

U.S. DEPARTMENT OF  
**ENERGY**

Office of  
**ENERGY EFFICIENCY &  
RENEWABLE ENERGY**

# Zero Energy Districts Accelerator

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# Zero Energy Districts Accelerator

Three year effort that brings together pioneering projects and national experts to encourage the expansion of ZE districts by identifying and tackling on-the-ground challenges and synthesizing and sharing solutions broadly.

**Vision** - Communities with energy efficient, resilient, cost-effective buildings and infrastructure are common throughout the U.S.

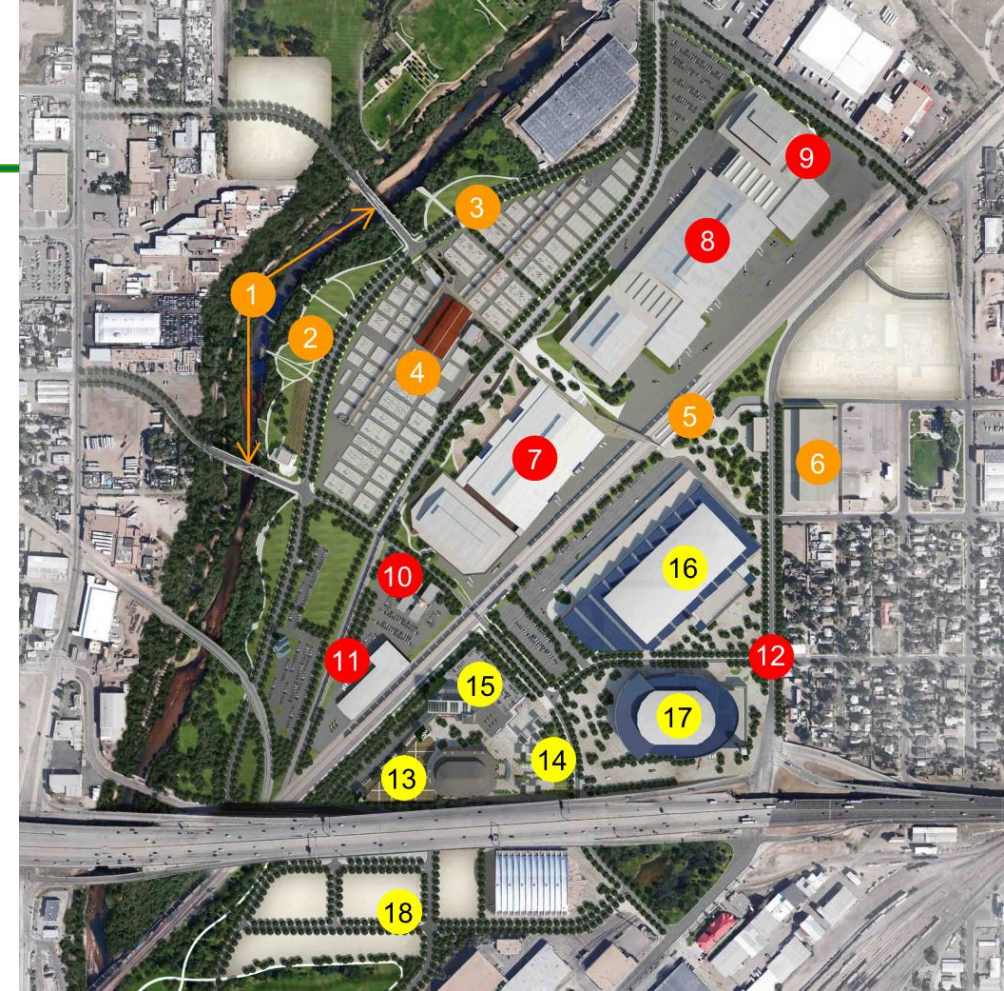
**Focus** - Support early adopters of ZE districts with master planning including goal setting, financial strategy, building and district systems, renewable integration, utility partnerships, and operations. Develop case studies, best practices, and pilot examples to support the replication of ZE districts.





# National Western Center, Denver, CO

- 250 acres / 2.9 million sq.ft. (initially)
- \$1 billion project
- Sport facilities, venues, expo halls, arenas, higher education buildings
- Mix of historic and new facilities
- 7-10 years to completion (estimated)
- Early partnership with CSU, DOE/NREL, utilities
- Opportunities for PV and sewer heat recovery
- Top challenges: Time, phasing, capital funding, expertise





# Saint Paul Ford Site Mixed Use Redevelopment

- 135 acres, mix of residential, commercial and civic buildings
- Preparation of site energy plan by 2018; site infrastructure development to begin in 2020; site build out 12-20 years
- Project is envisioned as a dense, urban village that becomes a model of sustainability in the nation.
- Top challenge: Create a market ready, net ZE district for adoption by the master developers
- Goals: Find market ready solutions for ZE district that can advance technically and financially in the marketplace in a manner that becomes a replicable model for other sites in the Midwest.





# Sun Valley EcoDistrict, Denver, CO

80 acre site, mixed use

- 1.5 miles from downtown Denver
- 1494 Residents
- Denver's lowest income neighborhood
- 25% vacant/underutilized land

## District Systems

- Thermal energy, including heating and optionally cooling
- Electricity, solar PV and or battery storage
- Potable water and greywater
- Wastewater services

## Social Impact Projects

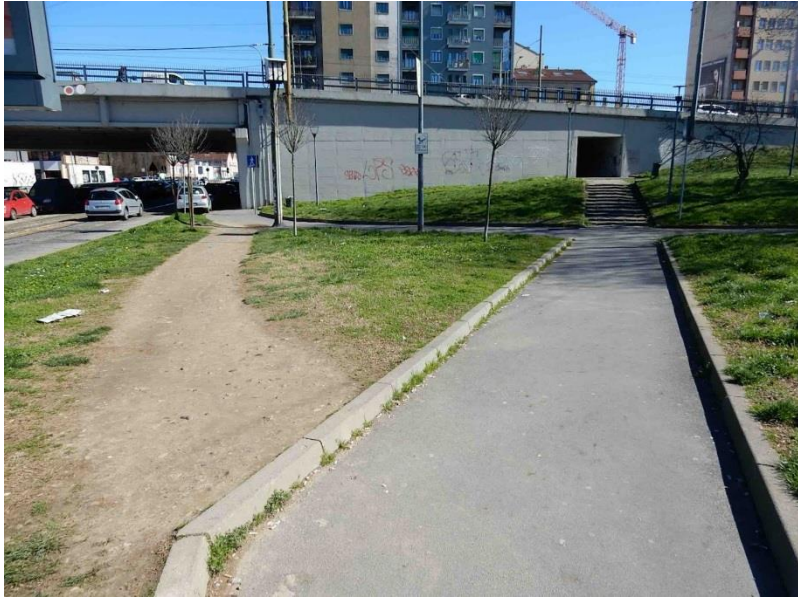
- Youth Hub
- International Food Market
- Mixed-Income Housing
- Community Office and Resource Center

## Top challenges

- Project scale, phasing
- On-going operation and governance model
- Resident and community benefit



# Challenges & Promising Practices



- Structuring finances, ownership and operations of district energy systems
- How to optimize balance of EE/RE/storage
- Moving from building level to district level opportunities/actions

- RFIs for utility energy service provider
- Zero energy lease language
- Integration of economic resiliency
- Low-income inclusion

