

Committee on Water

A construction worker wearing a white hard hat and an orange safety vest is working on a large pipe in a trench. The worker is focused on the task, and the background shows the earthen walls of the trench and some construction equipment.

Renewing the Water Workforce

Improving Water Infrastructure and Creating a Pipeline to Opportunity

BROOKINGS

Joseph Kane

Brookings Metropolitan Policy Program
jkane@brookings.edu

November 12, 2018

Photo source: US Air Force

Who are water workers?

The water workforce captures the wide range of workers who are directly involved in the **construction, operation, design, and governance** of the country's various water infrastructure systems



Findings



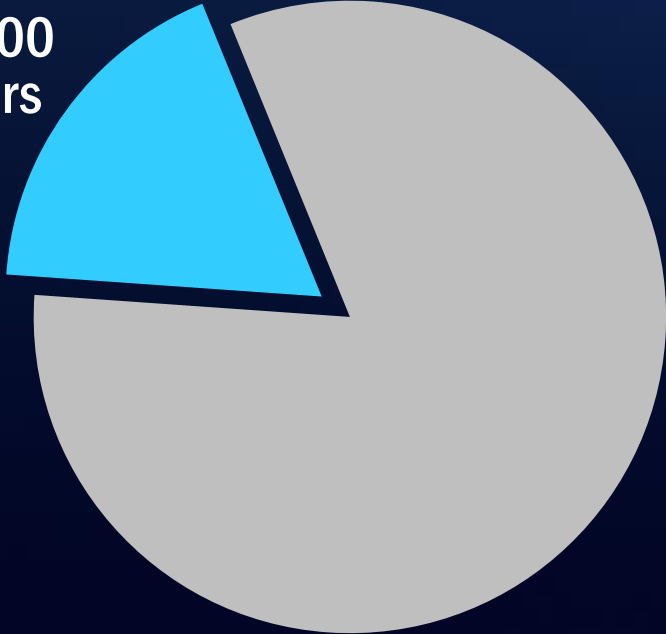
Finding 1

In 2016, nearly **1.7 million workers** in **212 different occupations** were directly involved in designing, constructing, operating, and governing U.S. water infrastructure, spanning a variety of industries and regions.

Water utilities represent one of many employers in the water sector

17.7%

298,000
workers



Source: Brookings analysis of BLS OES data

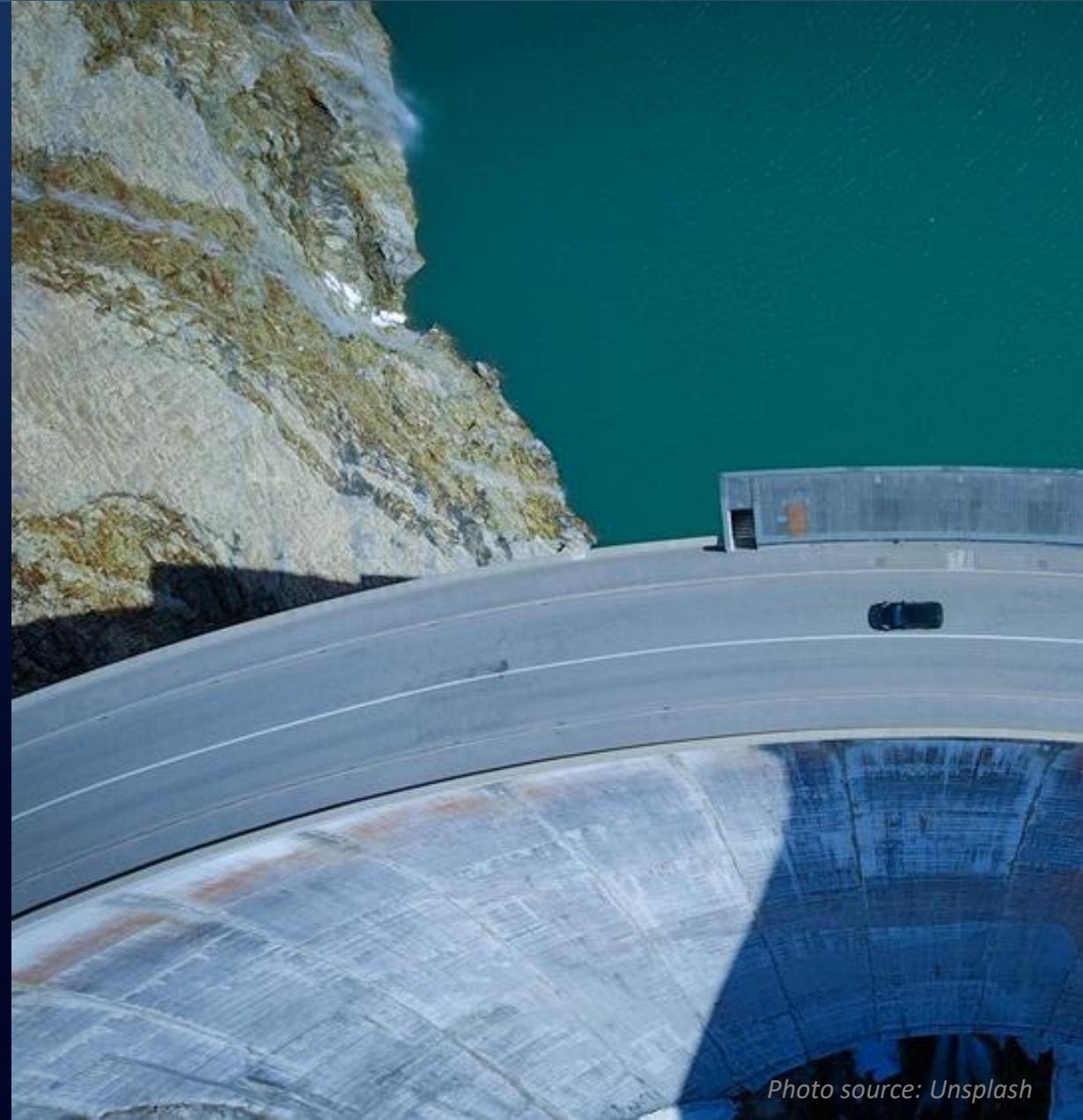


Photo source: Unsplash

Major water occupations include **skilled trades** and **administrative and management** positions



Plumbers

324,500 workers



Operating Engineers

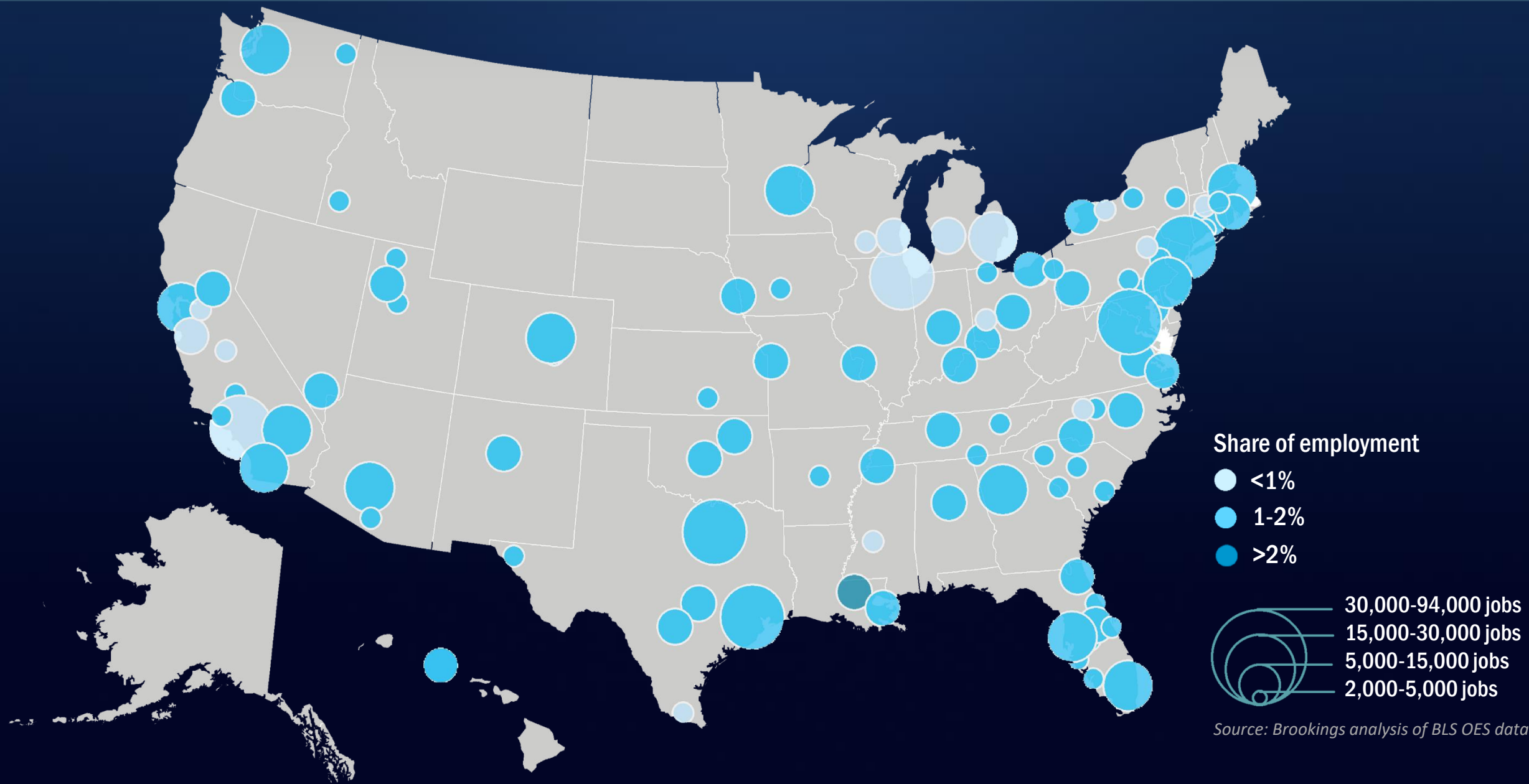
79,900 workers



Office Clerks

47,602 workers

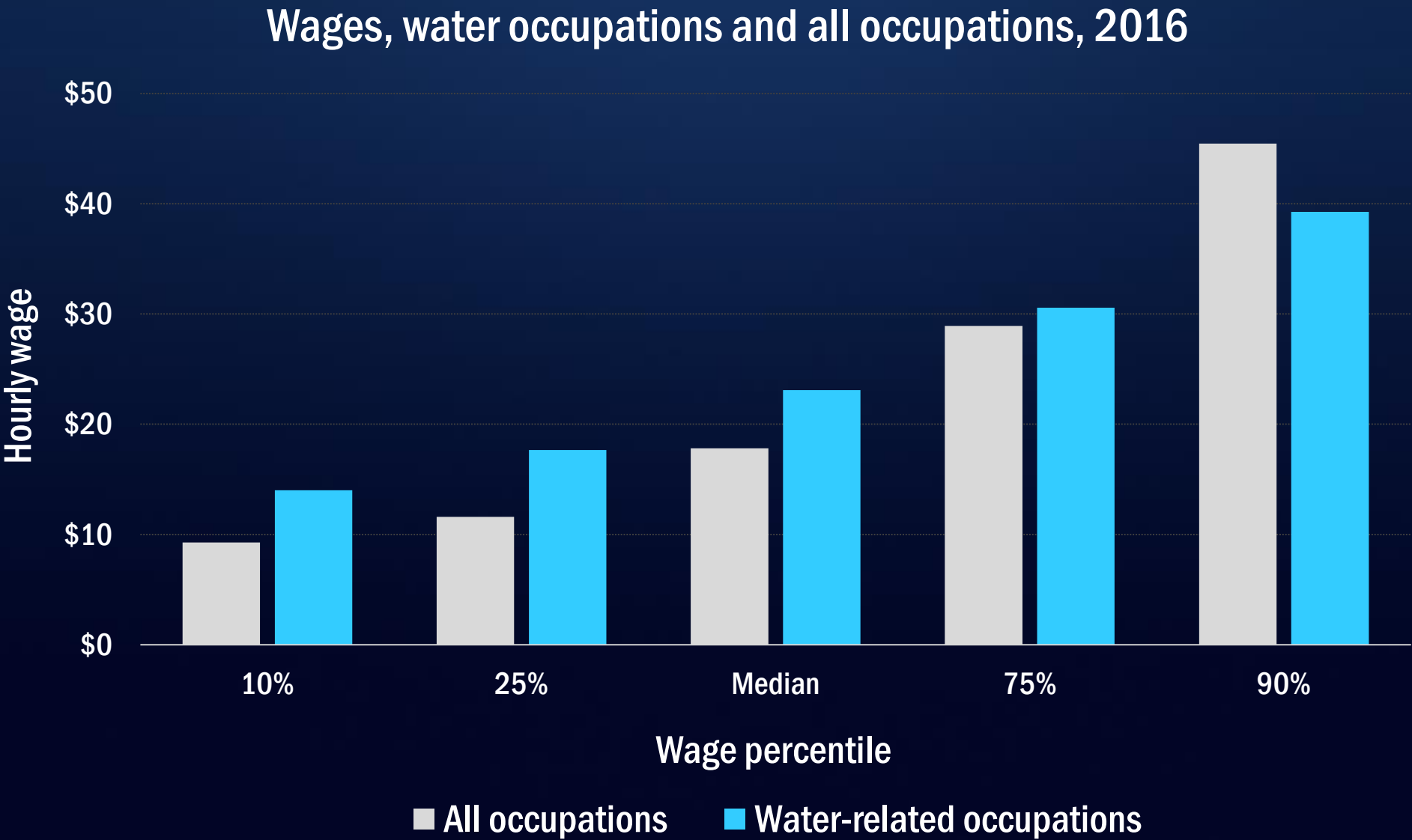
Water workers are found in **every market** across the country



Finding 2

Water occupations not only tend to pay **more on average** compared to all occupations nationally, but also pay **up to 50 percent more** to workers at lower ends of the income scale.

Water occupations pay higher wages, particularly at the 10th and 25th percentile

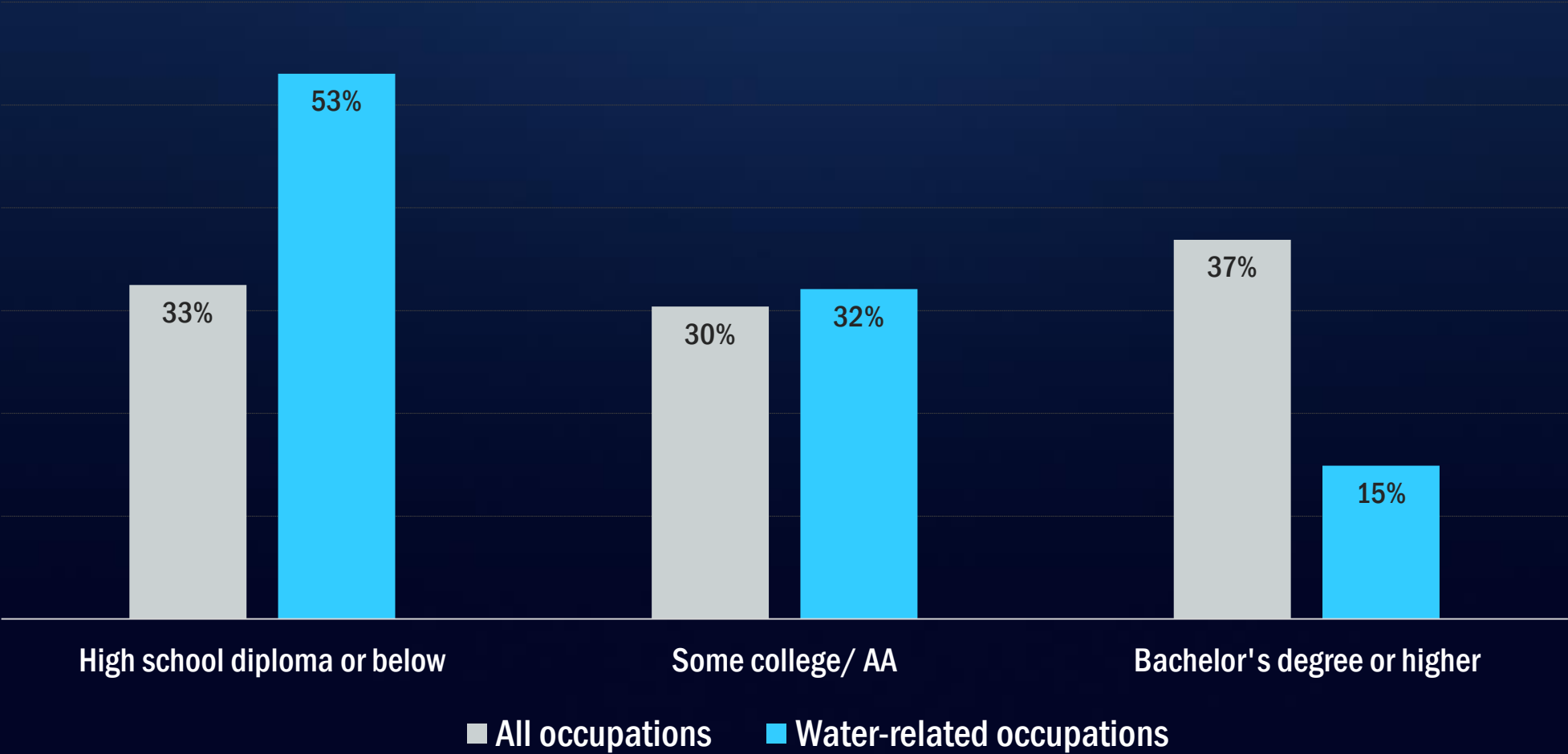


Finding 3

Most water workers need less formal education, including 53 percent having a high school diploma or less.

Water workers tend to need less formal education than all workers nationally

Levels of educational attainment for workers ages 25+, 2016



Source: Brookings analysis of ACS and EP data

Instead, water workers often need more **work experience** and **on-the-job training**

78%

Share of water workers needing
1+ years of related experience
2016

45%

Share of water workers needing
1+ years of on-the-job training
2016



Finding 4

Water workers tend to be **older** and lack gender and racial **diversity** in certain occupations.

The water sector lacks younger talent to replace an aging workforce

Median Age

46
years

Water Treatment
Operators

42
years

All Workers
Nationally

Share of younger workers (≤24 years of age)

10.2
percent

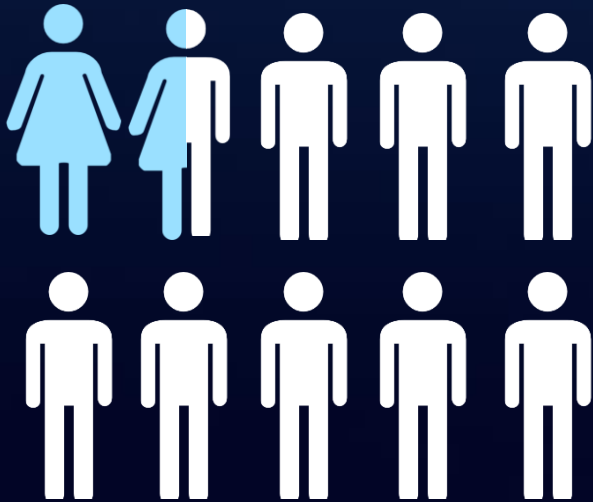
All Water
Workers

12.5
percent

All Workers
Nationally

Women are largely absent from the water workforce

15% female
All Water Workers

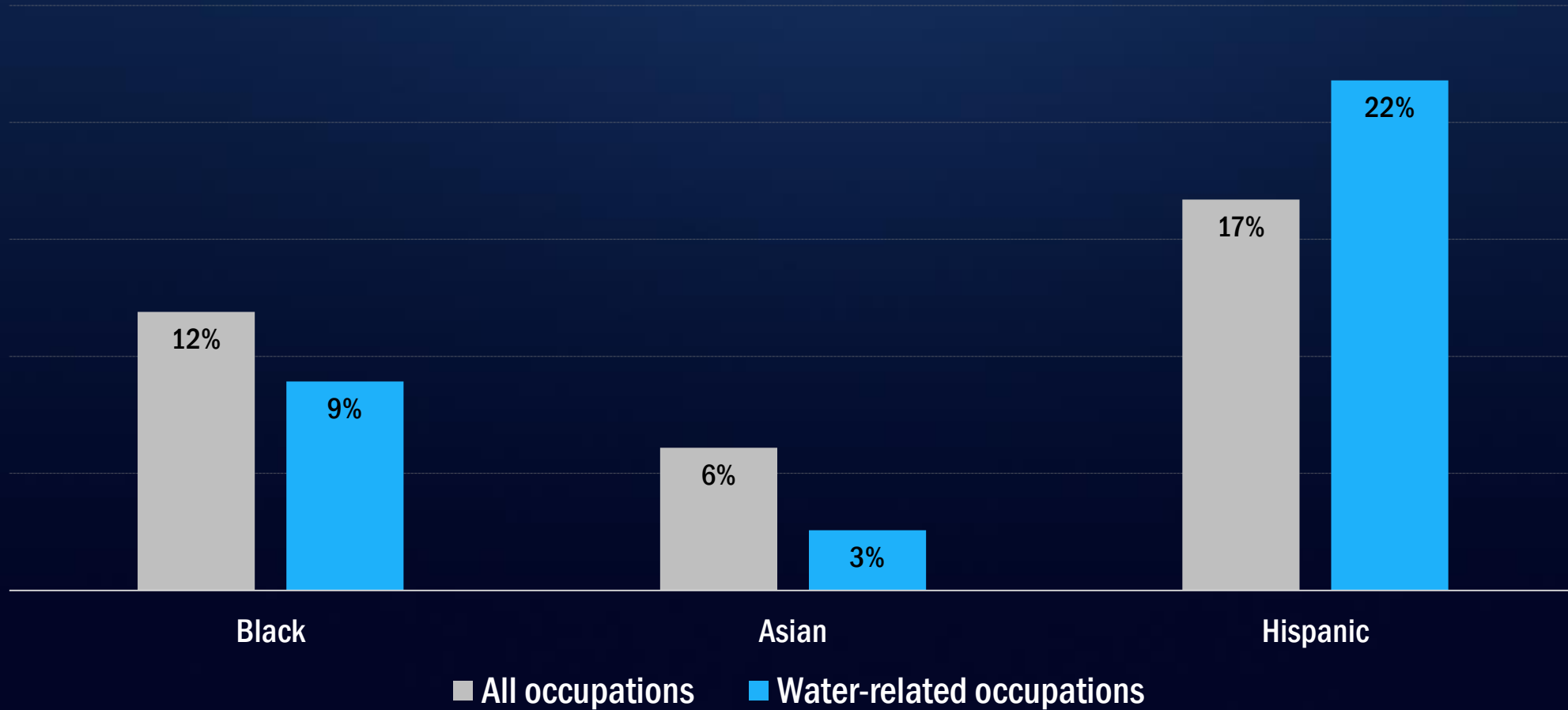


47% female
All Workers Nationally



Diversity is inconsistent across the water sector and in specific occupations

Racial diversity in water occupations compared to all occupations, 2016



A construction worker wearing a white hard hat and an orange safety vest is working on a large pipe in a trench. The worker is focused on the task, and the background shows the earthen walls of the trench under a clear blue sky.

Renewing the Water Workforce

Improving Water Infrastructure and Creating a Pipeline to Opportunity

BROOKINGS

Joseph Kane

Brookings Metropolitan Policy Program
jkane@brookings.edu

*Images courtesy Unsplash and Pexels
Icons courtesy Flaticons*

November 12, 2018

Committee on Water