation Framework



- End-to-end gated process from ideation to launch
- Manage risks in commercialization projects
- Ensure work required for commercialization decisions are completed before stage gate review
- Coordinates workflow and ensure alignment across functions (R&D, Operations, Marketing, Finance)
- SIROC decision at Gate Reviews

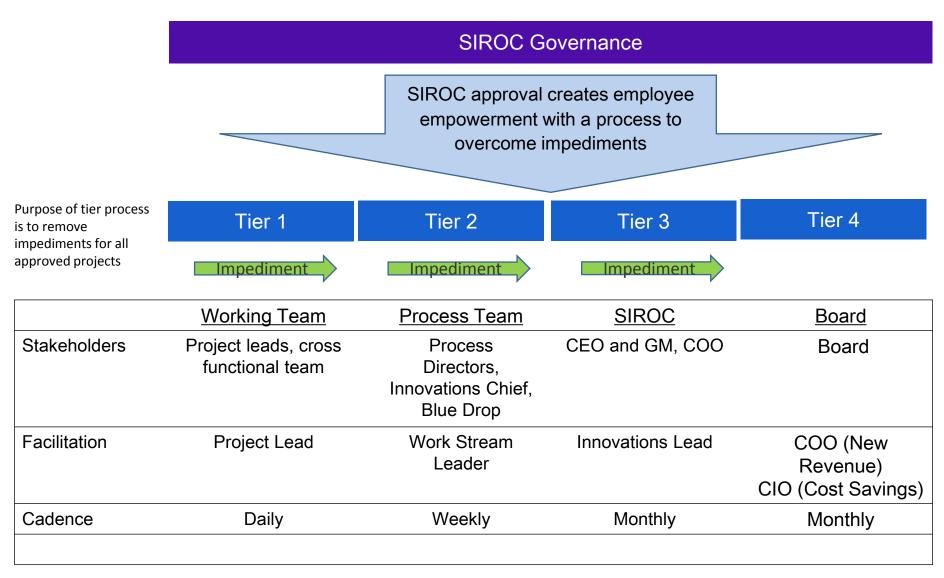


Recommended Marketing Tools

	Market Assessment	Customer Definition	Product Analysis	Pricing Strategy	Channel Strategy	Promotion & Communication
Deliverables	Market DefinitionMarket SizeMarket Attractiveness	 Target Customers & Segmentation Needs (Articulated or not) 	 Product Definition & Differentiation Product features vs Current Solutions Product Meet Needs? 	Price Relative to MarketPerceived Value	 Channel Assessment Barriers to Entry Resources Needs Price Strategy by Channel 	 Budget Communication Goals Target Audience and Media Program Description
Tools	 Syndicated Data & Secondary Research Regulatory Requirements Megatrends Analysis (Driving/Inhibiting Growth) 	 Focus Groups Customer Interviews Segmentation Studies Customer Journey Map Canvas 	 Customer Journey Map Value Chain Marketing Research Canvas 	 Price Value Map Pilot Testing Customer Interviews Marketing Research 	 Distribution Model Value Chain Marketing Research Internal Analysis 	 Financial Assessment Marketing Budget Marketing Tactics Timeline



Recommended Governance Approach





DC Water's Implementation

◆ 20x20x20 Challenge

- Identify \$20 million in savings and \$20 million in non-ratepayer revenue by 2020
- Goal: show how sustained efforts to implement savings and find new revenue have helped stem rate increases at next round of town halls

Approach

- Develop cross-functional teams to identify efficiencies and new revenue sources
- Teams will compile, evaluate, and prioritize opportunities and outline implementation plans, including transparent monitoring and tracking
- Will not waiver in meeting our commitments to regulators, customers and team members



Alternative Revenue Team

- Identify \$20 million in non-ratepayer revenue by 2020
 - Determine how to maximize our assets and expansive intellectual capacity while minimizing risk
 - Develop cross-functional innovation teams
 - Identify key processes, policies, and measures
 - Establish a three-year roadmap
 - Move beyond identifying to implementing opportunities