



# Sewer Heat Recovery

An innovative new renewable  
energy source for our community

Drew M. Thompson  
Project Manager  
Resource Recovery



**King County**

Department of Natural Resources and Parks  
**Wastewater Treatment Division**

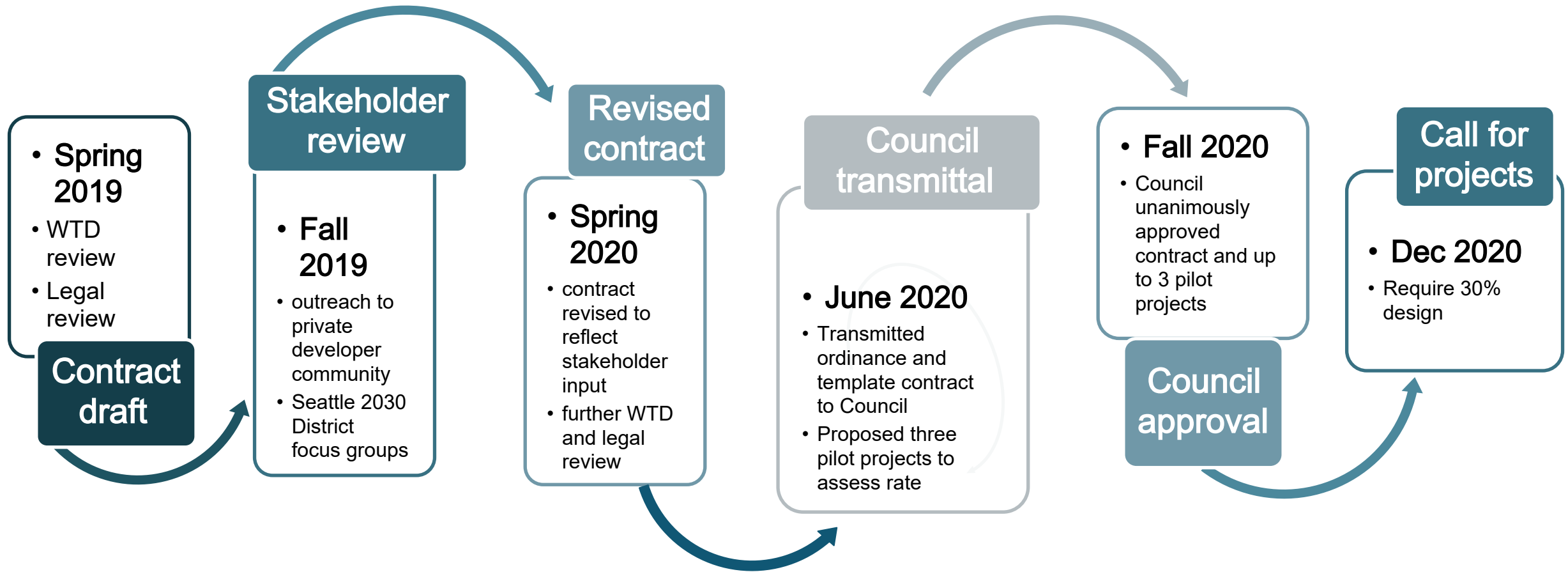


# Today's Agenda

- Why and how King County launched a Sewer Heat Recovery Pilot Program for private users
- Key components of user agreement & application
- How our utility reviews potential projects and works with users
- First pilot project

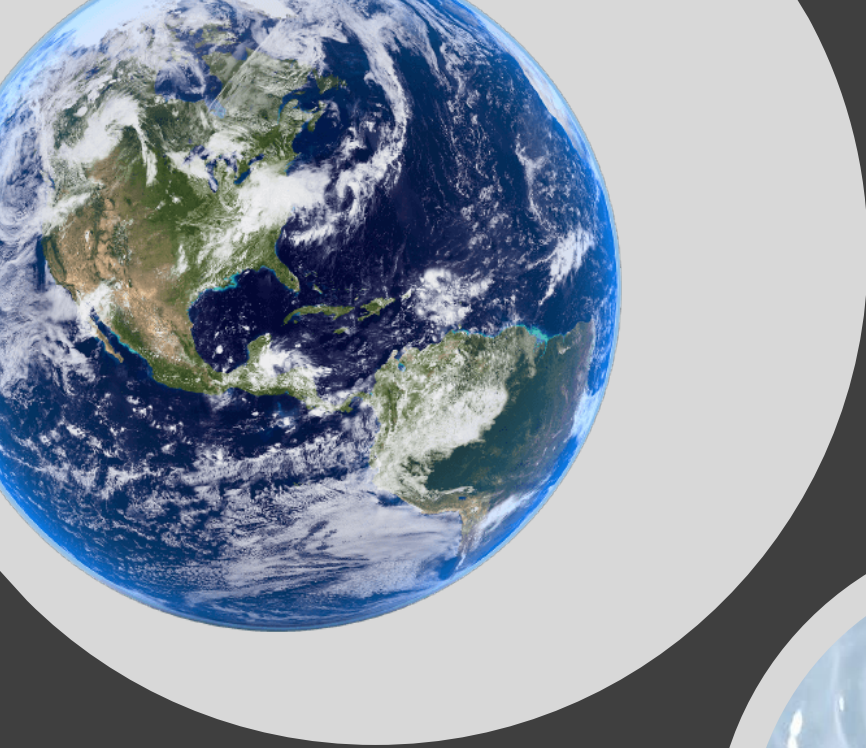


# KING COUNTY'S PROCESS



*Harnessing valuable resources that would otherwise be lost.*





## How does Sewer Heat Recovery help the environment?

- More efficient than generating new energy
- Enormous untapped energy resource
- 350 billion kWh discarded annually
- When used for cooling, can save water



# Why would developers be interested in Sewer Heat Recovery?

- Lower a property's carbon emissions and water use
- Meet stringent energy codes
- Leverage green building efforts to attract tenants, buyers, investors
- Financial incentives:
  - C-PACER
  - utility rebates
  - possible renewable energy credits



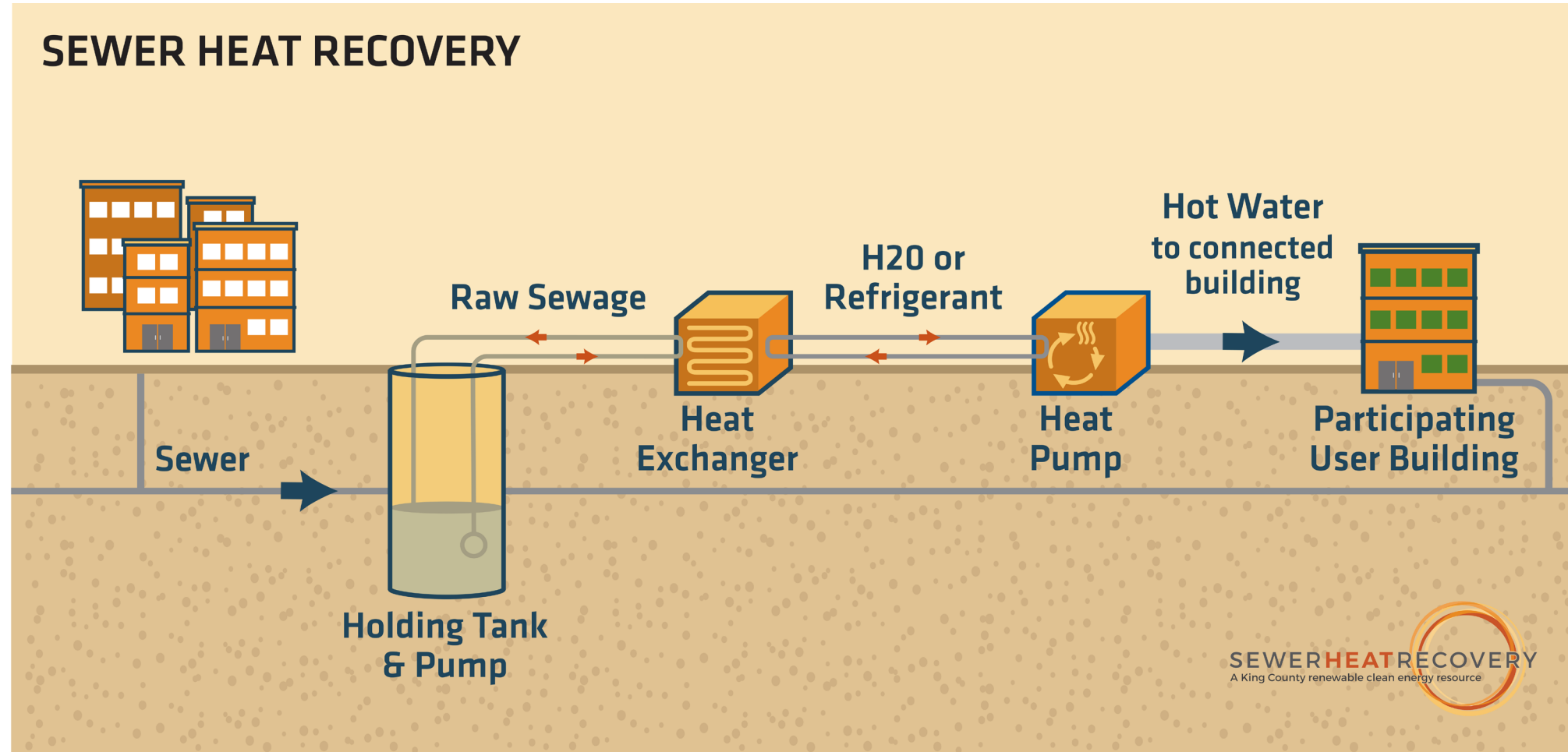


## Why would utilities be interested in Sewer Heat Recovery?

- Help your community lower its carbon emissions and potable water use
- Sharing resources that can benefit the overall public good
- User fees are potential new revenue source for utility
- Renewable energy credits are potential new revenue source for utility



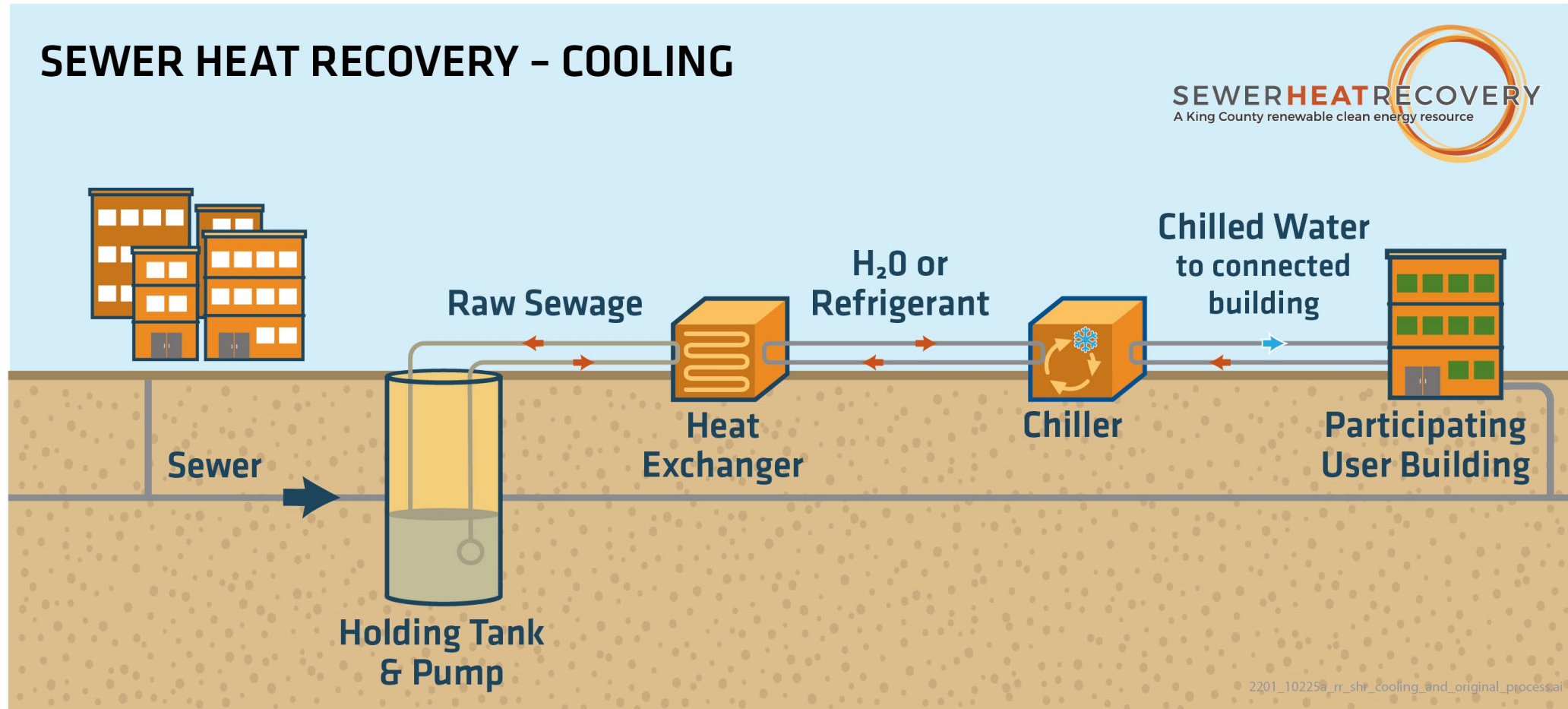
# HOW DOES IT WORK? HEATING



*Harnessing valuable resources that would otherwise be lost.*



# HOW DOES IT WORK? COOLING



*Harnessing valuable resources that would otherwise be lost.*



- **Help community lower carbon emissions**
- **Template contract to provide users with transparency and speed**
- **Reasonable compensation to ratepayers**

#### **GOALS**

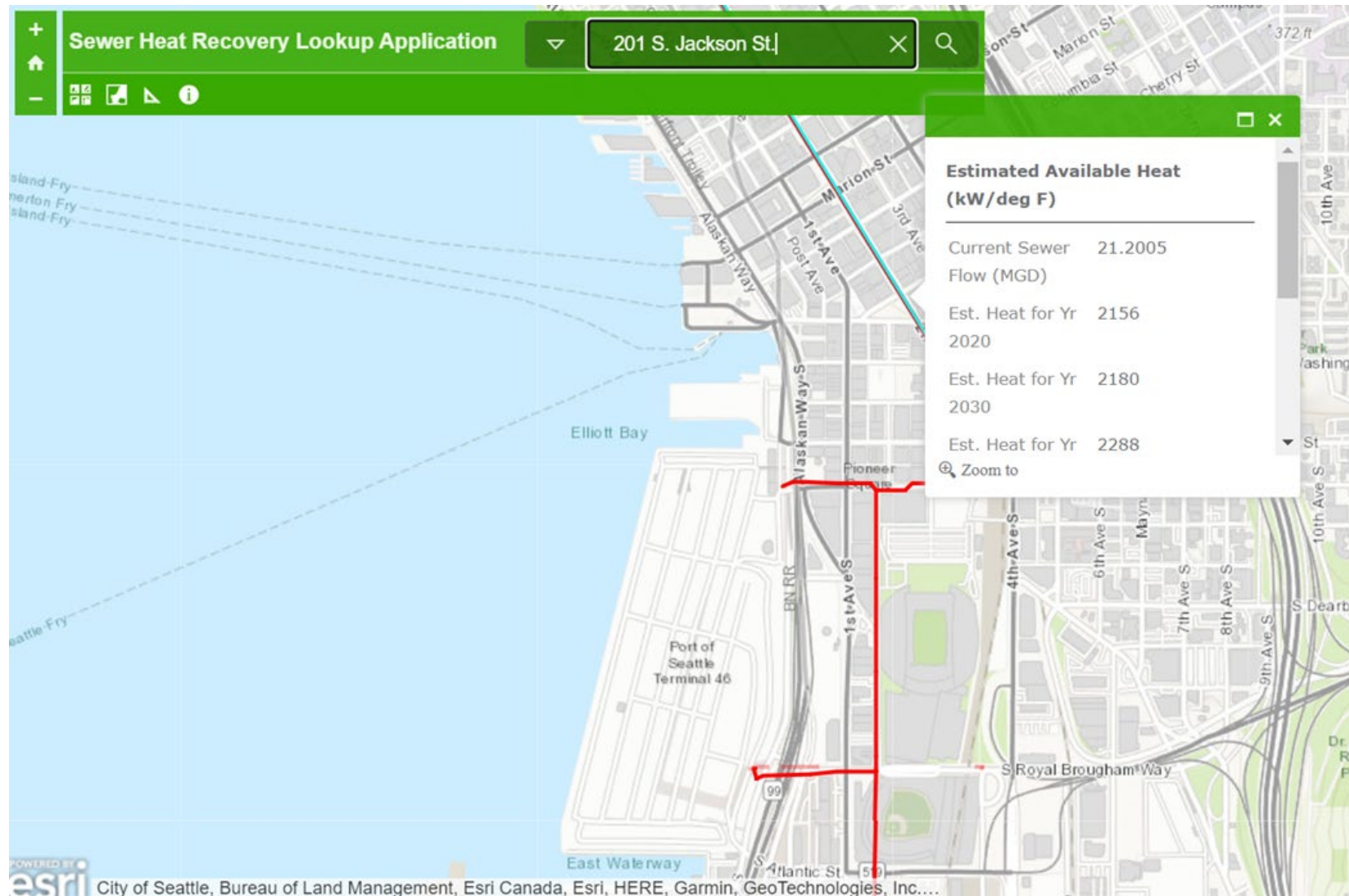


- **Wastewater conveyance and treatment is primary mission**
- **User bears all cost and risk**
- **Limited to three pilot projects to assess appropriate fee**

#### **COMMITMENTS**

## **King County Sewer Heat Recovery Pilot Program**

# HELPING USERS VET POTENTIAL



*Harnessing valuable resources that would otherwise be lost.*

- Term and milestone commitments
- Thermal use area
- User responsibility for design, construction, operation
- Wastewater treatment is priority

19161 - Attachment A

**AGREEMENT FOR SALE AND USE OF THERMAL ENERGY FROM KING COUNTY WASTEWATER**

This Agreement ("Agreement") is made as of the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ between \_\_\_\_\_, a (describe type of legal entity) hereinafter referred to as "Wastewater Thermal Energy User," and King County, a Home-Rule charter county and political subdivision of the State of Washington hereinafter referred to as the "County." Wastewater Thermal Energy User and the County may be collectively referred to as the "Parties" and individually as a "Party."

**RECITALS:**

WHEREAS, the County is the successor to Metro, a regional wastewater services provider whose regional wastewater service area includes King County and parts of Snohomish and Pierce counties; and

WHEREAS, the County owns and operates 390-plus miles of pipelines, trunks and interceptors that convey wastewater throughout the County's regional wastewater service area; and

WHEREAS, wastewater contains thermal, or heat, energy. Various technologies have been, and are being, developed that allow for the potential transfer of heat energy to or from wastewater pipelines to provide heating and cooling to individual buildings, neighborhoods, and/or communities; and

WHEREAS, the transfer of heat energy to or from wastewater reduces energy dependence on fossil fuels and is consistent with the County's mission of recovering resources from wastewater; and

WHEREAS, pursuant to RCW 35.58 the County may contract with private and public parties, and set the rates and charges, for the use of the County's regional wastewater facilities; and

WHEREAS, Wastewater Thermal Energy User plans to construct a (describe type of structure or neighborhood or district energy system) at (describe address and/or location(s)), hereinafter referred to as the "Project;" and

WHEREAS, Wastewater Thermal Energy User proposes to construct (describe proposal, e.g., a closed loop parallel or similar connection to the County's) (name County facility where connection will be made) \_\_\_\_\_ for the purpose of transferring heat energy to or from the County's wastewater; and

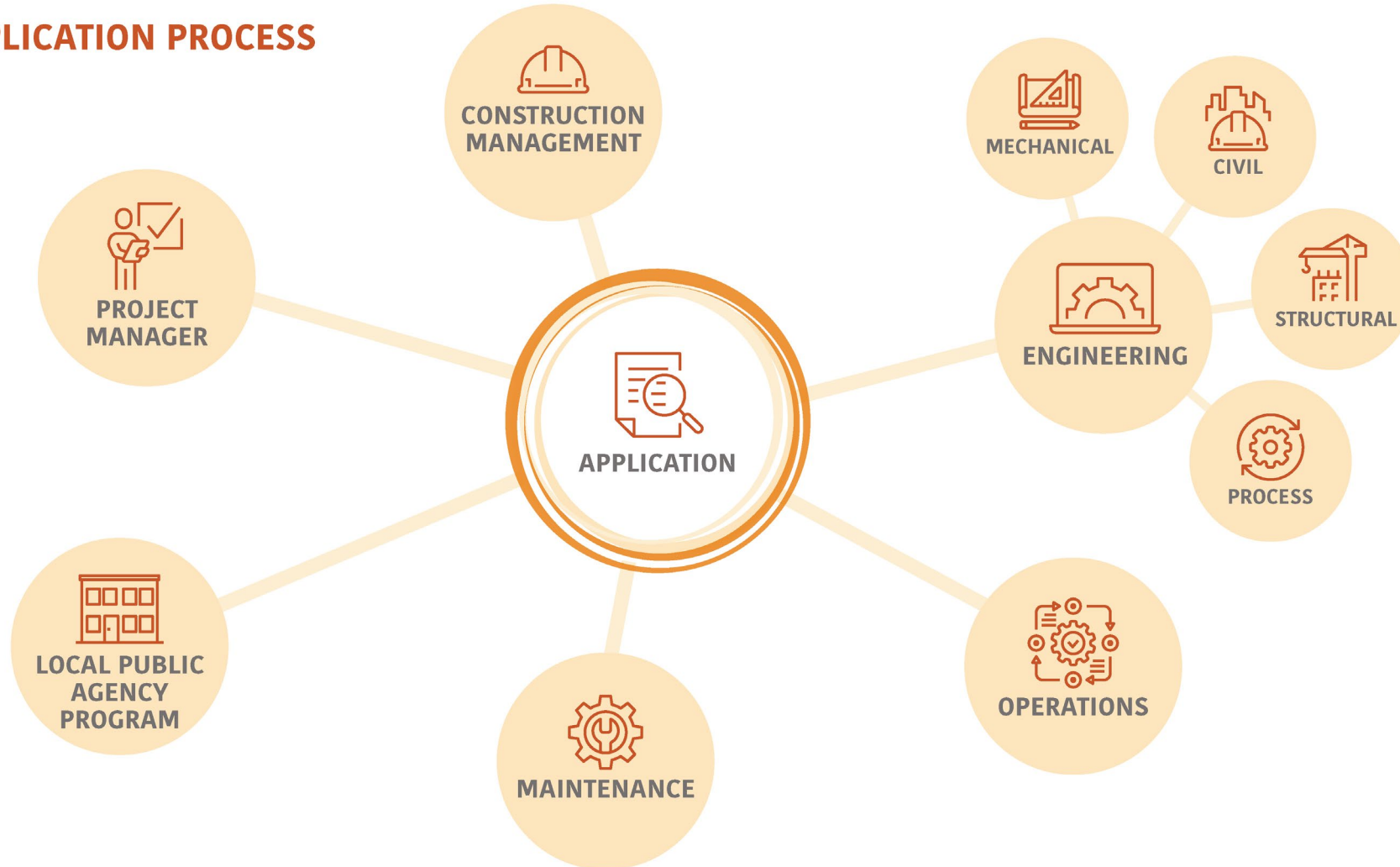
- User reimburses for utility staff costs
- User pays fee for energy transferred
- User shares half of any renewable energy credit revenue

## User Agreement



# ROBUST APPLICATION REVIEW PROCESS

## APPLICATION PROCESS



2310\_13369a\_application\_process\_graphic.ai

*Harnessing valuable resources that would otherwise be lost.*

# FIRST PILOT PROJECT



**King County**

Department of Natural Resources and Parks  
**Wastewater Treatment Division**

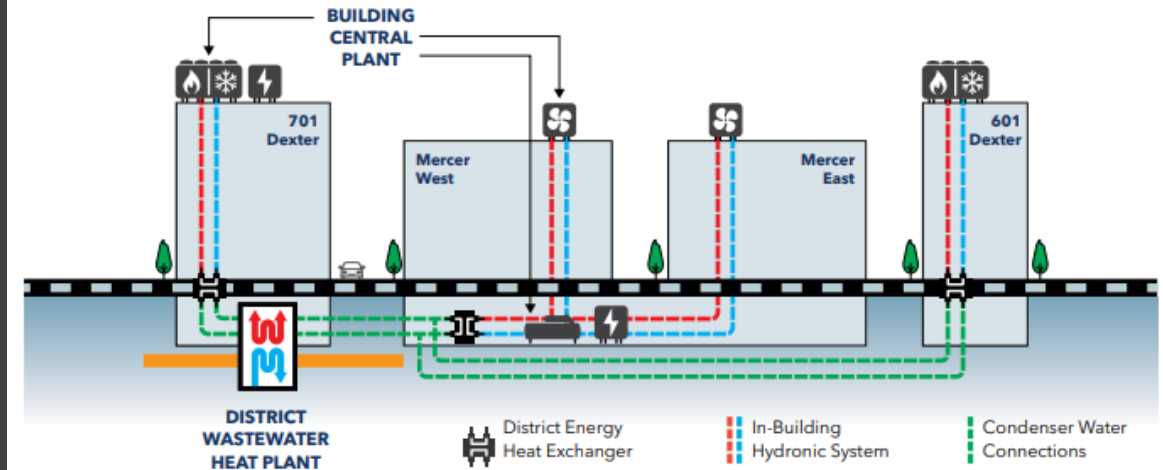


ALEXANDRIA®

- 70% of campus heating from sewer heat recovery
- 99% lower carbon emissions anticipated compared to typical laboratory building
- Four buildings on system = 1.3 million square feet
- One of two largest systems in the U.S.
- Closed loop system for heating
- King County's sewer line was successfully tapped July 2023
- ARE's construction of campus is ongoing

## Alexandria Center® for Life Science – South Lake Union

SOUTH LAKE UNION ENERGY DISTRICT







# Questions?

Drew M. Thompson – Project Manager  
[drthompson@kingcounty.gov](mailto:drthompson@kingcounty.gov)

[www.KingCounty.gov/SewerHeatRecovery](http://www.KingCounty.gov/SewerHeatRecovery)

**SEEKING TWO ADDITIONAL PILOT  
PROJECTS**



**King County**

Department of Natural Resources and Parks  
**Wastewater Treatment Division**

