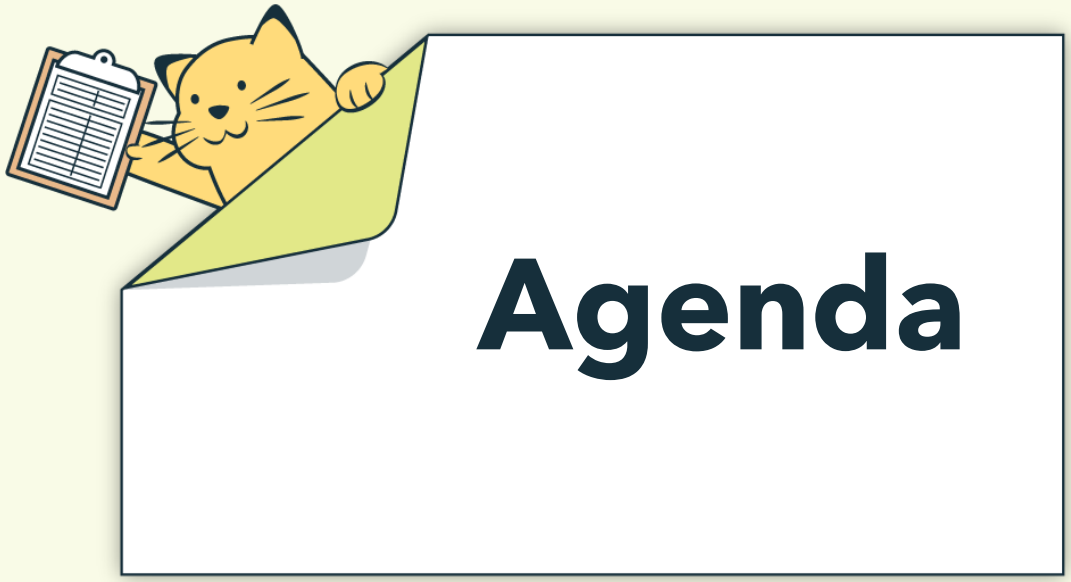
TRANSFORMING DENVER'S ENERGY LANDSCAPE

Nation's Largest Sewer Heat Recovery System
at National Western Center (NWC)

Brad Buchanan, CEO | National Western Center

Tim Kearns, VP & General Manager | CenTrio



Agenda

- ✓ Who's Who
- ✓ NWC Project Rundown
- ✓ NWC & CenTrio Partnership
- ✓ System Breakdown
- ✓ Ultimate Sustainable Solution

YOUR ESTEEMED PANEL

BRAD BUCHANAN

Chief Executive Officer
National Western Center Authority

Brad Buchanan is the CEO of the National Western Center Authority. Appointed in 2018, he is responsible for crafting the 250-acre National Western Center campus into a year-round, global destination for culture, entertainment, education and agribusiness innovation. Brad has extensive experience in planning, development, agriculture, community building, entrepreneurship and organizational leadership. An architect by trade, he served as Denver's planning director from 2014-2018 after working in design and construction in Denver for more than 25 years.

He and his family own and operate Flying B Bar Ranch in Strasburg, Colorado, where they raise grass-fed cattle.

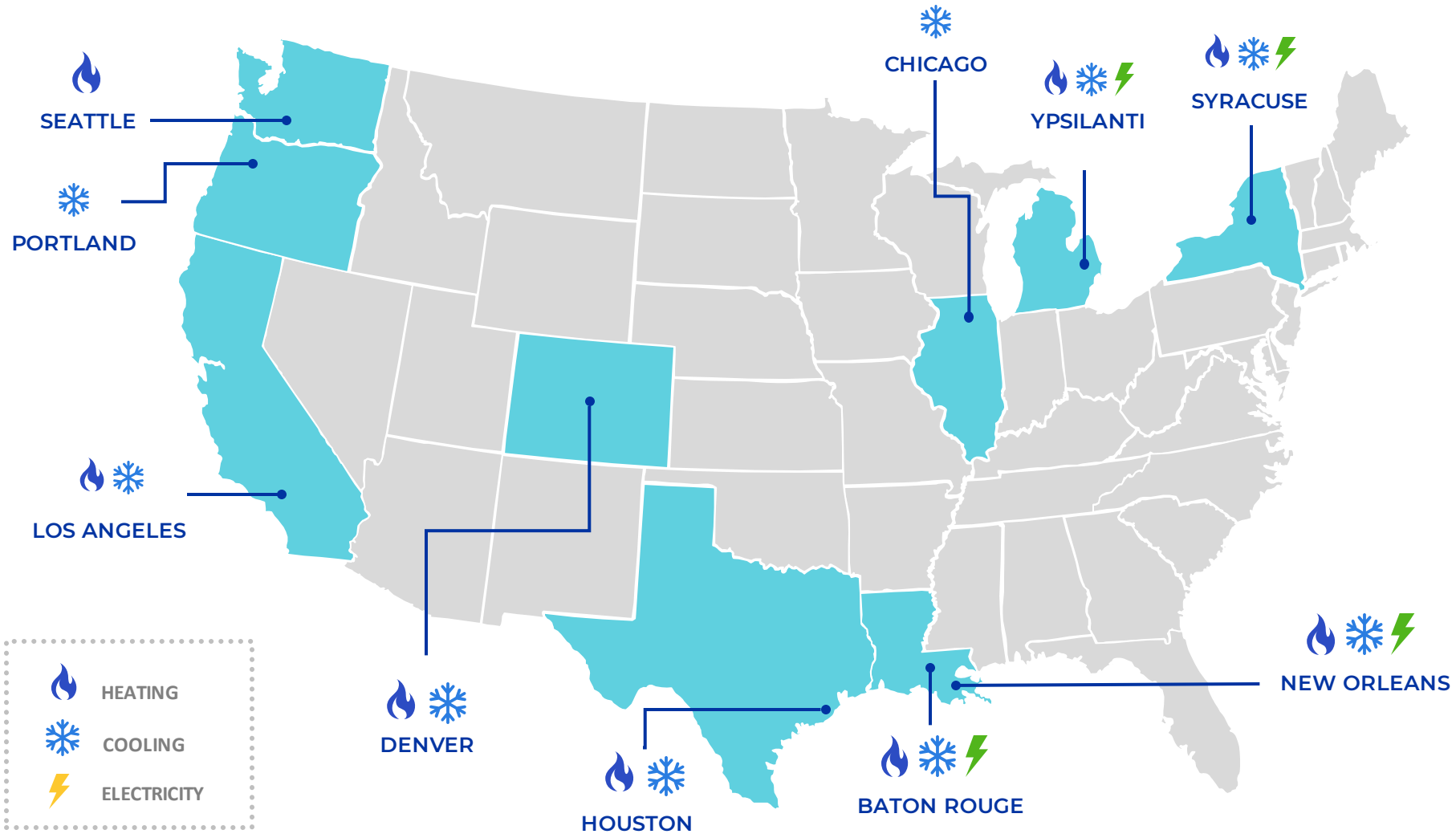
TIM KEARNS

VP & GM | Houston & Denver
CenTrio

Timothy (Tim) Kearns serves as the Vice President and General Manager for CenTrio Houston & Denver, overseeing all operational facets, while driving customer engagement and supporting business development initiatives. With a rich background spanning over 25 years in District Energy, Tim has been an integral part of the Houston operations and business development team, as well as third-party operations and maintenance. Before joining the Houston team in 2001, he spearheaded business development efforts for the district heating and cooling system in Kansas City, Missouri.

Tim is a proud graduate of St. Louis University, holding a Bachelor of Science degree.

CENTRIO FOOTPRINT



BY THE NUMBERS

- 200+ Employees
- 370+ Customers
- 140+ msqft Served
- 660 kton Cooling
- 1,300 kpph heating

NWC Project Rundown

NWC Project Overview

- CenTrio manages the design-build process, development of the O&M strategy, and provides 100% O&M services to the City of Denver under a **40-yr agreement for this $1 Billion Project**
- Redevelopment envisioned to convert the campus—from 94 acres that hosts the annual National Western Stock Show—**into a 250-acre** development used year-round as an economic, tourism and entertainment hub
- In 2018, CenTrio partnered with AECOM to form EAS Energy Partners (EAS), a consortium comprised of CenTrio, AECOM, and Saunders Construction, Inc. to design, construct, and operate an integrated campus energy system
- The NWC district energy system will be **~4 MW**, making it the **largest sewer-heat recovery district energy system in North America**.

The National Western Campus Master Plan

The NWC project was formed from a 2015 agreement signed between major partners including the City and County of Denver, Colorado State University and the Western Stock Show Association.

Programming partners include History Colorado and the Denver Museum of Nature and Science.

NWC + CenTrio Partnership

NWC + CENTRIO PARTNERSHIP ALIGNMENT

URBAN HUB FOR FOOD & AG DISCOVERY

In the Heart of the American West

A LOW CARBON & RESILIENT CAMPUS

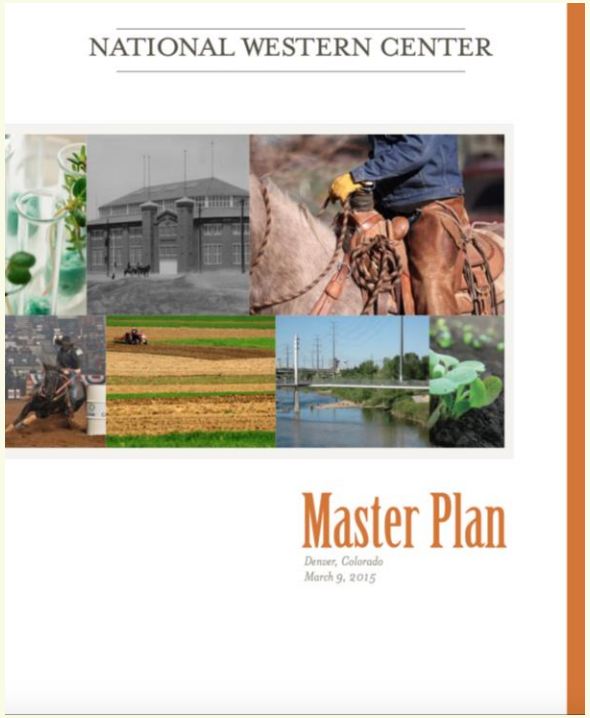
ENERGY EFFICIENT BUILDINGS
Prioritizing energy efficiency to achieve LEED Gold or above.

DISTRICT HEATING & COOLING USING SEWER HEAT RECOVERY
Utilizing wastewater thermal energy to heat and cool campus buildings efficiently.

RENENWABLE ENERGY
Goals for 100% renewable electric using a combination of on- and off-site sources. Includes 2 community solar gardens.

COMMUNITY RESILIENCY
Ensuring critical facilities have power, heating and cooling, even during extreme events.

A 100 YEAR VISION TURNED TO REALITY



100-YEAR REGENERATION JOURNEY

OUR JOURNEY TO SUCCESS

2015 – 2017	2018	2019	2020	2021	2022
DUE DILIGENCE	PROCUREMENT	PREDEVELOPMENT	DESIGN	CONSTRUCTION	O&M

NWC DISTRICT ENERGY COLLABORATORS

DESIGN AND CUP CONSTRUCTION

Start 04.01.21

SAUNDERS AECOM

CONTRACTED DISTRICT ENERGY PARTNER

EAS ENERGY PARTNERS

CAMPUS ENERGY AGREEMENT

40+2 yr fixed price Design, Build, Finance, Operate, Maintain (DBFOM) contract

THERMAL ENERGY PARTNER

METRO WATER RECOVERY℠

IGA

LAND AND BUILDING OWNER

DENVER THE MILE HIGH CITY

OPERATING AGREEMENT

CONTINGENT COMMITMENT AGREEMENT

Contingent credit support (loans) for revenue shortfalls to cover Authority energy costs.

NATIONAL WESTERN CENTER

Campus operator through 100-year master lease

CONSTRUCTION REIMBURSEMENT AGREEMENT

Fixed price contract to deliver pad and ambient pipe construction.

CenTrio

OPERATOR

Operations start 4/14/22

DENVER THE MILE HIGH CITY NWCO

PHASES I & II CONSTRUCTION PAD & PIPE CONSTRUCTION

OPERATING AGREEMENT

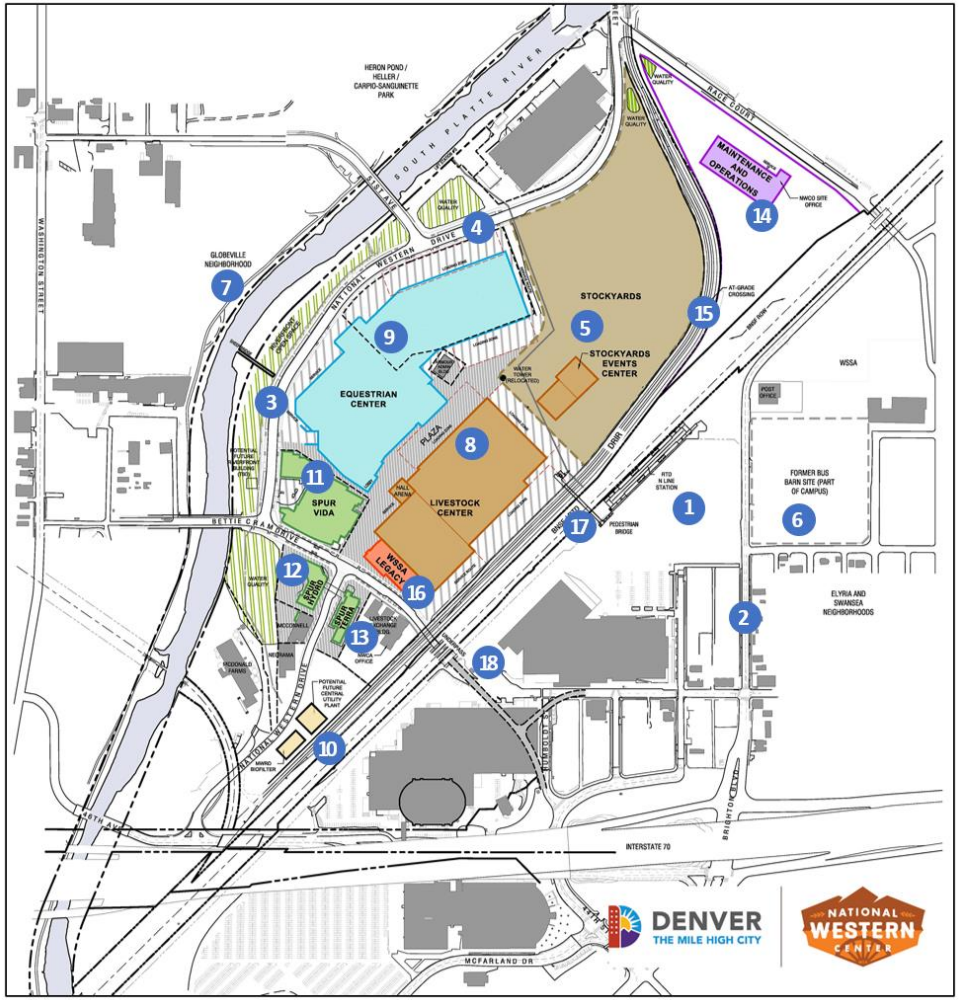
SPUR COLORADO STATE UNIVERSITY SYSTEM

FACILITY OWNER, ENERGY USER, RESEARCH/EDUCATION PARTNER

NATIONAL WESTERN Stock Show

FACILITY OWNER, ENERGY USER

NWC CAMPUS PLAN

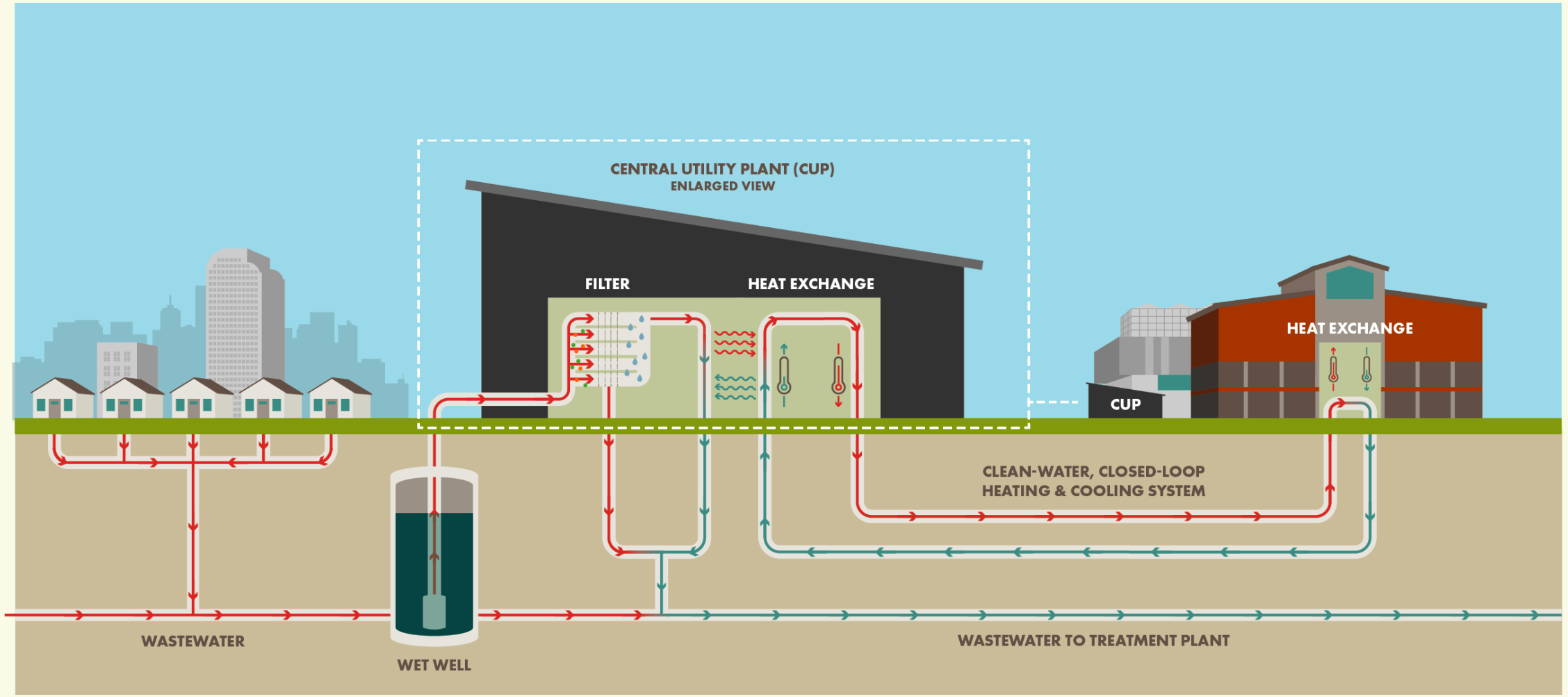


1. RTD Transit Station
2. Brighton Blvd. – 47th to Race Court
3. South Platte Riverfront
4. National Western Drive
5. Stockyards Event Center (multi-use space)
6. Campus-related transit-oriented development (TOD)
7. New Bridges near 48th & 51st Avenues
8. Livestock Center
9. Equestrian Center, Hotel & Parking
10. District energy system's Central Utility Plant (CUP)
11. CSU Spur: Vida (Health)
12. CSU Spur: Hydro (Water)
13. CSU Spur: Terra (Food)
14. Maintenance & Operations Facility
15. DRIR Rail Corridor
16. WSSA Legacy Building HQ
17. Pedestrian Bridge
18. The Triangle

System Overview

NWC - CENTRIO DENVER

Heating and Cooling Using a Recycled Source of Thermal Energy – Wastewater



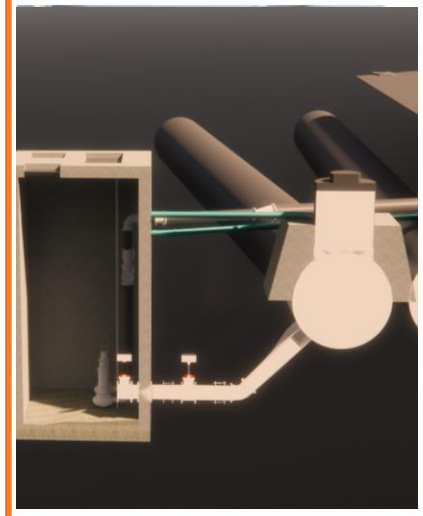
SYSTEM OVERVIEW

Closed Loop System Ensuring Increased Public Safety

SOURCE

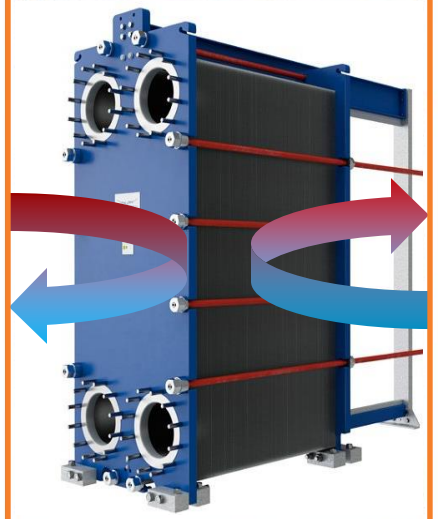
Wastewater pipeline runs at 60 – 75°F

SCREEN



Waste screening keeps out solids from closed loop system

EXCHANGE



Specialized heat exchanger transfers thermal energy to ambient piping loop

DISTRIBUTE

Underground ambient loop supplies temperate water to buildings at ~ 55 – 78°F

CONDITION

Building heat recovery chillers use ambient water to more efficiently produce hot and chilled water

The Ultimate Sustainable Energy Solution

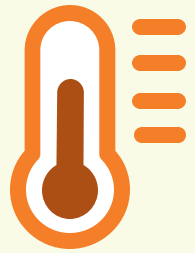
SUSTAINABILITY DELIVERED

Avoids 2,600 metric tons of CO_2 emissions each year, a **reduction of 70%**

Equivalent to 6.6 million vehicle passenger miles driven in Denver annually.

Saves 3,168 kgal of water each year, **an estimated 80%**

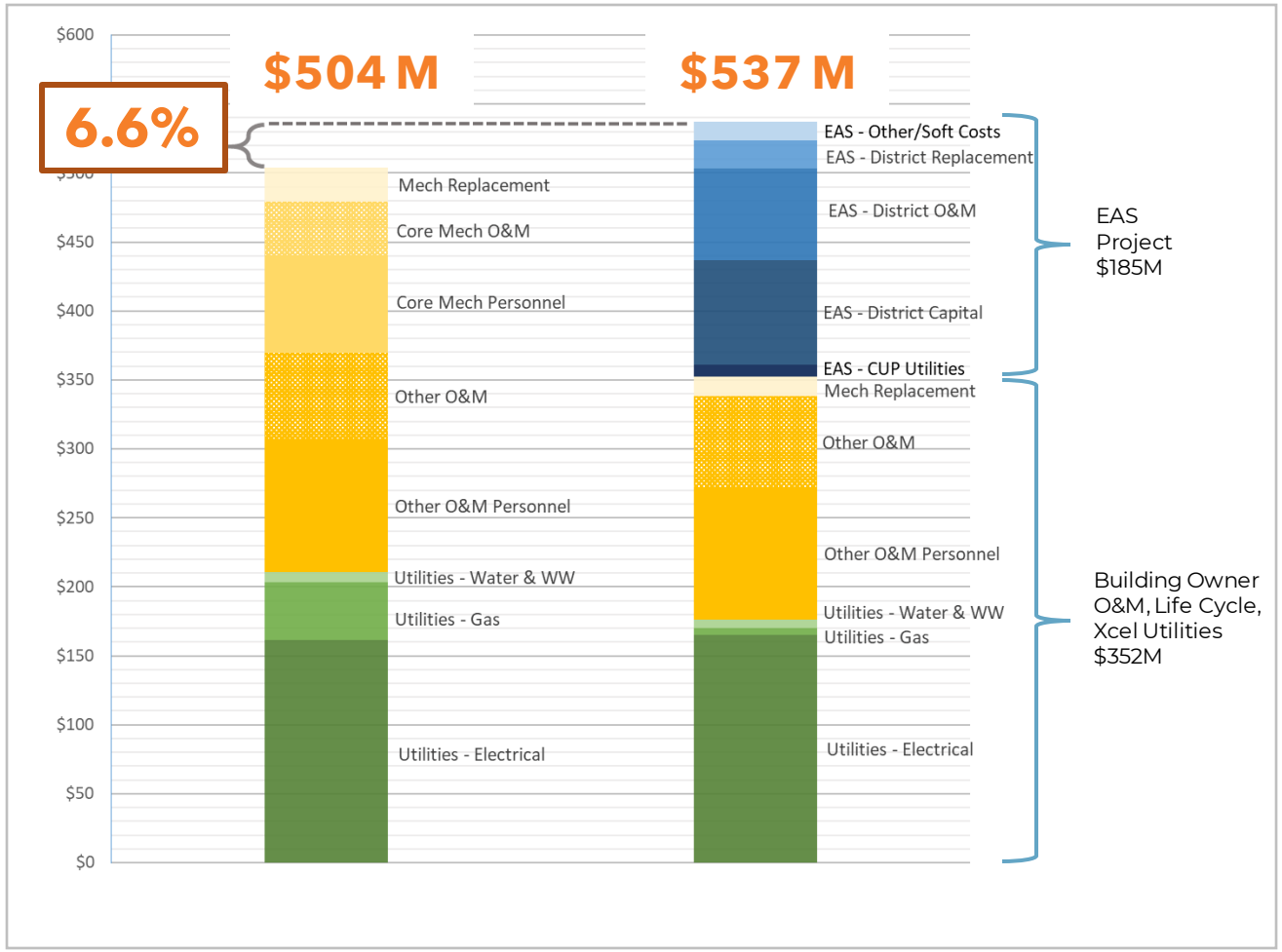
Equivalent to five Olympic-sized swimming pools each year.



Reduces wastewater effluent temperature by **1 degree F** to protect the Platte River.

COST OF OWNERSHIP COMPARISON

- Over the 40-year life of the agreement, the total cost of ownership for the NWC partners is roughly comparable to traditional systems
- Does not factor in regulatory or environmental changes which could make the system more cost effective over time



LONG-TERM OPERATIONS

- One of North America's largest district energy owners and operators
- Specialize in sustainable, low-carbon heating and cooling solutions
- On-site operators to ensure system reliability and efficiency
- 24x7 remote supervision
- Community engagement plan, commitment to community

CATALYST '24

Thank you!

BRAD BUCHANAN
Chief Executive Officer
National Western Center Authority

TIM KEARNS
VP & GM | Houston + Denver
CenTrio