A photograph of a fenced-in area, possibly a sports field or industrial site. In the foreground, a manhole cover is visible on the ground, with a plume of white steam or smoke rising from it. The background shows a chain-link fence and some buildings or structures. The overall tone is somewhat desaturated and has a slightly grainy texture.

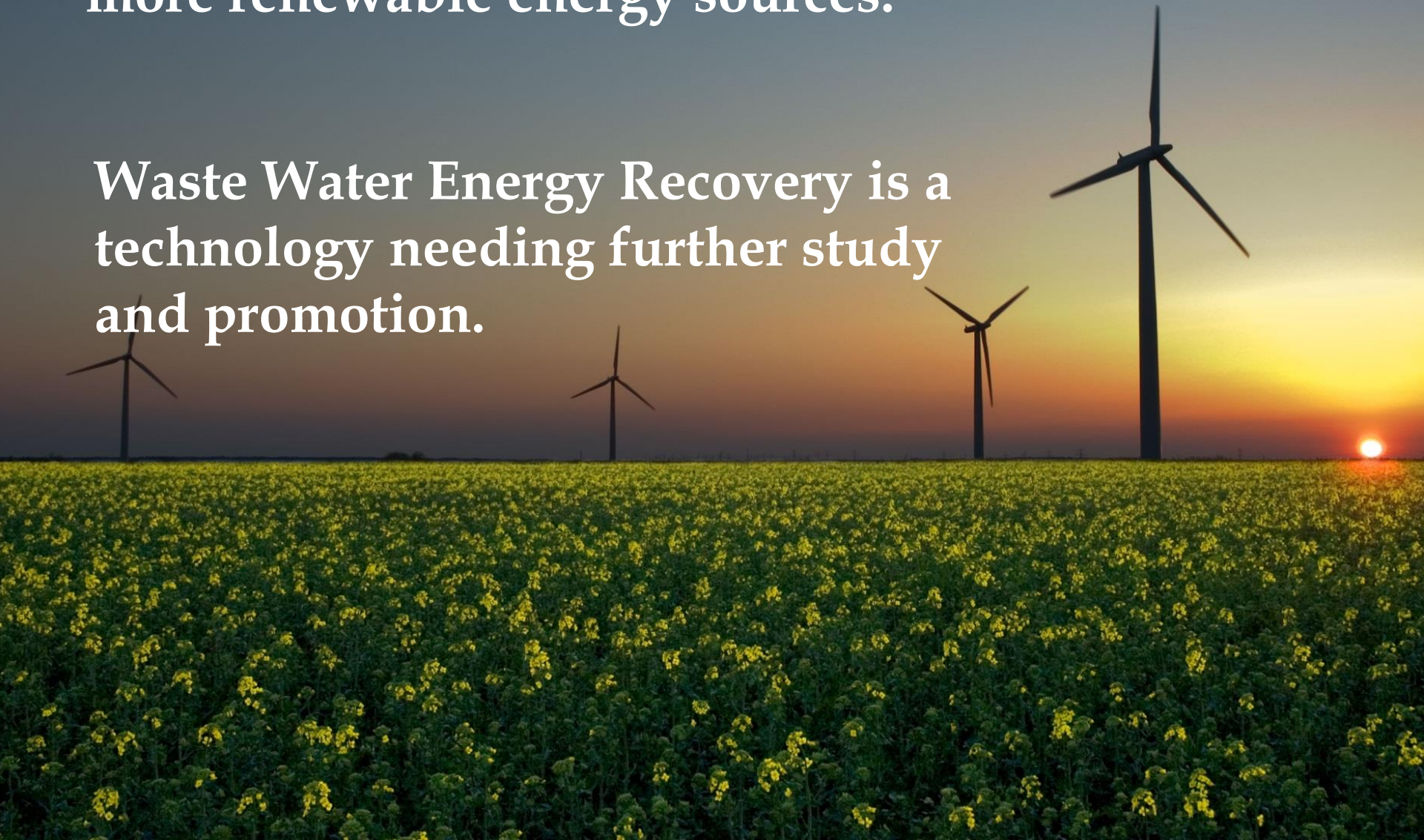
A Study of WASTE WATER ENERGY RECOVERY

and its implementation
Climate change, a problem
in the
partially due to greenhouse
Commonwealth of
gases in our atmosphere, has
Massachusetts
severe consequences for our
environment. The use of
renewable energy sources can
reduce these emissions.

Erica Parker, Aimee St. Germain, Elise St. Laurent

The Massachusetts Department of Energy Resources is looking for more renewable energy sources.

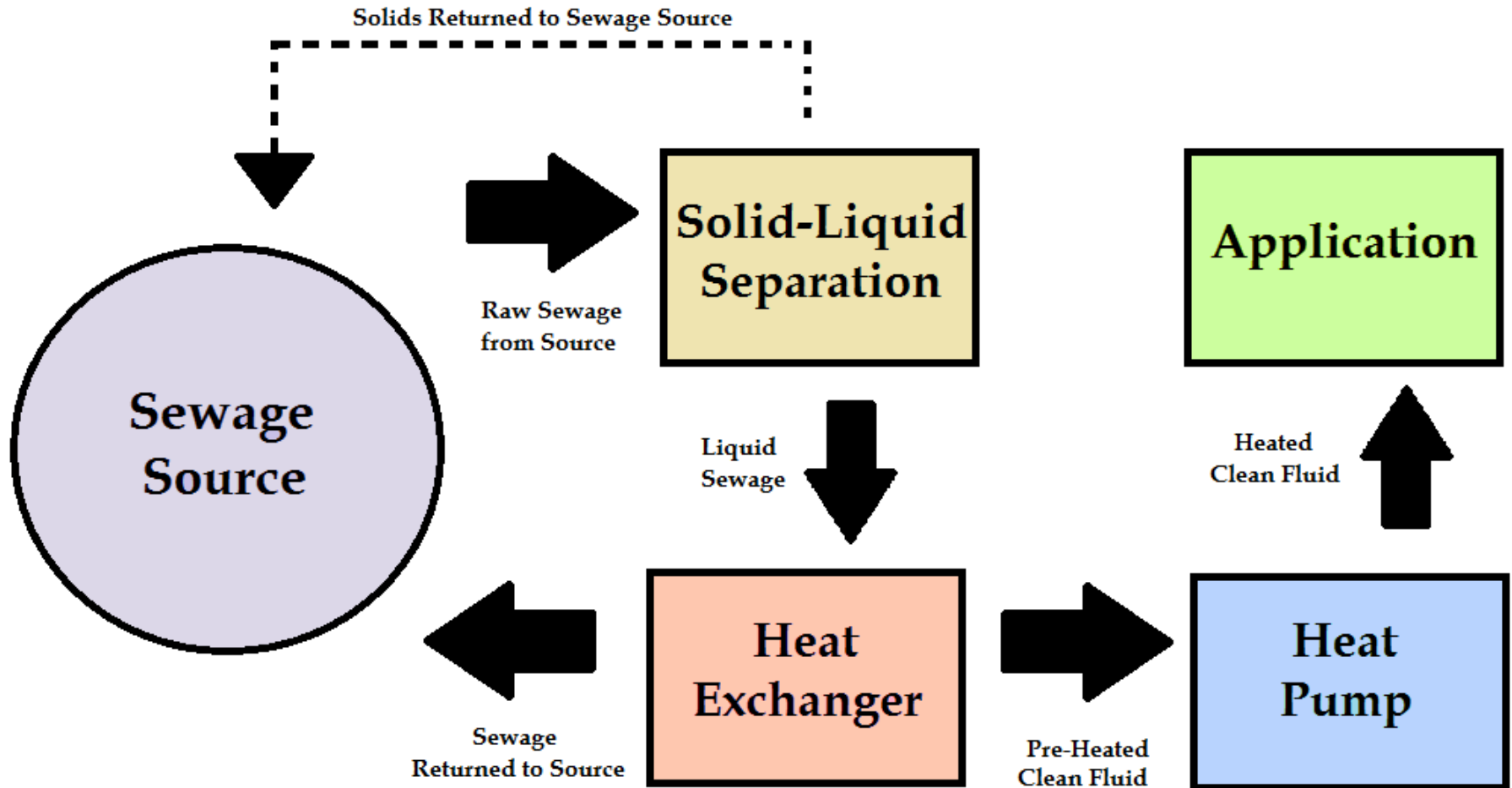
Waste Water Energy Recovery is a technology needing further study and promotion.



Project Goal

Increase the availability of green energy technologies in the Commonwealth of Massachusetts through the promotion of waste water energy recovery technology.

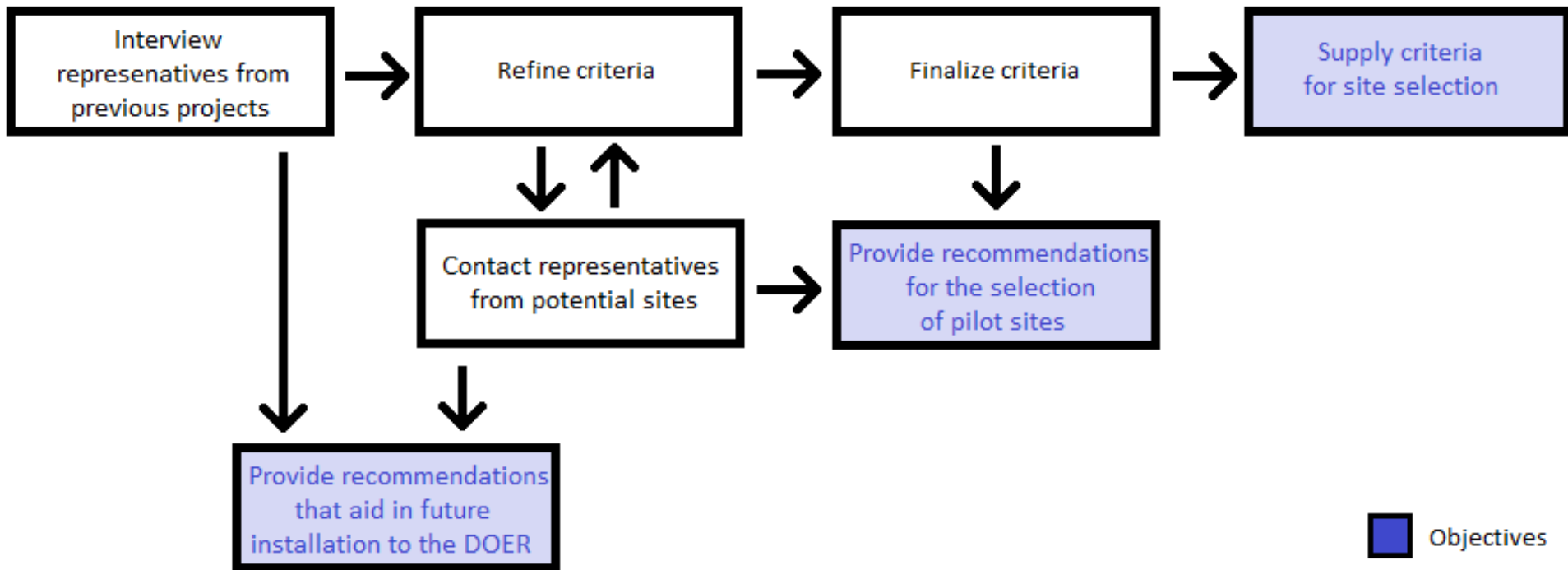
WWER SYSTEM DESIGN



Project Objectives

- 1. Develop criteria for identifying and selecting high potential sites of implementation of WWER.**
- 2. Propose a process for the selection and installation of pilot sites for WWER within the Commonwealth of Massachusetts.**
- 3. Identify strategies for the future installation of WWER technology within the Commonwealth.**

Methodology



Vendors

International Waste
Water Systems (1)

HUBER (3)

NovaThermal (1)

Hidden Fuels (1)

Previous Sites

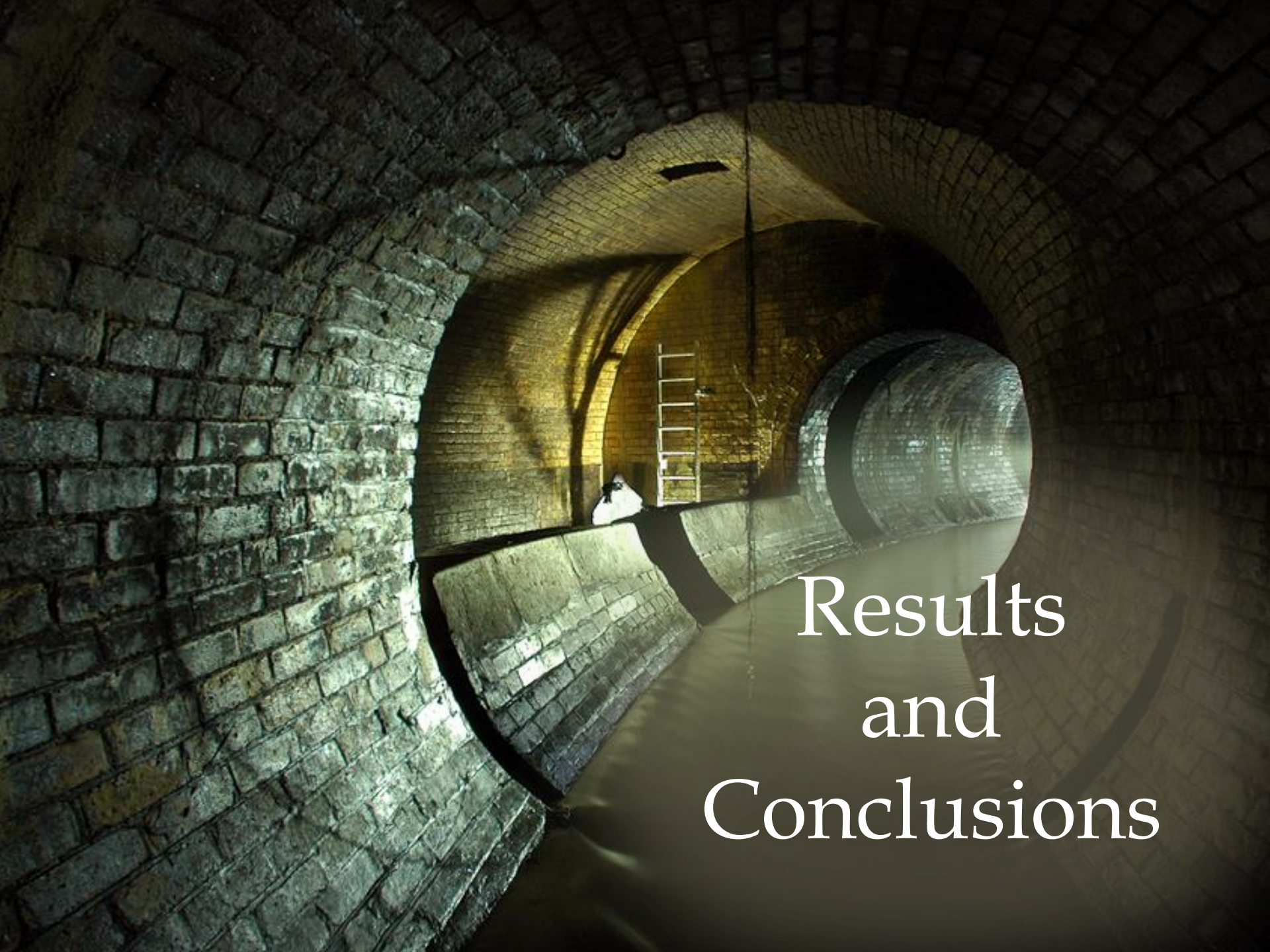
Correspondence with
Philadelphia (1)

Kent County (1)

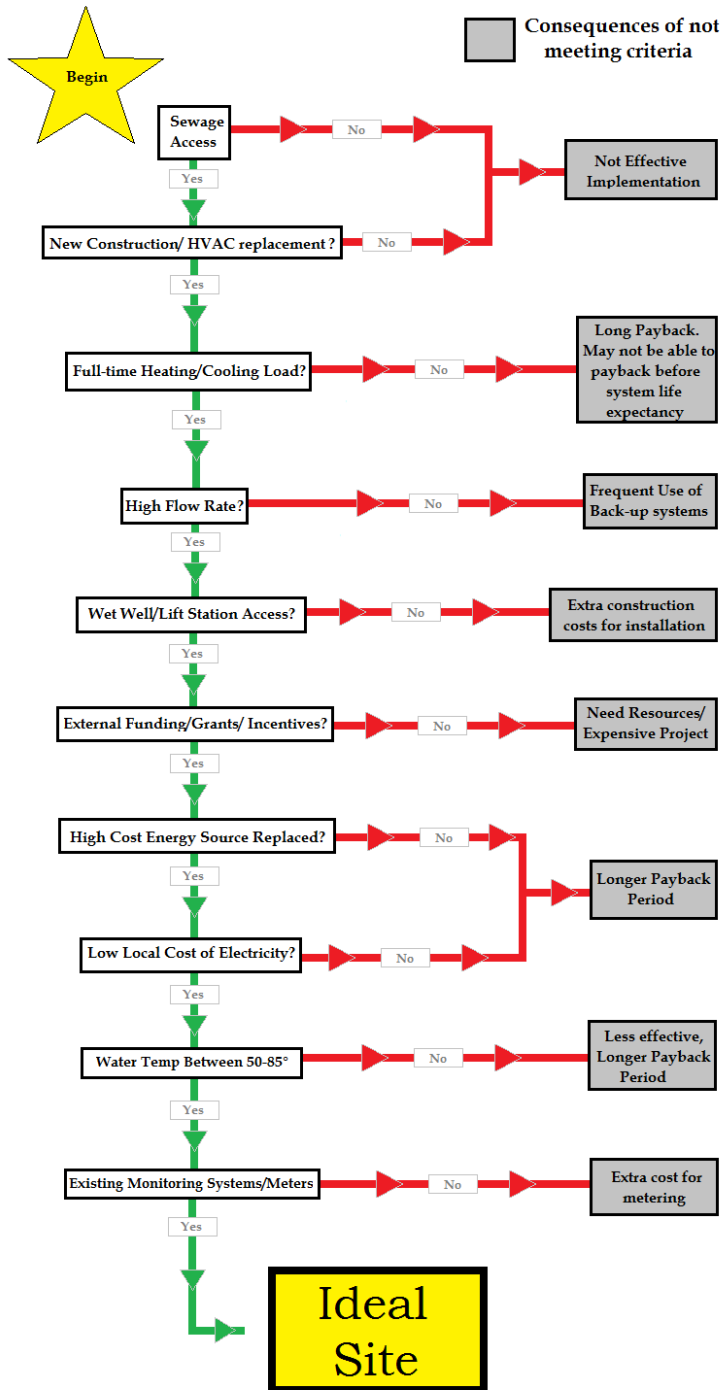
WWTP Representatives

MWRA (5)

Interviews

A photograph of a large, arched stone tunnel. The walls are made of dark, rough-hewn stone blocks. The tunnel is illuminated from the left, creating a strong shadow on the right wall. In the distance, a person wearing a white protective suit is visible, standing near a wooden ladder leaning against the wall. The perspective is from the entrance of the tunnel, looking down its length.

Results and Conclusions

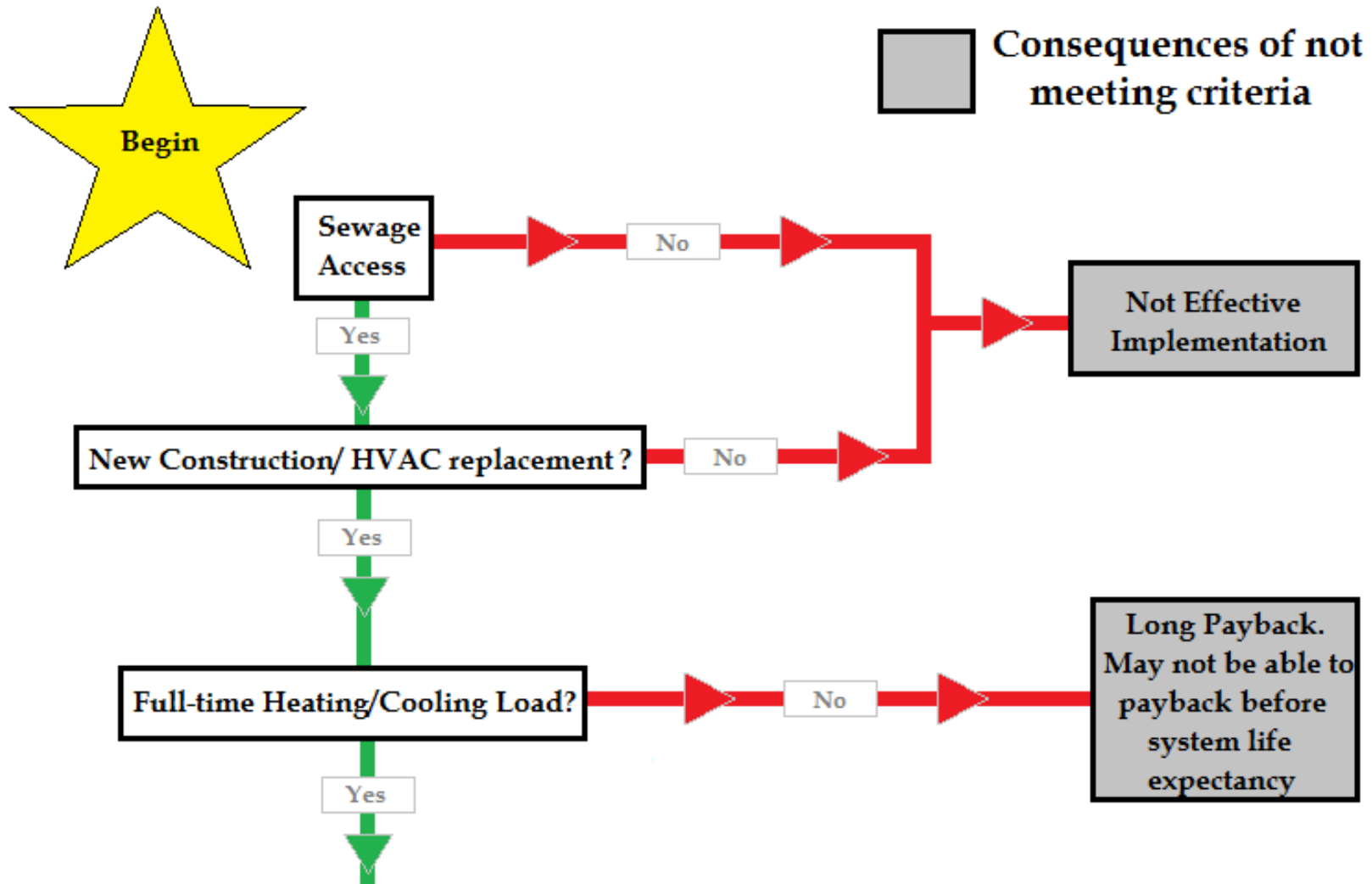


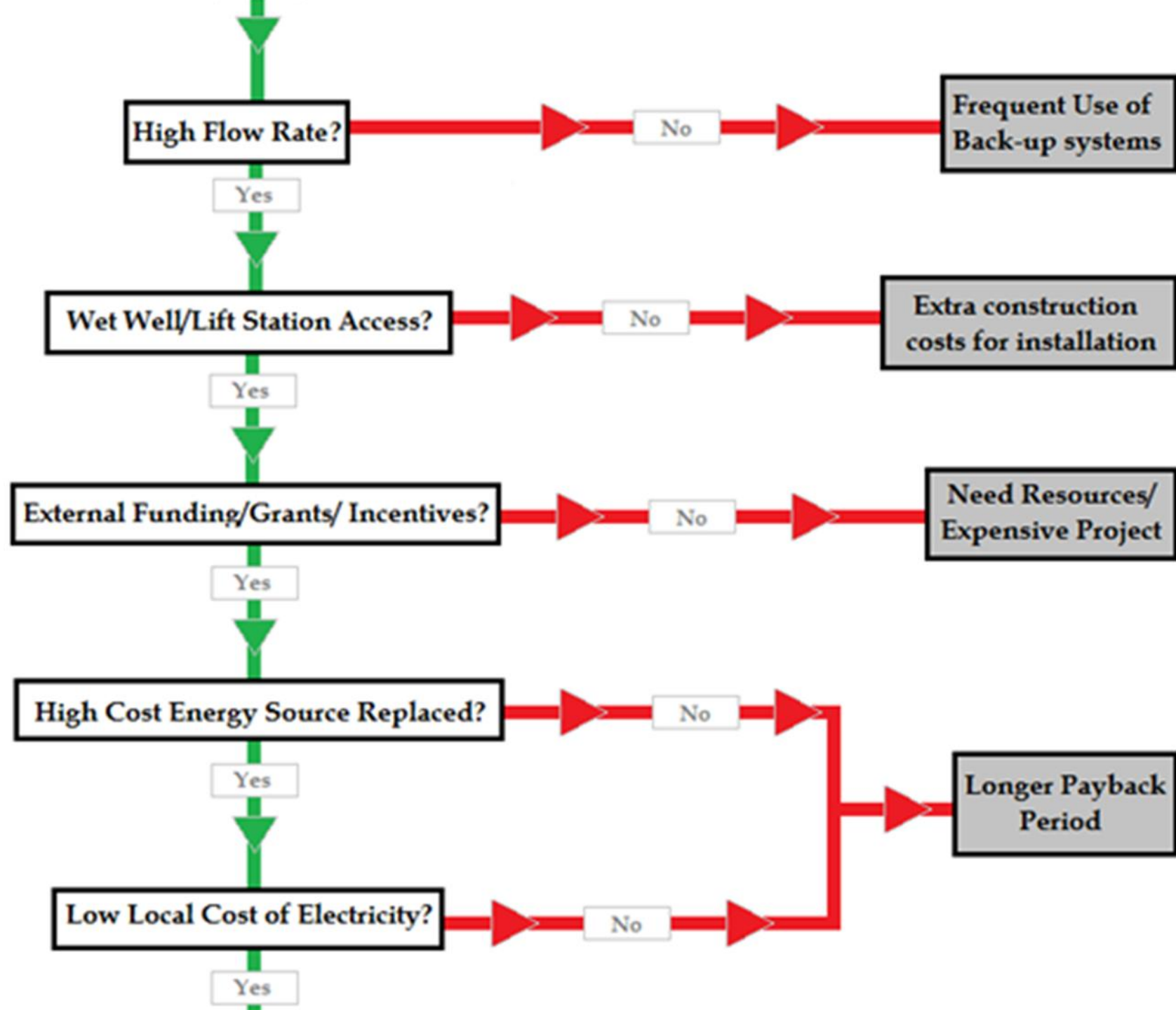
Criteria Flow Chart

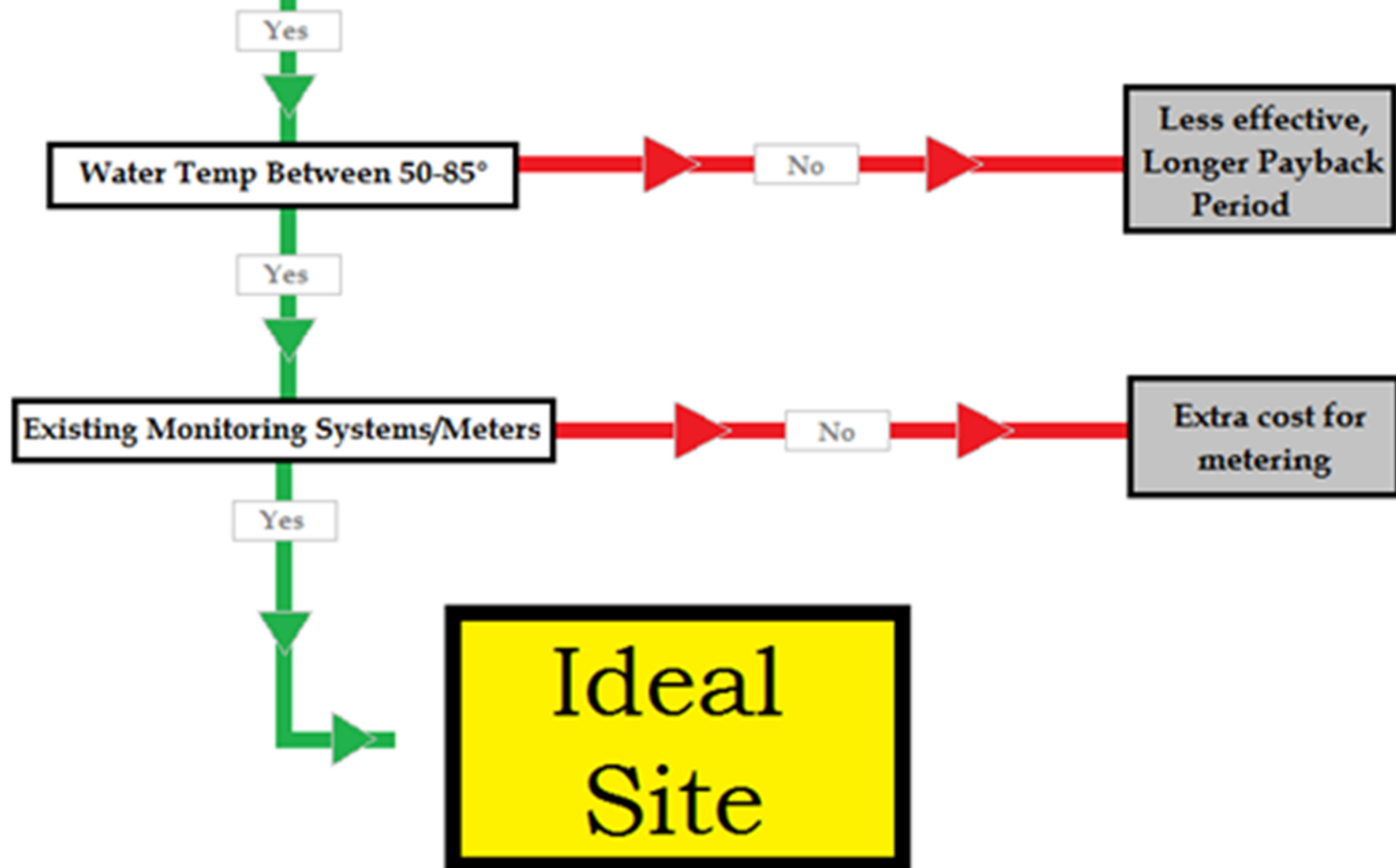
Objective 1

- Project Deliverable
- Developed as a result of compilation of research
- Used to evaluate site potential

Criteria

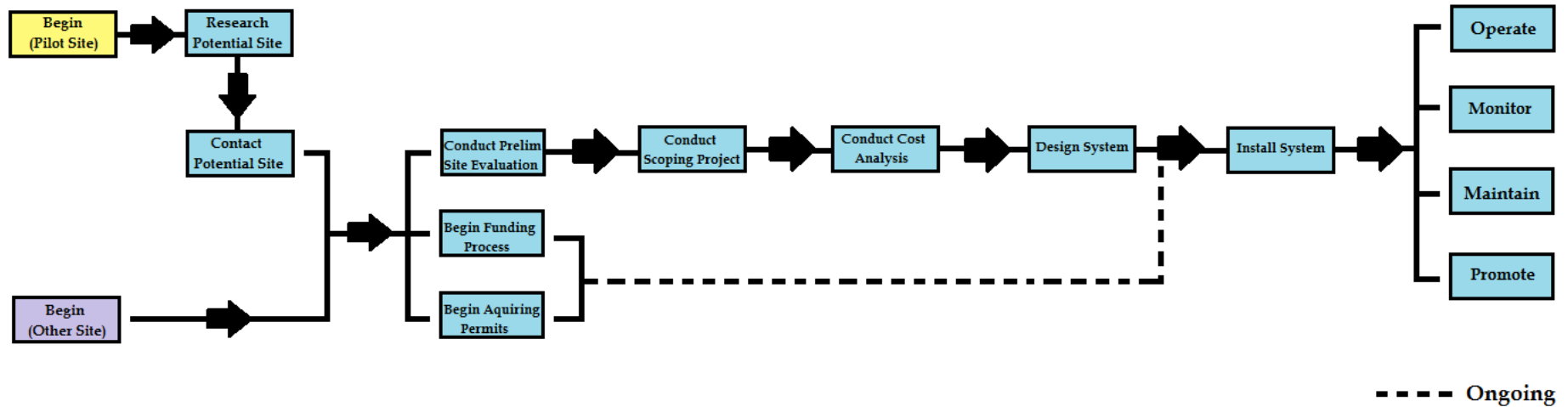


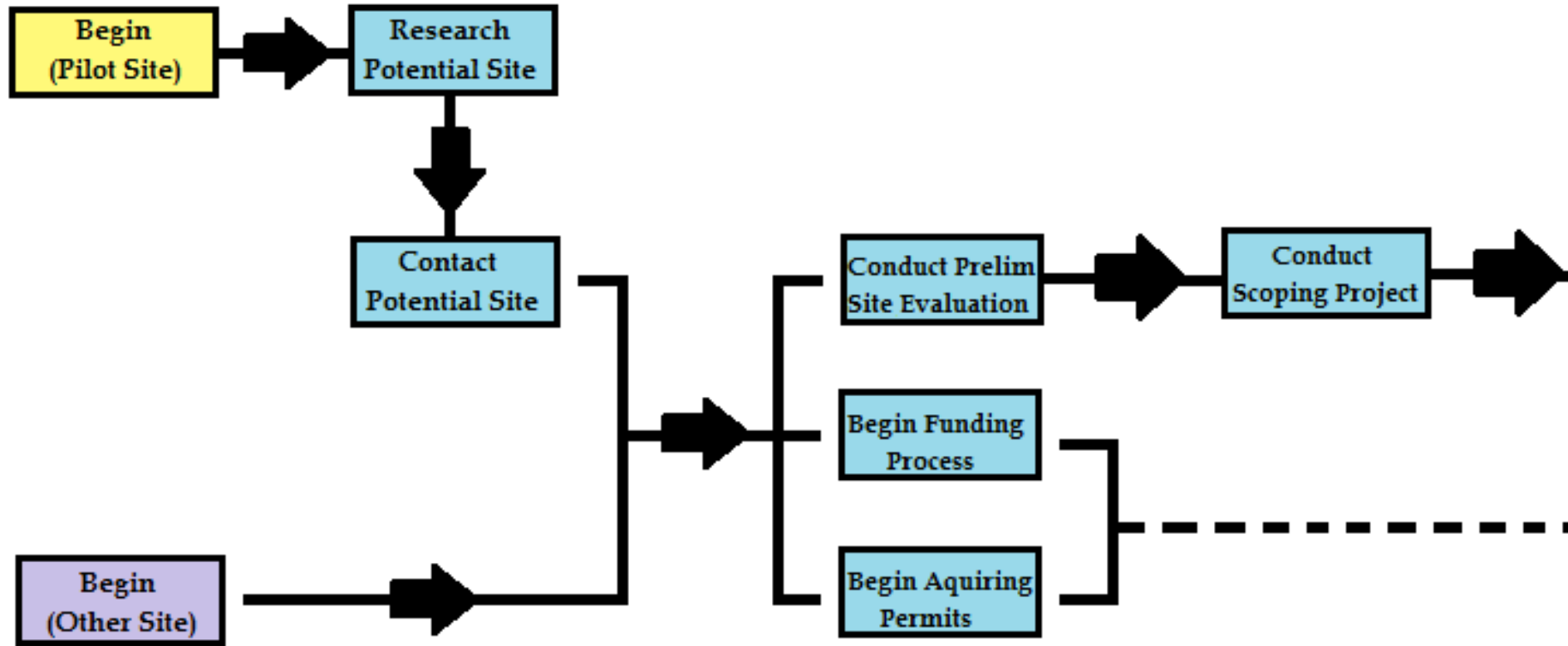




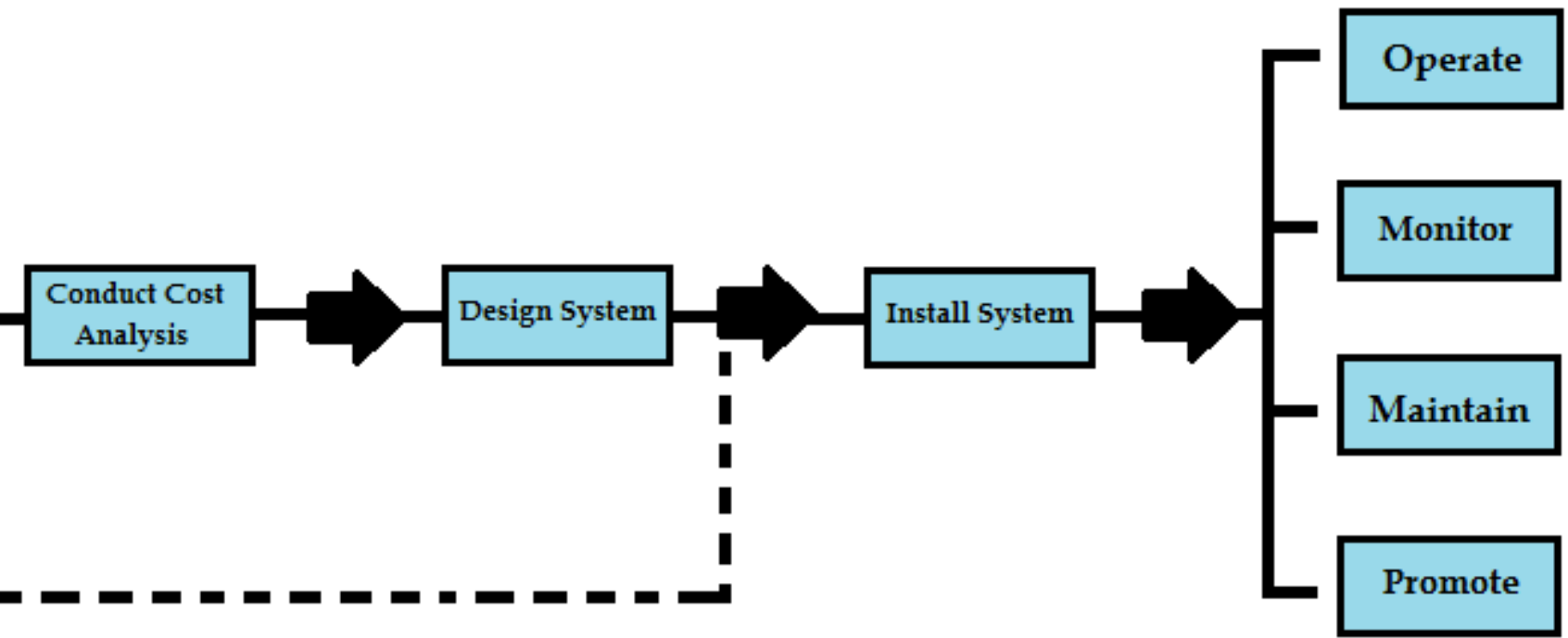
Implementation Process Flow Chart

Objectives 2 & 3





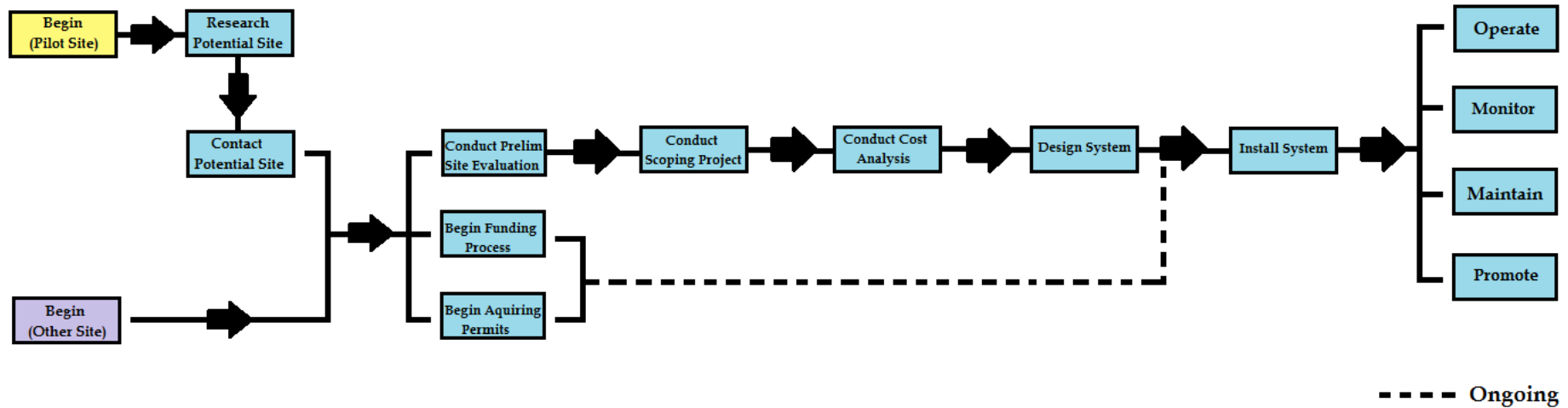
----- Ongoing



- - - - Ongoing

Implementation Process Flow Chart

Objectives 2 & 3



Recommendations

Objective 3

Education

- Use pilot site to encourage growth of technology

Regulatory

- Modify regulation to allow WWER to qualify for state funding

Future Site Selection

- Encourage sites to initiate installation process

Conclusion



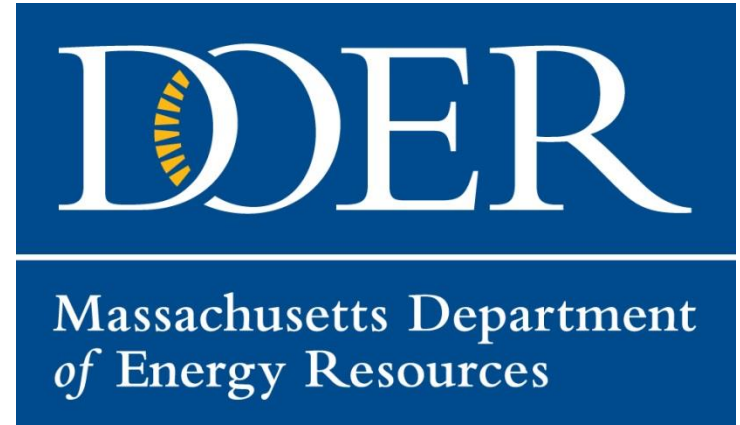
**Further knowledge, development,
implementation of WWER**

Additional renewable technology

Acknowledgments



WPI



DOER Renewables Division-Bram Claeys
DOER Green Communities-Aimee Powelka
WPI- Professor Paul Mathisen
WPI-Professor Seth Tuler

Hidden Fuels Representative-Peter Nelson
Huber Representatives- Chris Hubbard, Henry Russell, Richard Russell
International Wastewater Representative- Geoffrey Sauter
Kent County Representative- James Newton
MWRA Representative- Kristen Pateaude
Nova Thermal Representative-Jimmy Wang



QUESTIONS?

MILWAUKEE

MADE IN AUSTRIA