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## **Chapter 2-**

# **Energy Efficiency (E2) Study**



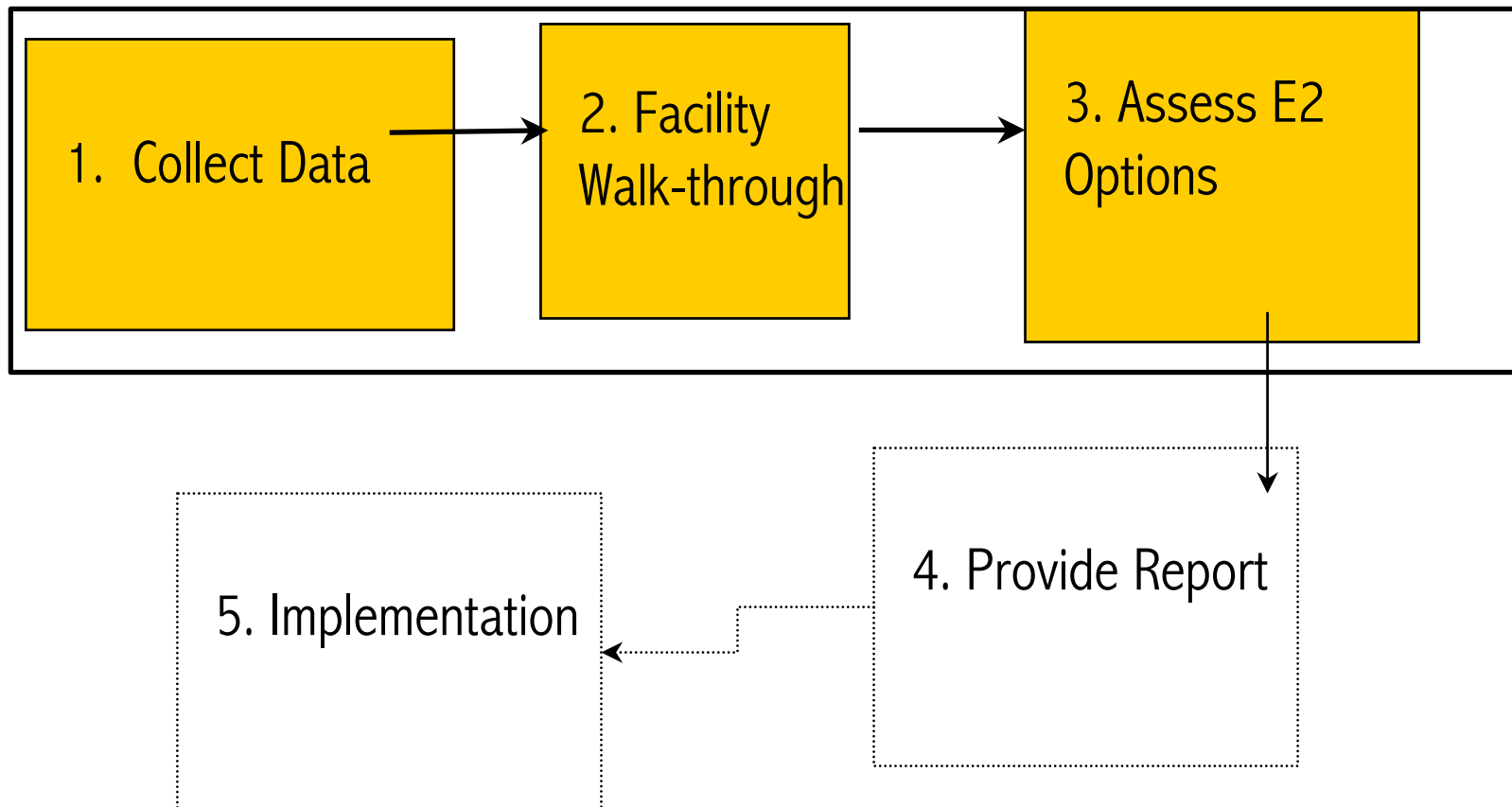
# Objectives of Chapter

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- This chapter will review how to:
  - Collect data in preparation for an E2 study of a facility
- - Walk through the facility to identify E2 opportunities
- - Assess E2 options

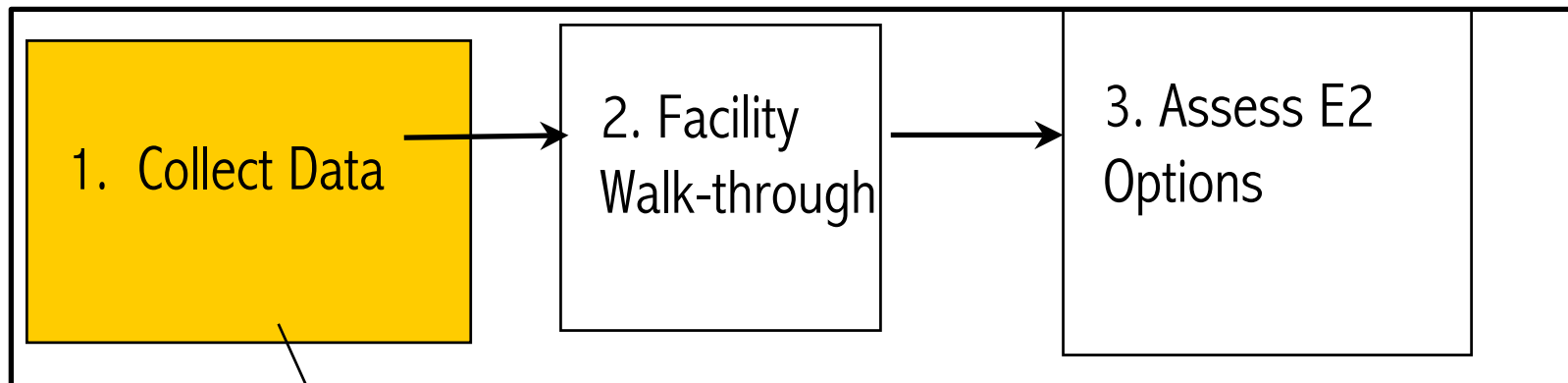


# E2 Study Strategy





# E2 Study: Phase 1



from client and from other sources:

- background information
- utility-specific information

# Phase 1 - Utility-Specific Information

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## FROM CLIENT

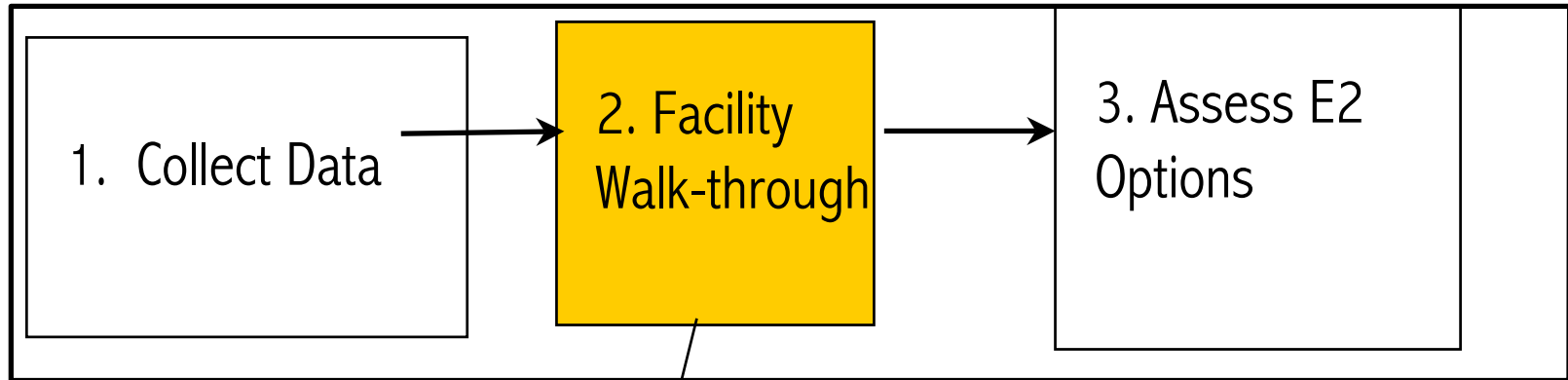
- ⇒ info. about internal plant utility services (*chilled water, compressed air, ventilation, steam, etc.*)
- ⇒ history of electricity use

## FROM OTHER SOURCES

- ⇒ info. on industry as a whole
- ⇒ electric rate schedule
- ⇒ info. on typical payback rate
- ⇒ info. on financial incentive programs



# E2 Study: Phase 2



- prepare for site visit
- review processes, building systems
- listen
- ask questions

# Phase 2 - Review Processes, Building Systems

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## Processes

*(micro)*

- ➔ how does each process work
- ➔ how is it controlled
- ➔ what utility services are required

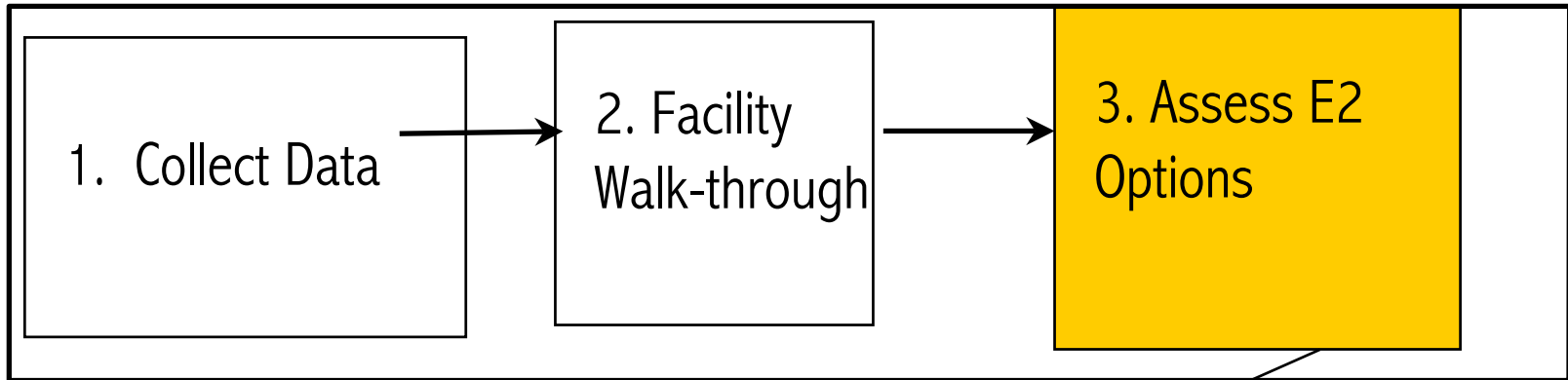
## Building Systems

*(macro)*

- ➔ how is space heated, cooled, ventilated, lighted, de/humidified
- ➔ how are services controlled after hours



# E2 Study: Phase 3

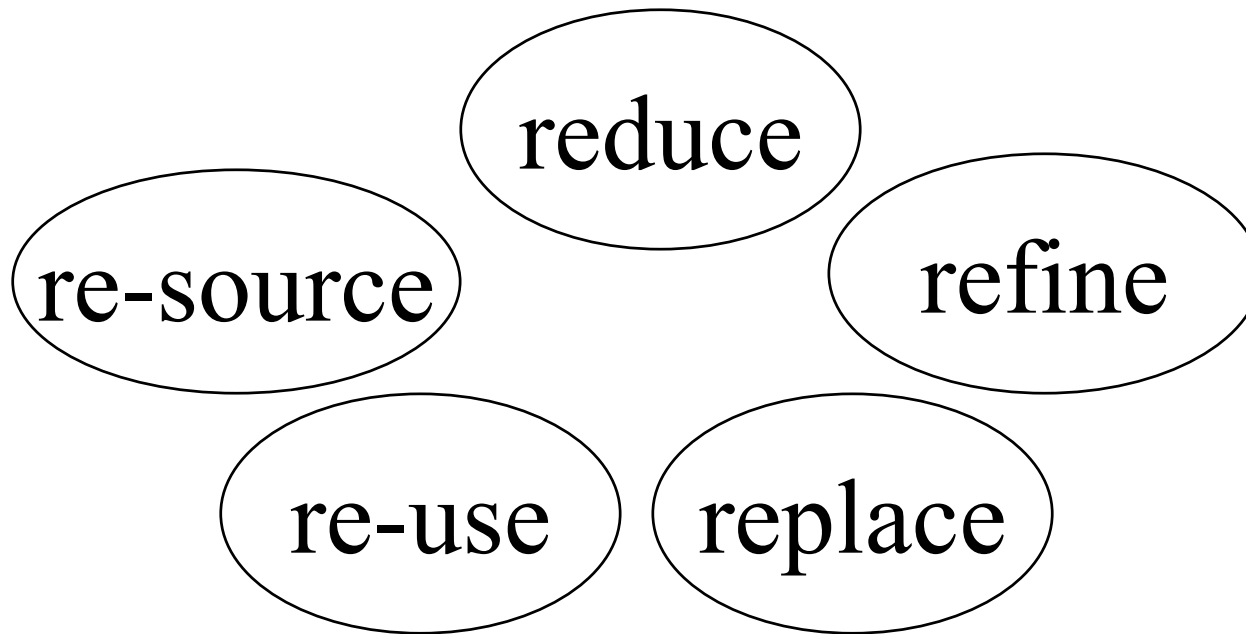


- generate list of options
- research options
- prioritize options



# Phase 3 - Generating List of Options

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# Phase 3 - Researching E2 Options

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Sources for technical and financial info:

- ⇒ DOE material
- ⇒ EPA material
- ⇒ Internet
- ⇒ Other resources

# Phase 3 - Prioritizing E2 Options

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- Identify top options for each process or system by looking at:
  - ⇒ feasibility
  - ⇒ energy savings
  - ⇒ cost
  - ⇒ payback
  - ⇒ [environmental impact]