

## Department of Housing and Urban Development Energy Survey

This survey is part of a research project being conducted on behalf of Department of Housing and Urban Development (HUD)'s Office of Policy Development to examine the effectiveness of energy investment programs utilized by Public Housing Authorities (PHAs) to improve the energy efficiency of the properties in their Asset Management Projects (AMPs).

The survey is intended to collect information from PHAs that have conducted EPCs as well as PHAs that have not in order to compare the impacts of Energy Performance Contracts (EPC) on their utility, financial and physical conditions. Additionally, the survey is intended to capture information about PHA experiences with and perception of HUD's EPC process. The survey will guide you as to which questions to answer, depending upon whether you have done an EPC, begun but not completed the EPC process, or not done an EPC at all.

Your housing authority was randomly selected to complete this survey. Your responses will be aggregated for reporting purposes.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is XXXX-XXXX. The time required to complete this information collection is about 20 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

If you cannot finish in one sitting, you can save and return where you left off at a later time. Thank you in advance for your participation.

Q1 [Will be auto-filled from sample]. Has your PHA ever executed an EPC?

- My PHA has executed one or more EPCs (continue to next question)
- My PHA started the EPC process, but didn't complete it (skip to intro before Q51)
- My PHA has never sought to do an EPC (skip to intro before Q37)

### About your PHA

Our records indicate that your PHA has executed at least one Energy Performance Contract (EPC). The next few questions pertain to some basic information regarding the EPC(s) executed by your PHA.

Q2. Please specify the number of EPC(s) your PHA has executed.

- 1
- 2
- 3
- 4
- 5

- 6 or more

Q3. Starting from the earliest EPC to the most recent, please specify the fiscal year in which construction was completed for the EPC(s) in your PHA. [Depending upon the response to Q2, unwanted rows in this question will be masked – e.g. if you select 1 in Q2, only 1 row will appear on the screen]

	Fiscal Year completed
EPC #1	
EPC #2	
EPC #3	
EPC #4	
EPC #5	
EPC #6	

Q4. How many AMPs were included in the EPC(s) executed by your PHA?

- 1
- 2-5
- 6-10
- 11+

Q5. How many housing units were included in the EPC(s) executed by your PHA?

- 0-500
- 501-1,000
- 1001-3,000
- More than 3,000

Q6. How were the following utilities paid for at EPC impacted properties before the EPC was implemented?

	Only Owner-paid	Only Tenant-paid	Both Owner and Tenant-paid	N/A
Electricity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Natural Gas (if applicable)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fuel Oil (if applicable)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Water	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q7. How are the following utilities currently paid for EPC impacted properties?

	Only Owner-paid	Only Tenant-paid	Both Owner and Tenant-paid	N/A
Electricity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Natural Gas (if applicable)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fuel Oil (if applicable)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Water	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q8. In deciding to pursue an EPC, was changing from owner paid utilities to tenant paid utilities (e.g., converting to individually metered units) a motivating factor?

- Yes, it was an important factor
- Not that important, just one factor among many
- Not important at all

### Impact of EPCs on Utilities

The next section focuses on the results of your EPC(s). HUD wants to know whether executing EPCs has helped PHAs with respect to utilities, finances, and the physical condition of their housing units.

Q9 – Q11. On average, by how much did utility consumption change due to the EPC(s) you implemented?

	DECREASE per year			INCREASE per year			Don't know	N/A
	0%-5%	6% - 10%	11% or more	0%-5%	6% - 10%	11% or more		
Electricity	<input type="radio"/>							
Natural Gas	<input type="radio"/>							
Fuel Oil	<input type="radio"/>							
Water	<input type="radio"/>							

Q12 – Q14. On average, by how much did the following utility expenses change due to the EPC(s) you implemented?

	DECREASE per year			INCREASE per year			Don't know	N/A
	0%-5%	6% - 10%	11% or more	0%-5%	6% - 10%	11% or more		
Electricity	<input type="radio"/>							
Natural Gas	<input type="radio"/>							
Fuel Oil	<input type="radio"/>							
Water	<input type="radio"/>							

Q15. In deciding to pursue an EPC, how did you project/estimate future energy savings?

- Independent 3<sup>rd</sup> party energy audit
- Energy audit/presentation prepared by the EPC provider

- Internal (self) study
- No study performed

Q16. For the EPC(s) done by your PHA, how do actual (realized) utility savings compare to savings estimated in pre-EPC energy audits and studies?

- Less than expected
- About what was expected
- More than expected

Q17. What source(s) of information did you use to calculate actual utility and money savings? (Please select all that apply)

- Measurement & Verification (M&V) reports provided by the Energy Service Contractor (ESCO) [if selected, answer Q18, else skip Q18]
- PHA monitoring of utility bills
- Independent 3<sup>rd</sup>-party monitoring of the ESC on behalf of the PHA
- Benchmarking of utility bills (e.g., EnergyStar Portfolio Manager)
- HUD Field Office validation of EPC savings
- Other (please specify)

Q18. If M&V reports are the primary source of information, what data is included in the reports? (Please select all that apply)

- Utility consumption
- Utility expenditures
- Energy-using equipment performance
- Energy-using equipment maintenance and repair information
- Other (please specify)

## Impact of EPCs on Financial Condition

The next few questions deal with the impact of the EPC(s) you executed on the financial condition of your PHA.

Q19. Were the utility cost savings from your EPC(s) sufficient to fully pay off the debt to third party financier, and any other EPC costs (e.g., M&V costs to Energy Service Contractors (ESCos))?

- Savings were not enough to cover the debt and other costs (skip to Q21)
- Savings were just adequate to cover the debt and other costs (skip to Q21)
- Savings more than covered the debt and other costs (go to Q20)

Q20. How did your PHA use the net savings from EPC(s)? (Please select all that apply)

- Installed additional energy improvements by expanding the current EPC or beginning a new one
- Accelerated debt repayment on the executed EPC

- Paid for eligible operating expenses, e.g., maintenance and repairs
- Funded capital or other improvements to PHA housing units which increased their overall quality
- Other (please specify)

Q21. Overall, how did the EPC(s) you executed affect the financial condition of your PHA?

- Significant decline
- Some decline
- Neither decline nor improvement
- Some improvement
- Significant improvement

### **Impact of EPCs on Physical Condition**

The next few questions deal with the impact of the EPC(s) you executed on the physical condition of the housing units in your PHA.

Q22. How did the EPC(s) affect the overall physical condition of the included properties?

- Significant deterioration [skip to Q24]
- Some deterioration [skip to Q24]
- Neither deterioration nor improvement [skip to Q24]
- Some improvement [answer Q23 and then skip to Q25]
- Significant improvement [answer Q23 and then skip to Q25]

Q23. If there were improvements in the physical condition, did these result from: (Please select all that apply)

- The EPC work itself
- The EPC work plus the net utility cash savings, which were invested in further capital improvements
- Other (please specify)

Q24. If the physical condition of the housing in your PHA did not improve from the EPC(s), what was the reason? (Select all that apply)

- The EPC(s) were inconsequential to the physical condition of the PHA's housing units
- The PHA lost money on the EPC(s) and had to divert other funds to pay off the Energy Service Contractor (ESCO)
- Other ( please specify)

### **Comparison of EPC versus non-EPC units**

Q25. Has your PHA:

- Utilized one or more EPC(s) for ***all*** of its housing units [ Skip to introduction before Q28]
- Utilized one or more EPC(s) only for ***some*** of its housing units

The next few questions only pertain to PHAs that utilized EPCs for some of its housing units but not for others. They ask for comparisons between results at the two types of units.

Q35. Having done EPC(s) at some units but not at others, how likely are you to apply for additional EPCs?

- Not at all likely
- Somewhat likely
- Very Likely

Q25a. Comparing utility savings at the units that were subject to the EPC(s) to those that were not, would you say that the savings were:

- A lot less at the units subject to the EPC
- Somewhat less at the units subject to the EPC
- About the same at both types of units
- Somewhat greater at the units subject to the EPC
- A lot greater at the units subject to the EPC

Q26. Comparing the financial results from units subject to the EPC(s) to those from units that were not, would you say that these results were:

- A lot worse at the units subject to the EPC
- Somewhat worse at the units subject to the EPC
- About the same at both types of units
- Somewhat better at the units subject to the EPC
- A lot better at the units subject to the EPC

Q27. Comparing the changes in physical condition at units subject to the EPC(s) to those at units that were not, would you say that these changes were:

- A lot less favorable at the units subject to the EPC
- Somewhat less favorable at the units subject to the EPC
- About the same at both types of units
- Somewhat more favorable at the units subject to the EPC
- A lot more favorable at the units subject to the EPC

## **EPC Management**

The following questions pertain to how your PHA managed its EPC(s) and the EPC process itself. These are important towards determining what does and doesn't work with respect to HUD's EPC program and ways it might be improved.

Q28. How did your PHA manage EPC(s)?

- Self-managed EPC(s) [answer Q28a-Q29 and skip to Q31]
- Hired an Energy Service Contractor (ESCO) to manage EPC(s) for us [answer Q28a and skip to Q30]

- Both – Self-managed some EPCs or EPC phases and hired an Energy Service Contractor (ESCO) for others [answer all Q28a – Q30]

Q28a. Did your PHA hire a consultant to assist with the EPC process (outside of the ESCo)? (Please select all that apply)

- Yes, hired a consultant to help self-manage the EPC(s) (i.e., managed EPC(s) in part)
- Yes, hired a consultant to help select an Energy Service Contractor (ESCO) to manage the EPC(s) for us
- No, did not use a consultant to help self-manage or select an Energy Service Contractor (ESCO)

Q29. Why did you chose to self-manage some or all of your EPC(s)? (Please select all that apply)

- To save money
- To save time – we found we could move the EPC(s) more quickly by self-managing them
- Simpler – we didn't have to manage the Energy Service Contractor (ESCO)
- Other (please specify)

Q30. Why did you chose to hire an Energy Service Contractor (ESCO) to manage some or all of your EPC(s)? (Select all that apply)

- Quicker, having an Energy Service Contractor (ESCO) manage the EPC process expedited it.
- Needed the expertise of an outside Energy Service Contractor (ESCO)
- More economic in the end – the outside Energy Service Contractor (ESCO) could obtain a better deal and save us more money.
- Other (please specify)

Q31. Other than the EPC(s) you executed, did you start to apply for another EPC but did not complete the process?

- Yes (Go to the next question)
- No (Skip to Q55)

## **EPC Application Process**

The next few questions pertain to whether, in addition to the EPC(s) you have done to date, you started to apply for at least one other but did not complete the process. HUD needs this information in order to try to improve its EPC program in the future.

Q32. Why didn't you complete the process for additional EPC(s)? (Please select all that apply)

- The economics of the contracts did not look favorable
- Better options such as the Rental Assistance Demonstration (RAD) program became available [If selected, answer Q33, else skip to Q36]
- The process was too lengthy

- The process was too complicated
- We had staff turnover or cash shortages that made it impossible to complete the process at that time
- Other ( please specify)

Q33. If you chose another option to finance further utility saving improvements, why did you do so?

- The procedures for that option were more straightforward and easier to use
- It was less expensive to use and provided as much or more money for utility saving improvements
- Other options offered money not only for utility savings but also for other improvements and we wanted to take a broader approach
- Other (please specify)

Q34. Comparing results for properties at which you used the EPC(s) to those at which you used another option to finance improvements, which have shown the greater utility savings?

- They were greater at the EPC properties
- They were about the same at the EPC and non-EPC properties
- They were greater at the non-EPC properties

Q36. What are the principal factors that inhibited your use of additional EPCs? (Please select all that apply)

- Too much paperwork and other process requirements
- Lack of sufficient staff to execute and oversee an EPC
- Didn't think we got our money's worth with past EPCs
- Our housing stock is not in need of any additional EPCs
- Other (please specify)

[If PHA executed an EPC (group 1) and answered the previous questions – go to Q55]

## **Alternative Energy Investments**

Our records indicate that your PHA has never executed an Energy Performance Contract (EPC). The following questions pertain to your PHA's alternative energy investments other than an EPC.

Q37. Why did you choose not to undertake an EPC? (Please select all that apply)

- Not cost effective
- The HUD EPC process takes too long and is too complicated
- It takes upfront cash to undertake an EPC and our PHA hasn't been able to afford one
- There are better alternatives available (such as the Rental Assistance Demonstration (RAD) program)
- Other (please specify)

Q38. Even though your PHA didn't undertake an EPC, did it make other investments to save on utilities within the past 5 years?

- Yes
- No (Skip to Q49)

Q39. How did the PHA pay for the utility conservation investments that it made? (Please select all that apply)

- Operating and capital improvement funds
- HUD subsidy programs
- Grants or subsidies from other sources
- Other (please specify)

Q40 – Q42. On average, by how much did utility consumption change due to the utility conservation investments you made?

	DECREASE per year			INCREASE per year			Don't know	N/A
	0%-5%	6% - 10%	11% or more	0%-5%	6% - 10%	11% or more		
Electricity	○	○	○	○	○	○	○	○
Natural Gas	○	○	○	○	○	○	○	○
Fuel Oil	○	○	○	○	○	○	○	○
Water	○	○	○	○	○	○	○	○

Q43 – Q45. On average, by how much did utility expenses change due to the utility conservation investments you made?

	DECREASE per year	INCREASE per year	Don't know	N/A

	0%-5%	6% - 10%	11% or more	0%-5%	6% - 10%	11% or more		
Electricity	<input type="radio"/>							
Natural Gas	<input type="radio"/>							
Fuel Oil	<input type="radio"/>							
Water	<input type="radio"/>							

Q46. What is the source of information you used to make your estimates of utility and money savings? (Select all that apply)

- Utility bills
- A review of my PHA's annual utility expenditures
- Update in utility allowances
- Another source (please specify)

Q47. How did the utility conservation investments affect the overall financial condition of your PHA?

- Significant decline
- Some decline
- Neither decline nor improvement
- Some improvement
- Significant improvement

Q48. How did the utility conservation investments affect the overall physical condition of the properties in your PHA?

- Significant deterioration
- Some deterioration
- Neither deterioration nor improvement
- Some improvement
- Significant improvement

Skip to Q54

The next few questions pertain only to PHAs who have not executed EPCs nor made other types of utility conservation investments within the past 5 years.

Q49. Over the past 5 years, would you say that the financial condition of your PHA has shown:

- Significant decline
- Some decline
- Neither decline nor improvement
- Some improvement
- Significant improvement

Q50. Over the past 5 years, would say that the physical condition of the properties within your PHA has shown:

- Significant deterioration
- Some deterioration
- Neither deterioration nor improvement
- Some improvement
- Significant improvement

Skip to Q54

## **EPC Application Process**

Our records indicate that your PHA started the application process for an Energy Performance Contract (EPC), but did not complete it. The next few questions pertain to the EPC application process. HUD needs this information in order to try to improve its EPC program in the future.

Q51. Why didn't you complete the HUD process for an EPC? (Select all that apply)

- The economics of the projects didn't look favorable
- Better options such as the Rental Assistance Demonstration (RAD) program became available
- The HUD EPC process took too long or was too complicated so we abandoned it.
- We had staff turnover or cash shortages that made it impossible to complete the process at the time.
- Other (please specify)

Q52. If you chose another option to finance utility saving investments, why did you do so?

- The procedures were more straightforward and easier to use.
- The other option was less expensive to use.
- Other options offered money not only for utility savings but also for other improvements and we wanted to take a broader approach.
- Other (please specify)

Q53. Having started at least one EPC but not completed it, how likely are you to still do an EPC?

- Not at all likely
- Somewhat likely
- Likely

- Very likely

Q54. What are the principal factors that have inhibited your use of EPC(s)?

- Too much paperwork and other process requirements
- Lack of sufficient staff to execute and oversee an EPC
- Too expensive
- Didn't think we got our money's worth with past EPCs
- There was no need to do an EPC in our housing stock
- Other (please specify)

Q55. What can HUD do to improve its EPC process? (Please select all that apply)

- Provide a direct payment to PHAs that manage their own EPCs
- Increase operating subsidies to PHAs that undertake EPCs
- Simplify HUD's approval processes for EPCs to make them easier to comply with
- Provide more technical expertise to the PHAs via the Energy Centers or some other source
- Other (please provide any input on how the HUD's EPC process could be improved from your PHA's perspective)

[If PHA has never completed an EPC (group 2 or group 3), skip to End of survey with "Thank you" message]

## **Tenant Engagement**

Q56. What was the attitude of the tenants in the properties involved in the EPC(s)?

- They were generally critical of the EPC (s)
- They were neither positive nor negative towards the EPCs)
- They generally welcomed the EPC (s)

Q57. What actions did your PHA take towards encouraging EPC-affected tenants to become more energy efficient? (Please select all that apply)

- The PHA informed tenants about the purposes of the EPC(s) and how it would affect them
- The PHA provided formal or informal training on the EPC(s) and how to become more efficient in energy and water usage
- The PHA began charging tenants directly for utility usage after the EPC(s) were completed whereas utilities were owner paid before then
- The PHA took no particular action with respect to the EPC(s) and tenants

Q58. What measures could HUD take to encourage public housing tenants to participate more fully in EPC-related energy saving measures? (Please select all that apply).

- Offer incentives to tenants

- Train tenants in the use of new energy-saving equipment and energy efficient behaviors
- Educate tenants about benefits
- Involve tenants in the planning process
- Charge utilities directly to tenants
- Other (please specify)

END – Thank you for completing the survey!