



The Technical Analysis is the basis for decisions about the likely success of the loan. It should show how much energy and money the proposed energy measure(s) will save, and more importantly, it should include enough information to show how those determinations were reached. It should also provide the information necessary to assess whether the expected payback period is reasonable.

The Technical Analysis should be completed by an engineer or other professional such as a Professional Engineer (PE), a Certified Energy Manager (CEM) or an Accredited Commercial Energy Manager (ACEM). Ideally, it will address all the energy needs of a facility and recommend actions in priority order. In some cases, vendors may prepare the Technical Analysis if only one type of energy measure is under consideration.

### Technical Analyses for building retrofits should include:

1. Name, association, credentials, telephone and email information for person that prepared the analysis.
2. Description of facility, including age, use (e.g. office, laboratory, etc.,) and square footage of all buildings to be retrofitted.
3. Current energy use and current utility rate schedule. Include accurate hours of operation, days/year of use, and previous twelve (12) months of energy bills prior to date of application.
4. Description of proposed energy retrofit(s) including sufficient technical specifications of equipment to enable reviewers to clearly evaluate how equipment will work and how savings will be realized. Must include:
  - a) lighting product specification sheets
  - b) boiler/HVAC cut sheets, descriptive literature, etc.
  - c) explicit details of any ECM that includes replacement of equipment or parts that have not been used in the past twelve (12) months. (Example: large quantity of lights or HVAC components, etc.)
5. Provide evidence of "Energy Star", Design Lights Consortium or other recognized national certifying agency listing, as well as UL number for any equipment specified in the analysis.
6. Include all calculations used:
  - a) include expected annual kWh and/or Btu savings (depending on fuel source).
  - b) list all fuel savings.
7. Expected length of service of proposed new energy measures.
8. Simple payback (cost divided by annual savings).
9. Lifetime savings (annual savings times expected life of energy measure/equipment).
10. This program uses Federal funding; therefore, to the greatest extent practicable, all equipment and products purchased with funds made available under this award should be American-made.

### When calculating cost savings DO NOT consider:

1. Escalating energy costs.
2. Maintenance savings (If maintenance savings are significant, note them in the text, but please do not include in the payback calculation.)

Additional issues may apply in the case of renewable energy projects.

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