



**DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY**

Board of Directors

Governance Committee

July 12, 2017

9:00 a.m.

- 1. Call to Order Ellen Boardman, Chairperson**
- 2. DC Water Works! UpdateKorey Gray, Compliance Officer**
- 3. IP Monetization Plans Biju George, Chief Operating Officer**
- 4. Executive Session ***
- 5. Adjournment**

*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)(10);proprietary 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.



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



PROGRAMS UPDATE

Presented to the

Governance Committee

Ellen Boardman, Chairperson

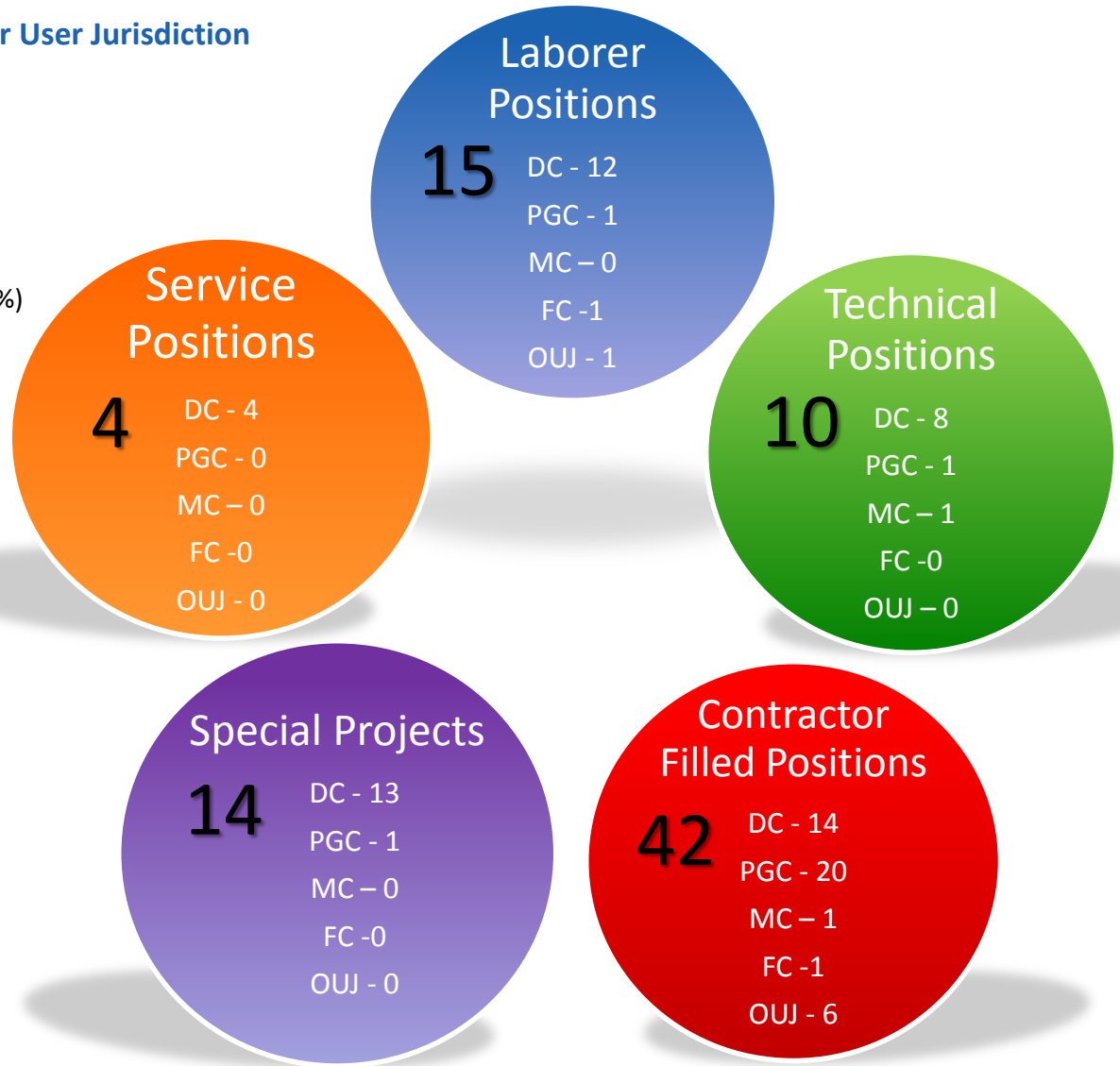
Wednesday, July 12, 2017



New Opportunities through Water Works (since October 31, 2016)

DC Water Works New Hire Goal: 60% for User Jurisdiction

- Total Number of Positions Filled: 85
 - DC Water Works Hires: 43
 - Contractor Filled: 42
- Total User Jurisdiction Residents Hired: 78 (91.8%)
 - Total DC Residents Hired: 51 (60.0%)
- Total Outside User Jurisdiction: 7 (8.2%)





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

New Opportunities through Water Works (since October 31, 2016)

Position Title	# of Positions	New Hire Residence	Candidate Source
Water Meter Installer	7	DC - 5 MC - 1 PGC - 1	Database - 4 DOES - 2 ECC - 1
Laborer	5	DC - 5	Building Futures - 5
Cook	3	DC - 3	Database
Laborer	3	DC - 1 FC - 1 OUJ - 1	Job Corps - 2 Database - 1
Field Tech	1	DC - 1	Washington Parks and People - 1
Cashier	1	DC - 1	Database
CCTV Operator	1	DC - 1	Database
Security Officer	1	PGC - 1	Database
Apprentices	3	DC - 3	DOES
Materials Management	1	DC-1	

Special Initiatives

Program	#of Positions	New Hire Residence	Candidate Source
DC Water Works CDL Driver Program	12	DC-11 PGC - 1	Building Futures, CSOSA, ECC, MORCA, WIN
Facilities Summer Program	2	DC-2	ECC-1, Sasha Bruce-1

Other Positions Filled by Contractors

Position Title	# of Positions	New Hire Residence
Water Meter Installer	26	DC-9 MC-1 PGC-11 OUJ-5
Laborer	11	DC-3 PGC-8
Field Tech	1	DC-1
Foreman	1	PGC-1
Operator	2	DC-1 FC-1
Skilled Laborer	1	OUJ-1



New Opportunities through Water Works (since October 31, 2016)

Summary of Open Positions

Total Open Positions: 46

Labor Positions – 29

- Helpers – 5
- General Laborers – 13
- Drivers – 11

Management Positions – 9

- Foreman – 8
- Project Manager – 1

Operator Positions – 3

- Crane Operator – 2
- Seeder -1

Skilled Positions – 5

- Engineer – 1
- Estimator – 1
- Mechanic – 2
- Technician - 1



FY 2017 DC Water Non-Major Construction Projects Employment Data

The following data summarizes the non-major construction employment data (Cumulative) for FY 17, as of June 30, 2017

In FY 17 (October 31, 2016 – June 30, 2017), there were:

- Thirty-Six (36) Active Projects
- 1,592 contractor job positions on Non-Major Construction contracts.
 - 1,161 positions (72%) were filled (transfers and new hires) by residents within DC Water’s User Jurisdiction.
 - 252 positions (15.8%) were filled (transfers and new hires) by District of Columbia residents.

	# of Positions	%
➤ User Jurisdiction	1,161	72.9%
○ DC	252	15.8%
○ PGC	600	37.7%
○ MC	151	9.5%
○ FC	157	9.9%
○ LC	1	0.1%
➤ Outside User Jurisdiction	431	27.1%
Total	1,592	



FY 2017 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 June 30, 2017

In FY 17 (October 31, 2016 – June 30, 2017), there were:

- Thirteen (13) Active Projects
- 4,243 contractor job positions on Major Construction contracts.
 - 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.

	# of Positions	%
➤ User Jurisdiction	1,993	47.0%
○ DC	485	11.4%
○ PGC	786	18.5%
○ MC	263	6.2%
○ FC	369	8.7%
○ LC	90	2.1%
➤ Outside User Jurisdiction	2,250	53.0%
Total	4,243	



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

Green Infrastructure



Spring 2017 Training – University of the District of Columbia Green Roof



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 partnered with the University of the District of Columbia and Washington Parks and People 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. The inaugural examination was held December 13, 2016.

National exam. Seven cities held the exam on the same day

Results of First Cohort:

- University of the District of Columbia (UDC)
 - Accepted for Training - 18
 - Completed Training – 18
 - Took the Exam – 12
 - Passed - 7

- Washington Parks and People (WPP)
 - Accepted for Training - 17
 - Completed Training – 15
 - Took the Exam – 12
 - Passed – 1

- National Pass Average: 67% (all levels of education)
 - DC: 33% (DC Water focused on entry level individuals; high school/GED; no/limited GI or construction experience)

Lessons incorporated into future trainings:

- Enhancing screening process for candidates to understand motivation for participation
- Establish earlier deadlines for paperwork
- Curriculum updated based on trainer feedback
- Additional resources added for trainers:
 - More practice test questions
 - More example 'hands on' activities





Green Infrastructure

Employment Opportunities:

- Anchor Construction Opportunities:
 - Mentor Protégé
 - 1 Hired/ Started on May 30th, 2017
 - GI Laborer
 - 2 For Laborer Positions (upon commencement of construction work)
 - 1 Hired/ 1 Open Position
 - Videographer
 - 1 Open Position

- University of the District of Columbia – 7 passed
 - 6 Employed
 - 1 Hired by Anchor – Mentor Protégé
 - 1 Hired by Anchor – GI Laborer
 - 1 Employed with Family Matters of Greater Washington
 - 1 Employed with the US General Services Administration
 - 1 Employed with Advanced Manufacturing
 - 1 Employed with the District Department of Energy and the Environment

- Washington Parks and People – 1 passed
 - 1 Employed
 - 1 Hired by Underwood and Associates on May 23, 2017





Green Infrastructure

Results of Second Cohort:

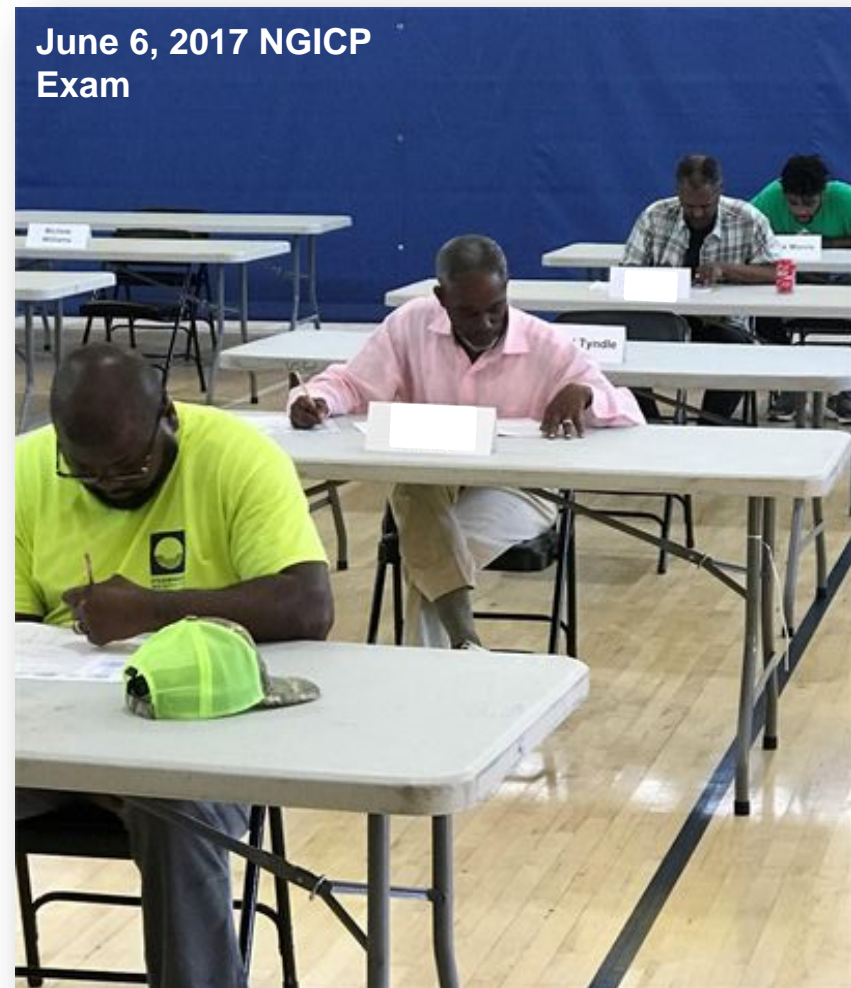
GI Test Date: June 6, 2017

- University of the District of Columbia
 - Accepted for Training - 13
 - Completed Training – 13
 - Took the Exam – 10
 - Passed – 4

- Washington Park and People
 - Accepted for Training - 15
 - Completed Training – 8
 - Took the Exam – 6 (5 first time; 1 retest)
 - Passed – 4 (3 first time; 1 retest)

Lessons to be incorporated into future trainings:

- Enhancing screening and recruitment process for candidates
- Support test taking skills for candidates
- Simulate exam day conditions with mock exam





Governance Committee Update

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY



July 12, 2017
Biju George, Chief Operating Officer



Overview

💧 In this presentation, DC Water will:

- Review DC Water's revenue strategies for intellectual property (IP)
- Review exploratory efforts since the Board retreat and actions consistent with the Board's direction, and
- Outline strategic options for managing and commercializing DC Water's IP

💧 In executive session, DC Water will:

- Review existing IP and contracts
- Discuss costs and revenue opportunities for DC Water's IP and return on investment to ratepayers
- Outline an opportunity for commercialization and branding for the Committee's consideration

💧 Considerations--How do we best:

- Govern revenue growth efforts and new business efforts?
- Minimize risks to our operations as we pursue new revenue strategies?
- Achieve transparency to the Board for new business venture activities?



Journey

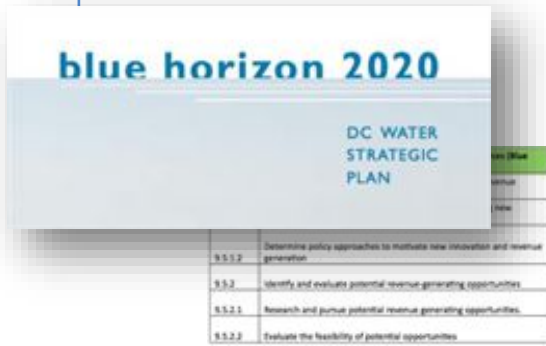
2013

2015

2016

Strategic Intent

Issued March 2013



Leverage innovation to develop alternate revenue sources

Strategic Direction

From Board Retreat Nov. 2015

1. Maximizing revenue by leveraging existing capital assets
2. Developing alternative revenue by leveraging intellectual capital
3. Building "Blue Drop" as a vehicle to implement alternative revenue strategies

- Leverage Existing Assets (Capacity)
- Intellectual Capital
- Blue Drop (Marketing)

Strategic Progress

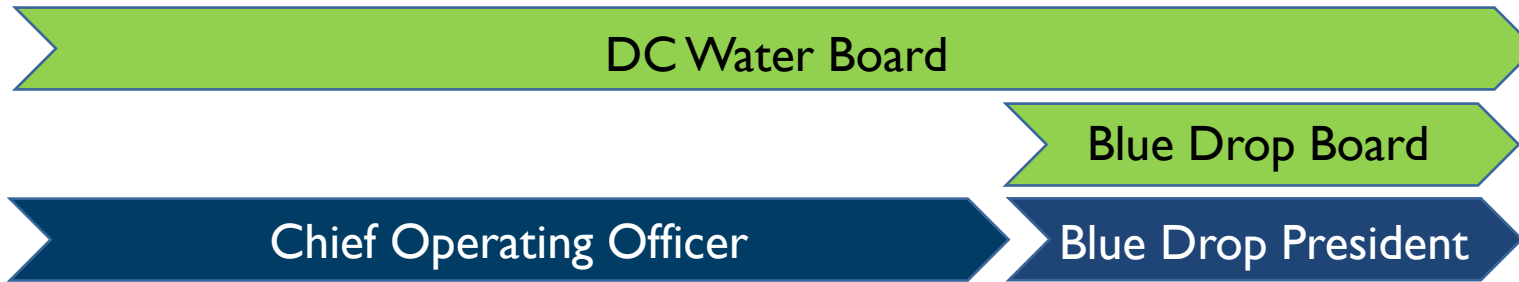
From Board Retreat Dec. 2016






How does DC Water Govern Revenue Activities?

Three parallel tracks:




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

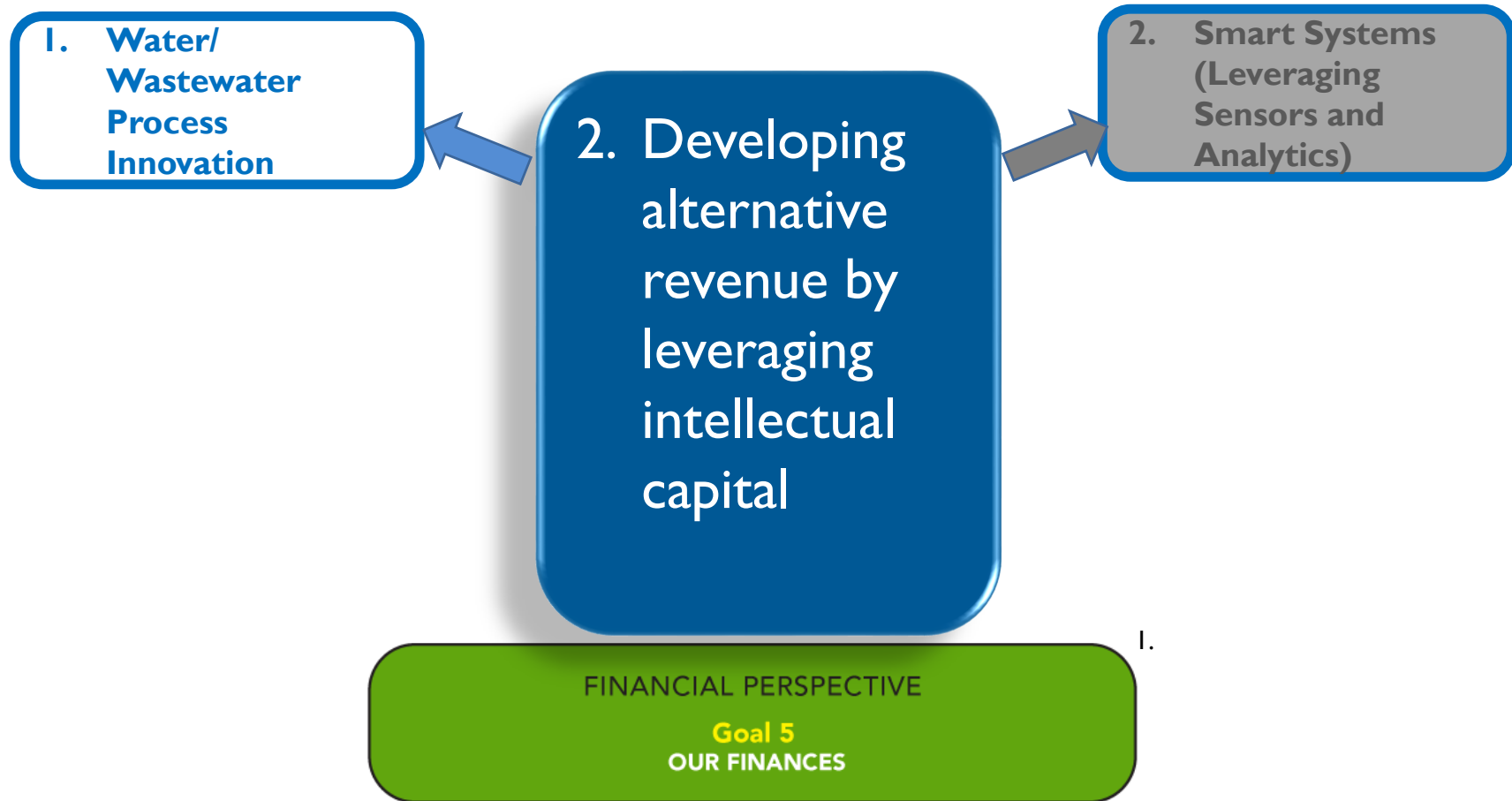
- Bloom™ Marketing
- Consulting and Shared Services
- Utility peer-to-portal





Revenue Strategy Review

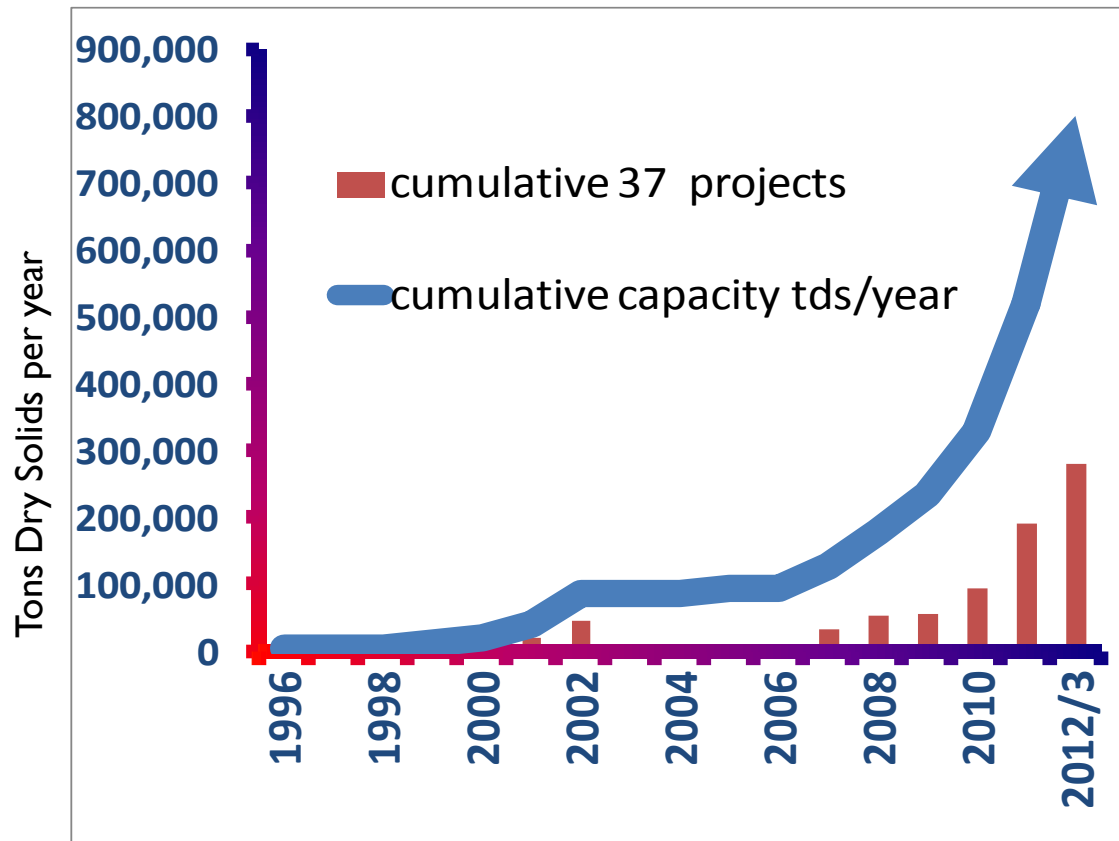
- 1. This presentation will focus on the second of DC Water’s three revenue strategies, particularly in leveraging water and wastewater innovation





Example: Commercialization Timeline

- IP commercialization can take considerable time
- CAMBI first developed in late '70s; installations followed decades later



Davyhulme Plant, Manchester, United Kingdom;
Contract 2009 and completed 2013

Haug, R.T., Stuckey, D.C., Gossett, I.M.,
McCarty, P.I. (1978)

Effect of thermal pretreatment on
digestibility and dewaterability of organic
sludges,

J. Water Poll. Control Fed., 50, 73.



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, copyright, and trade secrets

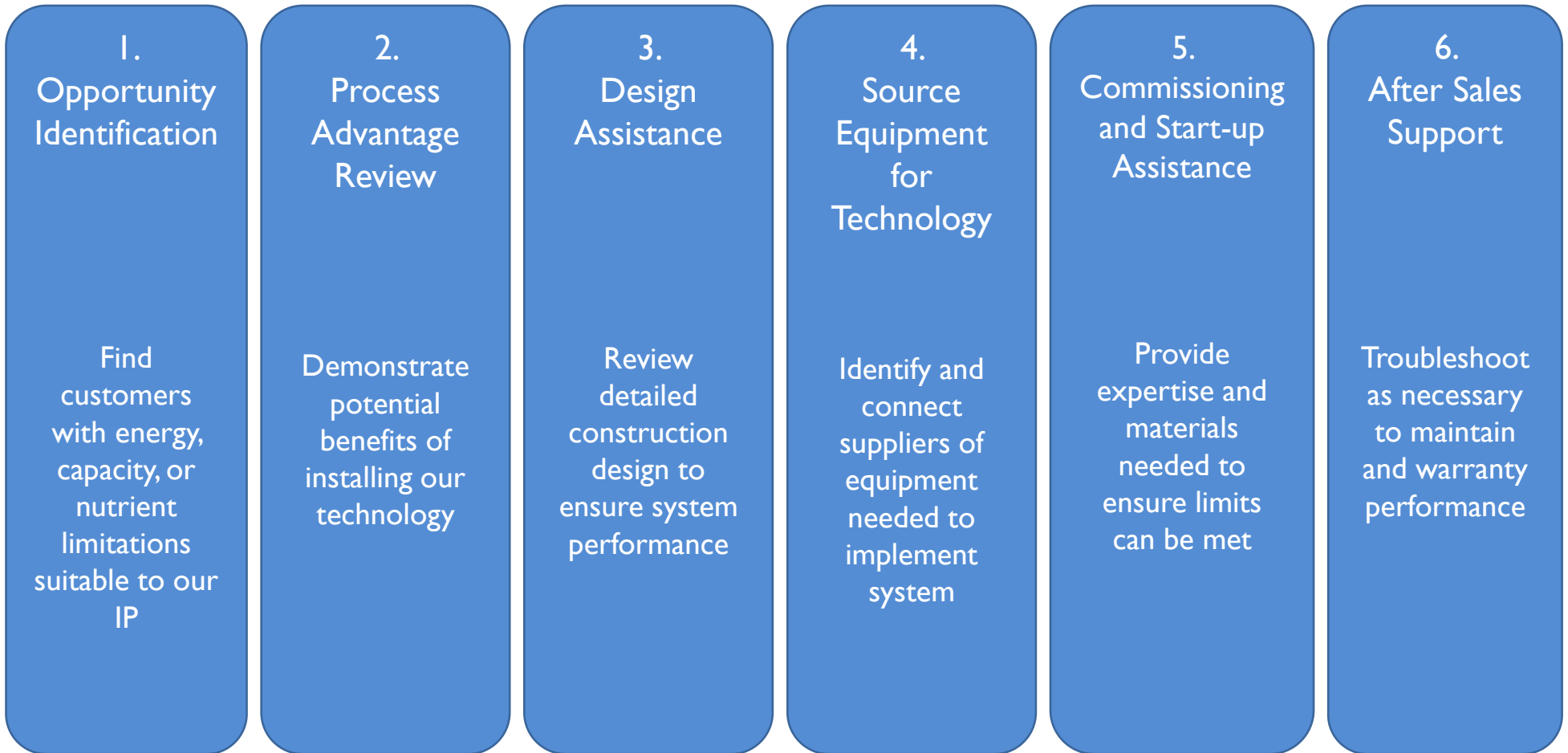
- DC Water's IP: Core to our strategic plan and vision
 - Includes patents, patent applications, and know-how
 - 9 Granted patents, 7 in progress, and 3 provisional patents²
 - IPs and associated technologies are collaborative partnership efforts
 - Additional details will be provided in executive session

2. A legal document filed in the United States Patent and Trademark Office (USPTO), that establishes an early filing date, but does not mature into an issued patent unless the applicant files a regular non-provisional patent application within one year 7



What does marketing IP entail?

- 💧 IP commercialization incurs costs at multiple phases
- 💧 Requires market review and assessment





What are DC Water's guiding principles?

💧 Guiding Principles to Date:

- Exploration of opportunities 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



How have we addressed opportunities?

- Find ways to minimize IP marketing expenses
- Example: HKF Old Plant #3 in Kunming, China





What are our current projects?

1

Capital Assets

2

Intellectual Capital

3

Blue Drop

Type of Activity

- Evaluating opportunities with American partners with global presence
 - HKF Goodwater LLC
 - World Water Works (WWW)
- Exploring opportunities with international companies
 - Suez
 - Meiden

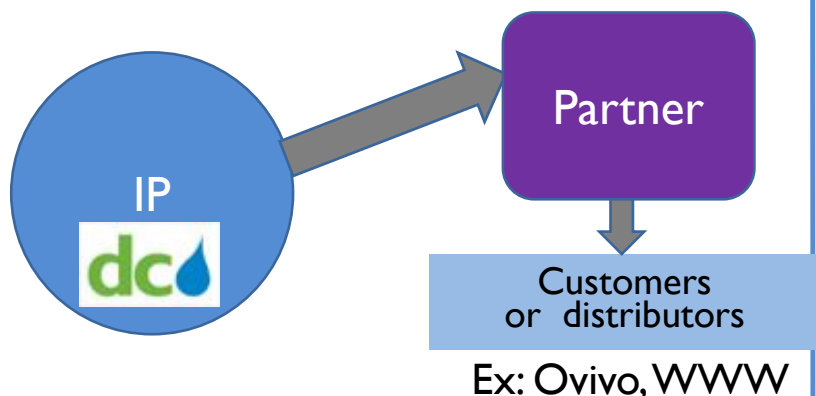
Agreements and Commitments

- DC Water IP licensed to Ovivo³ and WWW
- Joint license agreement with ARA Consult
- Two engineering service agreements with HKF, 1 additional expected
- Letter of intent with Suez for projects in Chile
- Awarded project in Australia

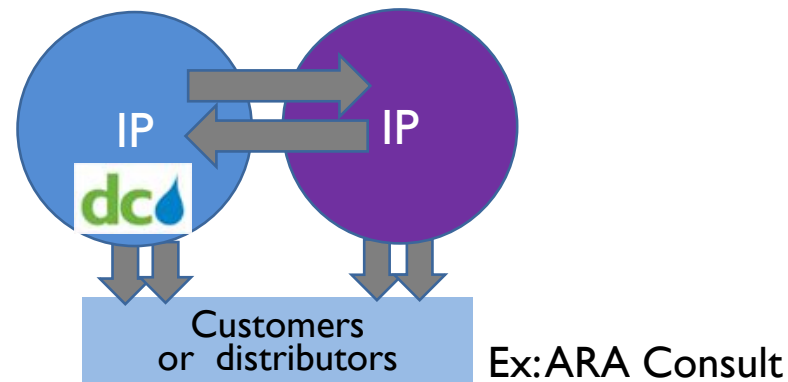


What IP Strategies Exist?

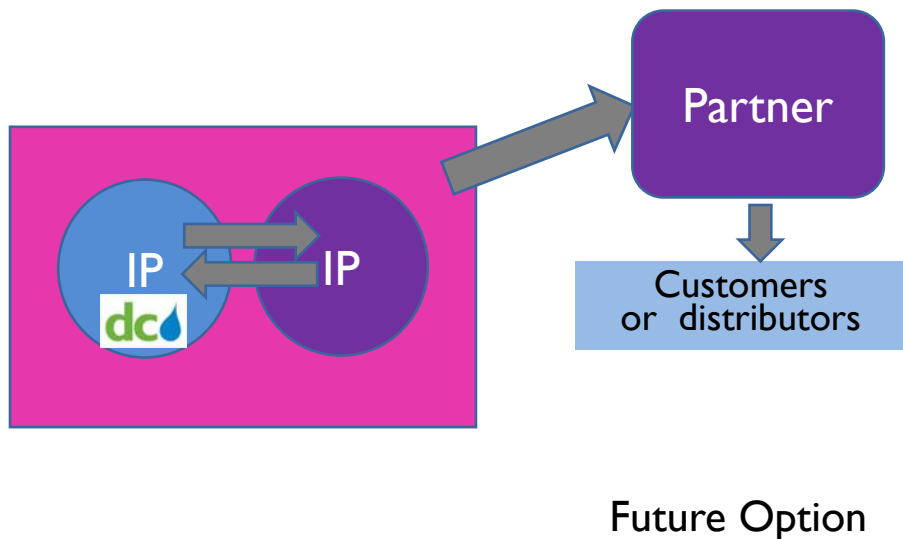
1. Licensing (two approaches)



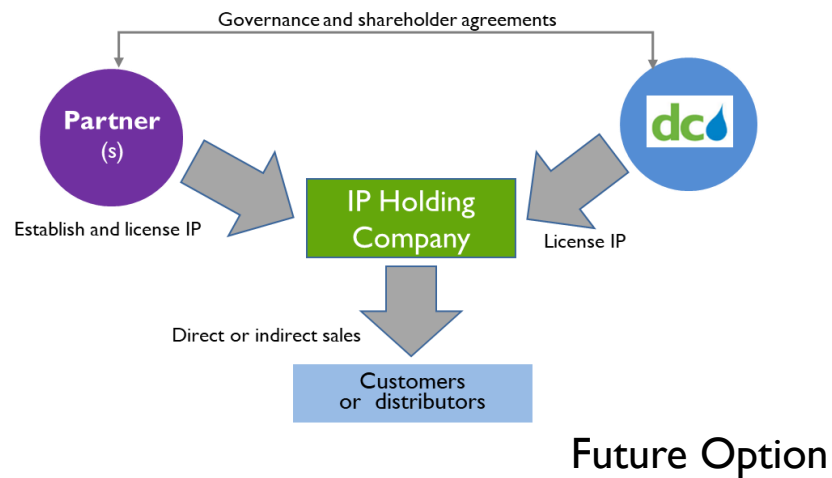
2. Joint Licensing



3. Technology Integration



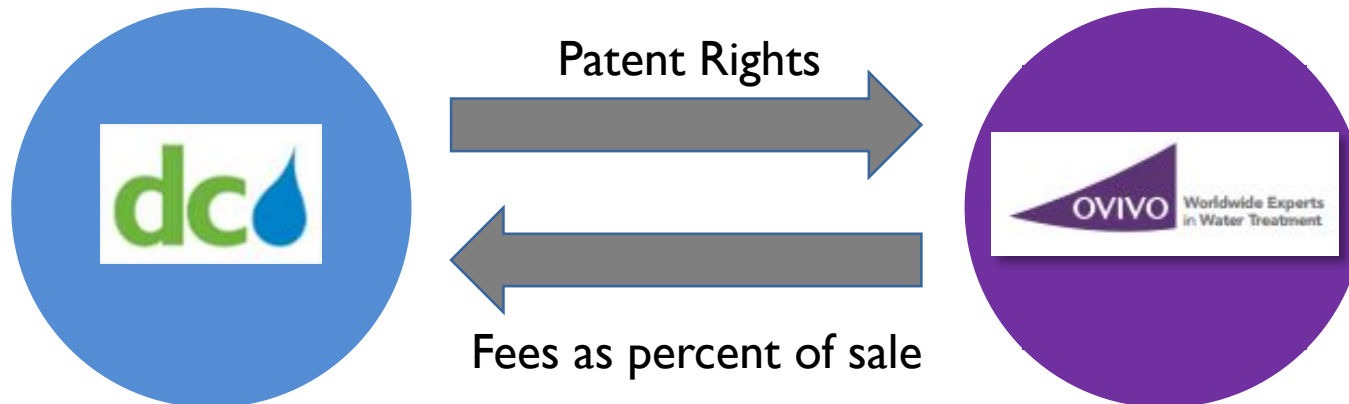
4. IP Holding Company





Strategy 1a: Strategic Licensing

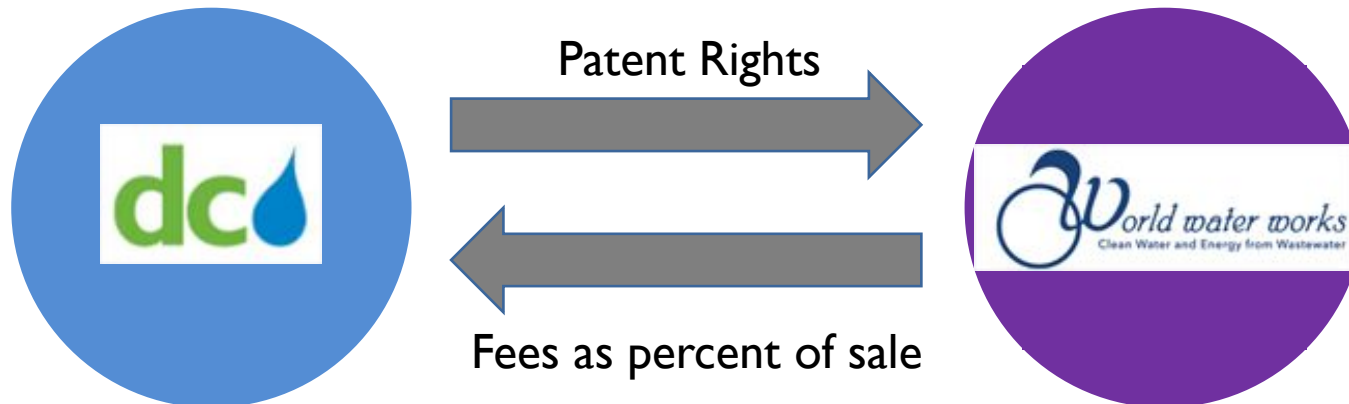
- Example: Ovivo
- Approach: DC Water owned IP that fits better within Ovivo's portfolio; exclusively licensed patent and know-how to Ovivo
- Pros: Generate revenue and simplify DC Water's portfolio
- Con: Minimal control and influence of 3rd party sales





Strategy 1b: Licensing without Integration

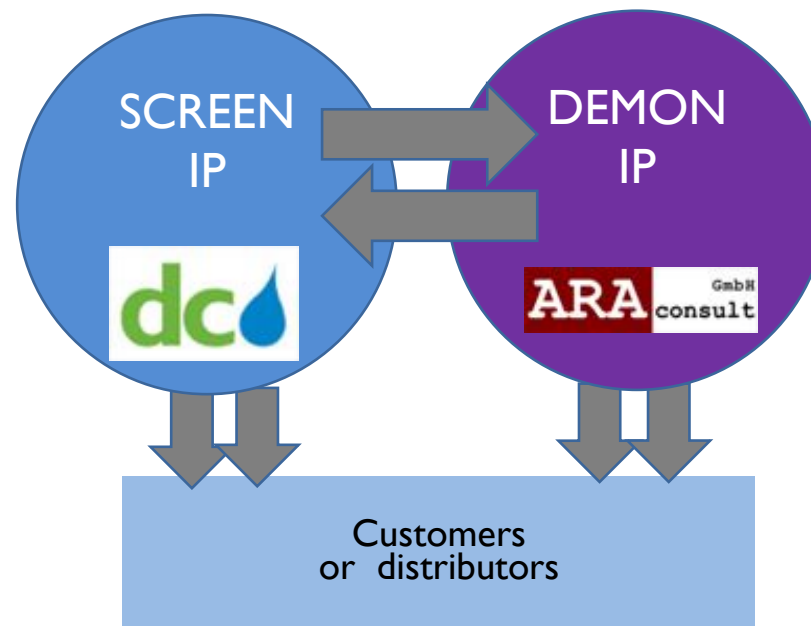
- Example: World Water Works
- Approach: DC Water exclusively licensed AvN control IP without packaging technology
- Pros: Generate revenue and utilize partner's marketing experience
- Con: Revenue potential low and difficulty recovering costs while remaining competitive





Strategy 2: Joint Licensing

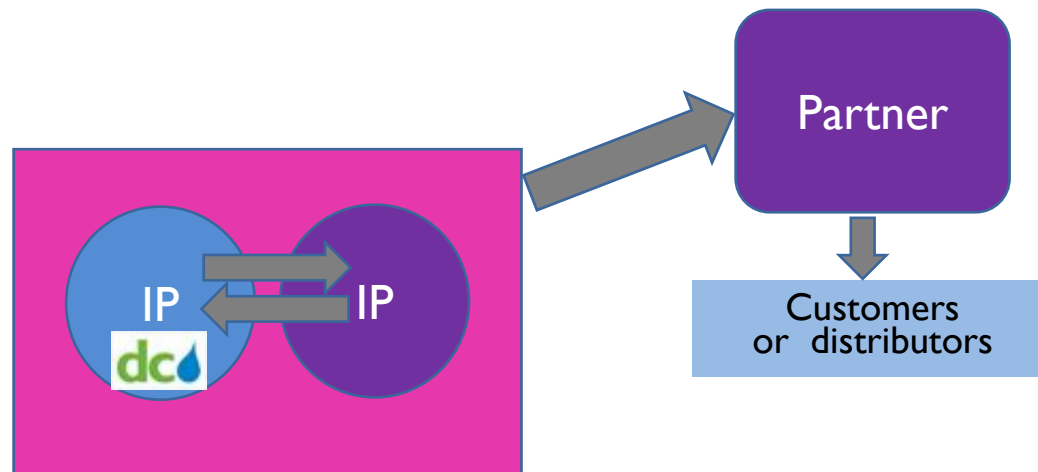
- Example: ARA Consult
- Approach: DC Water and partner jointly license IP in defined territories
- Pros: Generate additional revenue and enhance value of both IPs
- Con: Dilution of DC Water brand





Strategy 3: Technology Integration

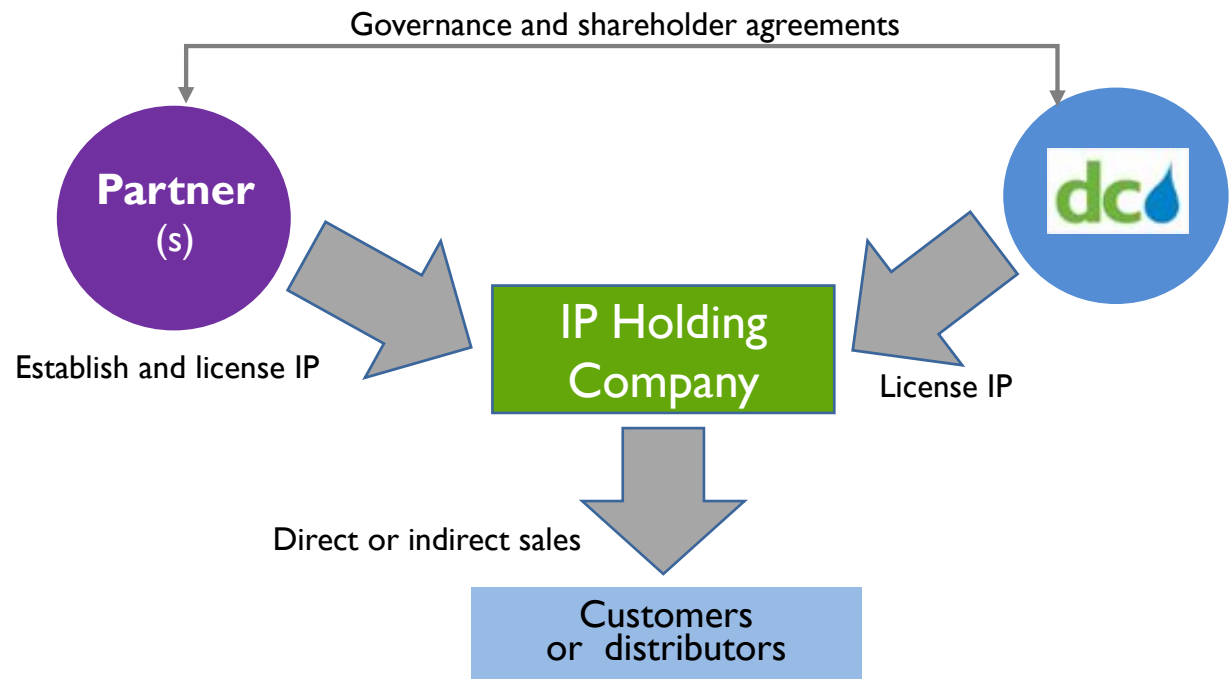
- 💧 Opportunity: For current or future IP
- 💧 Approach: DC Water and partners package technology for selling “upstream” solution
- 💧 Pros: Generate additional revenue by selling packaged system solution
- 💧 Con: Need appropriate packaging and marketing strategy





Strategy 4: IPCo

- 💧 Opportunity: For multiple IPs
- 💧 Approach: DC Water and partners would license IP to a new entity with responsibility for sales of packaged wastewater solutions
- 💧 Pros: Generate increased revenue and leverage resources, international presence, and complementary IP of third parties
- 💧 Cons: Administrative burden to start-up





Summary

- DC Water has advanced strategies to pursue alternative revenue, including leveraging intellectual capital
- IP marketing and commercialization requires investment of time and resources
- DC Water has explored opportunities and is considering strategic approaches to maximize revenue and minimize risk
 - Additional details will follow in executive session

Questions?