

# “Sample Exam Questions for PCF Certification”

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The [new certification on Performance Contracting and Energy Project Funding \(“PCF”\)](#), has created quite a buzz in the industry. Due to recent articles about this new level of professional distinction, exam-taking candidates often ask: “What does the test cover”? Below is a small sample of exam questions (with answers at the end). *Note these are not the actual test questions, but similar in content and format.* The questions also align with the agenda is listed on the Association of Energy Engineers’ [website](#). For professionals seeking certification, the advisory board hopes that these sample questions will provide some insight on the exam and course focus, which is designed to increase a candidate’s applicable skill sets in this field. Referencing industry pioneer and course contributor Shirley Hansen, the program aims to teach “financial judo” to energy managers, so that more projects can get approved and implemented. Good Luck on this quiz!

## Sample PCF Exam Test Questions

1. Property Assessed Clean Energy (PACE) financing programs are a popular application for funding energy projects at federal facilities, such as facilities owned by the Department of Defense.
  - a. True
  - b. False
2. Imagine that you are an ESCO trying to select potential Hosts (clients) for an ESPC. Of the items listed below, which information is most



important to collect/confirm in order to quickly qualify or disqualify a Host?

- a. The Host's Hurdle Rate or Weighted Average Cost of Capital,
  - b. The Host's procurement process,
  - c. The utility's tariff for that Host's facility
  - d. Blueprints (drawings) of the mechanical room
  - e. Answers A, B and C.
3. Assume your facility has a potential energy project that will cost \$1 million to install, saves \$250,000 per year and will last for 12 years. Assume your company's MARR is 15%, and we ignore savings escalation. Which option below would provide the highest NPV?
- a. Pay for the project upfront with cash and keep all the savings.
  - b. Finance installation with a 50% down payment loan at 14% interest for 12 years.
  - c. Execute a performance contract, where the upfront cost is \$1. The first six years of savings will go to pay the ESCO, thus you only get to keep the savings from years 7 through 12 (6 years).
  - d. Answers A and C, because they are equivalent with respect to NPV.
  - e. Answers B and C, because they are equivalent with respect to NPV.
4. Imagine you are a Host who installed a new HVAC and lighting system 4 years ago and the projects had a 5-year payback, but will last for 15 years. You have decided to move your business to a new location. Which of the financing mechanisms below allows the amount owed (remaining balance from project installation) to transfer to the new owner of the property, (who would begin receiving the energy savings)?
- a. Capital Lease Financing
  - b. PACE Financing
  - c. Municipal Lease Financing
  - d. Using Retained Earnings
  - e. All of the above

5. A state university is experiencing rapid growth and plans to expand its library by 60%. The decision to expand occurs during the sales phase of a performance contract, which was being planned for the existing building. The ESCO identifies energy savings opportunities within the design for the new building. Which of the following would be the most appropriate M&V Approach to account for the “avoided cost” (from the energy savings) within the new building?
- a. IPMVP Option B
  - b. IPMVP Option C
  - c. IPMVP Option D
  - d. Answers A and B
  - e. None of the Above
6. Which contract type would be most likely for a government facility pursuing a large lighting, HVAC and controls project, where the local utility is managing the retrofit process?
- a. UESC
  - b. PACE
  - c. PPA
  - d. True Lease
  - e. Answers B and D

**Answers:**

**1. Answer = B.** Although PACE financing is growing in popularity in many US states, it is commonly applied within commercial properties, not federal facilities.

**2. Answer = E.** Correct because all of these answers are critical to the early qualification process, except for getting blueprints- which is a detail that is usually handled during project development or the design phase.

**3. Answer = C.** This is a “time value of money” problem that PCF graduates are expected to be able to answer by “discounting” the cash flows (moving them back through time to year zero). Although the correct answer is subject to many variables, such as interest rates, MARR



and other factors, the correct, subjective answer is C for the following rationale:

- i. Choice A only yields a NPV = \$355,000, after discounting the annuity of 250,000 into a present worth of 1,355,000 and then subtracting off the 1,000,000 in upfront costs.
- ii. With Choice B, you have to determine the annual cost of the 500,000 that was financed at 14%, which = 88,350. Considering that for 12 years, you will have a net cash flow = 161,650 (250,000 minus 88,350), then you discount the net cash flow for a present value (of the annual positive cash flow) = 876,240. Subtracting off the upfront costs of 500,000 yields a NPV of \$376,240.
- iii. With Choice C, you have essentially no upfront costs and you must discount the individual cash flows (using a P/F method) from years 7 through 12. Doing so yields \$409,009 of Net Present Value, which is the highest of the choices provided.

**4. Answer = B.** PACE financing allows the debt (and savings) to most easily transfer to the new property owner.

**5. Answer = C.** IPMVP Option D is useful in this case, because there is no energy performance data on the new part of the building. Option D allows for a simulation to be done so we can estimate the baseline and “avoided costs” from doing energy improvements.

**6. Answer = A.** A Utility Energy Service Contract (UESC) is a special performance contracting mechanism, whereby the utility manages the process. Of the choices given, it is the best answer because a PPA would not be common for a lighting retrofit and PACE would most likely not apply in this application. A True Lease is also unlikely because lighting, HVAC and Controls are more “permanent” types of assets, which some accountants would have a difficult time justifying as rentals... especially in a government facility, where tax benefits are unlikely to apply.

*Answers to these and other quandaries are explained further in the [course curriculum](#). Similar to the Certified Energy Manager examination, there will be challenging questions. Professionals who pass the exam and*



*become certified will have earned a distinction (they can even put it their business cards) to “stand out” from their peers by demonstrating competency on these topics.*

