The Intersection of EPC and RAD: A ROADMAP FOR PHAS

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THIS ARTICLE is intended as a guide for public housing authorities (PHAs) and their partners who are considering the Rental Assistance Demonstration (RAD) or Energy Performance Contracting (EPC), or both. These programs may be complementary to each other when a PHA has an existing EPC, or is considering energy-efficient opportunities for RAD conversions two or more years into the future. After providing a basic introduction to both the RAD and EPC initiatives, as well as an overview of how they can work together, we will examine five examples to determine the impact of EPC incentives, tax credits and other timing-dependent variables and discuss the financial benefits of implementing an EPC program before a RAD conversion versus a RAD-only strategy. We will then conclude with the principles of the EPC-RAD dynamic and a decision-making flowchart.

Making a RAD-EPC decision boils down to a PHA's strategic objectives, timing and financing. The strategic objectives are the PHA's asset management goals over the next 10 to 20 years, and should include the appropriate mechanisms (e.g., EPC, RAD, or both) for implementing their redevelopment strategy. Timing is influenced by the PHA's commitment and focus, and an available ceiling level for conversion to RAD. Financing involves suitable operating and capital funding levels to successfully transition to RAD, rent structure to address debt service, reserves for that rainy day and, where required, tax credit availability to augment financing. Given a sense of those variables in which a PHA must operate, the discussion and analyses in this article should provide guidance for a PHA exploring redevelopment options as part of its strategic planning process.

INTRODUCTION

What Is Energy Performance Contracting (EPC)?

ON ITS WEBSITE, HUD explains that "Energy Performance Contracting (EPC) is an innovative financing technique that uses cost savings from reduced energy consumption to repay the cost of installing energy conservation measures. Normally offered by Energy Service Companies (ESCOs), this financing technique allows building users to achieve energy savings without up-front capital expenses. The costs of the energy improvements are borne by the performance contractor and paid back out of the energy savings. Other advantages include the ability to use a single contractor to do necessary energy audits and retrofit and to guarantee the energy savings from a selected series of conservation measures."

HUD provides three EPC financial incentives—the frozen rolling base, the add-on subsidy, and the resident-paid utility incentives. Besides or apart from EPC incentives, HUD also offers performance incentives that PHAs can receive through reducing consumption or extraordinary rate reduction efforts through utility supply negotiated procurement. Recently, HUD revisited the rate reduction incentive (RRI) to promote renewable energy technology. The outcome of recent guidance is a more harmonious and rewarding incentives program when renewable energy is used in an EPC. More than $1.3 billion has been invested by over 330 agencies for this set of incentives since 1995.

What Is the Rental Assistance Demonstration (RAD)?

HUD EXPLAINS that "[t]he Rental Assistance Demonstration was created in order to give public housing authorities (PHAs) a powerful tool to preserve and improve public housing properties and address the $26 billion dollar nationwide backlog of deferred maintenance. RAD also gives owners of three HUD 'legacy' programs (Rent Supplement, Rental Assistance Payment, and Section 8 Moderate Rehabilitation) the opportunity to enter into long-term contracts that facilitate the financing of improvements." RAD is a voluntary program offered by HUD and authorized by Congress as a demonstration to provide an alternative route to preserving public housing properties. Inspired by the growing gap between PHA capital needs—now estimated at $26 billion—and growing annually by a net $2 billion, the program offers the Section 8 platform and its long-term funding contract as a more sustainable option. The Section 8 conversion option is available under either the project-based voucher (PBV), or the project-based rental assistance (PBRA) programs. RAD Conversions provide either 15- or 20-year contracts, and the opportunity to mortgage properties, leverage Low-Income Housing Tax Credits (LIHTCs), and access other sources of financing. The RAD option is available for applications submitted until September 30, 2018, assuming there are units available under the cap of 185,000 units. As of January 1, 2016, there is a waiting list for RAD vouchers that are recaptured by HUD or returned by PHAs that decide to not move forward. It is also possible that Congress will lift the cap again, based on a growing waiting list.

The long-term contracts, historically stable appropriations and private sector stakeholders in the legal, development and financing markets prompt many observers to predict that project-based Section 8 properties will receive more sustainable HUD subsidies for the foreseeable future than public housing has experienced in recent years or will see going forward.

The HUD website (www.HUD.gov/RAD) offers a toolkit, featuring an inventory assessment tool, an application form, and all the requirements for compliance and issuance of a CHAP (a commitment to enter a Housing Assistance Payments Contract). To qualify, agencies must hold two resident meetings, gain formal board approval, assemble a development team, obtain letters from lender and equity providers (as needed), and engage a physical needs assessment contractor. From application to closing, agencies should anticipate a 6—18 month process, depending on the financing approach and the complexity of the project.

RAD and EPC: The Intersection

The RAD demonstration began in the summer of 2012. Initially limited to 60,000 public housing units, it was expanded to 185,000 units in December of 2014 by Congress. RAD has captured the full attention of virtually all agencies, large and small, and with good reason. It offers more appropriations stability looking forward, a leveraging of capital to meet a considerable fraction of the $26 billion current capital need backlog, fewer Department of Housing and Urban Development (HUD) regulations, and improved resident options. As of December 2015, the full complement of 185,000 units applying for conversion has been allocated to PHAs.

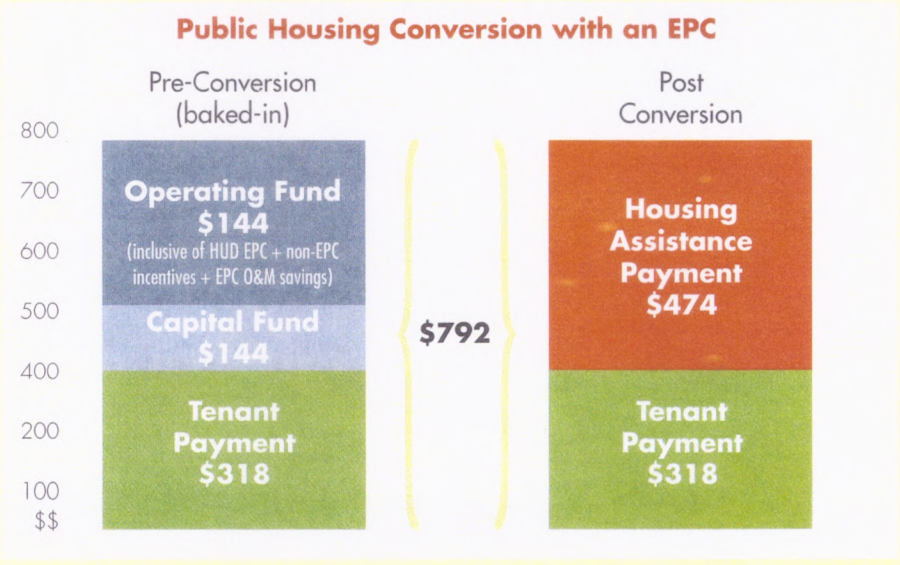
Unfortunately, in the short run, all the attention placed on RAD has distracted from EPC, which is another significant capital redevelopment program. Despite its investment of more than $1.3 billion in capital improvements at more than 330 agencies over the past decade, less than 20 EPC projects were submitted for HUD approval during 2013 and 2014, about a two-thirds drop from previous years. A major reason for this was the perception that mortgage lenders would require that EPC debt obligations be retired before conversion of projects through RAD could take place, and that alternative debt retirement or refinancing options were not viable. Exacerbating this perception was the push by PHAs to submit a RAD application before the ceiling of units permitted under the demonstration was reached.

Yet the RAD conversions that have already taken place with existing EPC debt obligations were all resolved without harm to the agencies involved, through a variety of creative financing strategies. Moreover, the financial value to the PHA of conversions to RAD with EPC incentives structured into RAD the transaction is considerably enhanced. As depicted in Figure 1, the calculation of RAD contract rents for EPC agency projects allows the frozen rolling base incentives for utilities—established on the basis of pre-EPC consumption levels—to be locked-in permanently for the life of the Section 8 contract and subsequent renewals.

Agencies contemplating a multi-phase RAD conversion over several years can bake-in the EPC benefits into their Housing Assistance Payment (HAP) contract by undertaking EPCs before the conversion takes place for those properties not immediately converting, provided the PHA can complete the transition within the permitted conversion timeframe and the HUD selected RAD funding year. In addition, implementing an EPC prior to conversion can improve the HUD subsidy (i.e., if an add-on subsidy incentive is used as part of an EPC) over non-EPC RAD converted properties. The property taking advantage of EPC can see lower operating costs, a fully-integrated energy solution, superior resident comfort, improved asset sustainability, a hedge against future utility rate increases, and better financial leverage.

Not all situations lend themselves to an EPC solution, or to RAD. EPC is one of many financial approaches in the toolbox of PHAs confronted with a $26 billion backlog of capital improvements, of which 16-20% is specifically energy-related. It is not feasible today to carry out an EPC program and a RAD conversion for the same projects simultaneously, for reasons of timing and management complexity. Some properties are already energy-efficient; others will undergo gut rehabilitation or demolition, rendering an EPC program impractical; and some properties with less significant energy-related capital need may finance these improvements as part of their mortgage financing in the RAD conversion. Still other PHAs may have already added energy conservation measures through their Capital Fund Program. Each of the described situations requires its own assessment.

Figure 1—**Pre/Post Conversion with an EPC-*Locked-in Effect***



What is Right for My PHA?

The following table helps an agency apply its particular situation to the choices involved redeveloping its properties for RAD and EPC.

EPC Incentives and Non-EPC Incentives

A meaningful approach to the discussion of EPC-RAD intersection is through implementation models from the perspective of a PHA considering the transition under various scenarios. First, however, we need to understand the EPC and non-EPC incentives that have made the EPC program so successful over the years. As the PHA transitions from the Public Housing program to RAD, we come to realize the locked-in impact associated with the RAD formula (Figure 1 - Operating Subsidy + Capital Fund = Housing Assistance Payment) used to calculate the contract rent under RAD. Table 2A explains the EPC incentives and how they are locked-in when converting under RAD. Table 2B explains the non-EPC incentives and how they are *locked-in* when converting under RAD.

Table 1–**Redevelopment Options**

Redevelopment Options	Approach	Rank
Choice Neighborhoods Grant (and predecessor HOPE VI program)	Relies on a financial model that typically combines a substantial grant (e.g., $30 million), traditional public housing operating funds, private equity—generally raised through the sale of Low-Income Housing Tax Credits—and other sources of capital.	#1 - Best option for severely distressed projects in distressed neighborhoods. However, this is a highly competitive and expensive process, which makes it improbable for most PHAs, especially smaller ones. Currently only three or four awards are made per year.
Section 18 demo/dispo with Demolition or Disposition Transition Funding (formerly Replacement Housing Factor) + tenant protection vouchers for qualifying properties	PHAs must show that the necessary modification and/or rehabilitation to a project is not cost-effective. HUD considers modifications not to be cost-effective if current capital needs exceed 62.5% of Total Development Cost (TDC) for elevator structures and 57.25% of TDC for other types of structures. PHA may receive DDTF funding for public housing units demolished or sold, spread over a period of five years.	#2 – This is a strong option, but entails a time consuming process. It is also difficult to qualify for because of the high cost thresholds.
RAD/EPC	Convert to Project-based Section 8, with debt and equity as needed.	#3 – This combines the RAD demonstration program with locked-in incentives from one of HUD's most successful redevelopment programs.
Mixed-Finance/EPC	Leveraging with tax credits—private equity—generally raised through the sale of Low-Income Housing Tax Credits	#4 –PHA units do not support debt, as they would under RAD. Also, if replacing with new construction, the mixed-finance approach results in much lower contract rents than under RAD.
Leveraged Capital Fund Financing Program CFFP/EPC	PHA may borrow private capital to make improvements and pledge, with repayment subject to the availability of Appropriations, a portion of its future years' annual Capital Funds to make debt service payments for either a bond or conventional bank loan transaction. CFFP can be used in conjunction with an EPC.	#5 –The decline in capital funding levels makes this approach less viable as a comprehensive solution to redevelopment. In addition, the available funding sources under #3 make larger redevelopment efforts possible.
Unleveraged CFFP/EPC	Use of CFFP alone or EPC alone.	#6 –The lack of leverage and the addition of interest costs ultimately reduce the capital funding available.
Capital Fund	Business as usual – using limited capital funds for Section 9 eligible expenses.	#7 –The declining trend in capital funding levels makes this approach less viable as a comprehensive solution to redevelopment.

Table 2A–**EPC Incentives**

EPC Incentives	How EPC Incentives Work	EPC Converted to RAD
Frozen Rolling Base (FRB)	Consumption is frozen based on 3 year average at time of approval. Reduced consumption generates savings that are used to cover debt for Energy Conservation Measures (ECMs), e.g., water measures. If rates under EPC increases; they are covered by adjustment to utility costs in project budget. At the contract term end, consumption level is lowered to then-current usage, resulting in a lowered subsidy.	Utility costs, not consumption, at time of conversion are built into RAD Contract Rents. Reduced consumption generates savings that are used to cover debt for ECMs. Utility adjustments for project paid utilities must follow the procedures outlined in Housing Notice H-2015-04, June 22, 2015. Utility consumption level is not reduced at the end of the financing term. Savings continue in perpetuity, with annual OCAF adjustments. Results in ongoing financial gain by PHA.
Add-on Subsidy (AOS)	HUD provides Add-On Subsidy to cover the ECMs (e.g., lighting) for set amortization term, including financing costs. If savings are less than projected, PHA must return the "shortfall" to HUD. If savings are greater, overage repaid to HUD.	Add-On Subsidy (subcategory of the Operating Subsidy) is built into the contract rent. Remains in contract rent after conversion, indefinitely.
Resident-Paid Utilities (RPU)	ECMs that reduce tenant-paid utilities result in lower utility allowance for tenants and higher tenant rents with rent increase going toward debt service. Total tenant payment remains the same.	For projects with an existing EPC using the Resident Paid Utility (RPU) Incentive, HUD will allow an amendment to the posted RAD rent to add the Per Unit Month (PUM) EPC Resident Paid Utility Incentive (PIH Notice PIH-2012-32 (HA), REV-2 Issued: June 15, 2015) page 65. Utility adjustments for RPU: For the PBV program, utility allowances are set according to the Housing Choice Voucher program and not by project. For the PBRA program, follow the procedures outlined in Housing Notice H-2015-04, June 22, 2015.

Table 2B—**Non-EPC Incentives**

Non-EPC Incentives	How Incentives Work	EPC Converted to RAD
Operating Fund Benefit (OFB)	With or without EPC, PHA shares energy savings with HUD, until consumption normalizes – 75% of consumptions savings to the PHA -25% to HUD.	After conversion, OFB is reflected in the UEL conversion to RAD. Best to convert 2-3 years after EPC measures are fully installed to maximize benefit in perpetuity.
Rate Reduction Incentive (RRI)	Based on "extraordinary" agreement to reduce utility rates. PHA shares the savings 50/50 with HUD. In conjunction with an EPC and renewable technology PHA may be able to retain 100% of savings. No set time period.	Savings would continue indefinitely. Sharing with HUD would discontinue.

Comparison of EPC and RAD Under Multiple Scenarios

Here are five EPC scenarios based on alternative distribution of the incentives among Frozen Rolling Base (FRB), Add-On Subsidy (AOS) and Resident Paid Utilities (RPU). For each EPC scenario, we look at the economic benefit under these five approaches: (a) EPC throughout the duration of a traditional contract term (i.e., 15-year financing); (b) EPC project converted to RAD, with the RAD project using debt only, and no tax credit leverage; (c) RAD project from the outset, using debt only; (d) EPC project converted to RAD, with the RAD project using debt plus 4% tax credit equity; and (e) RAD project from the outset, using both debt and 4% equity.

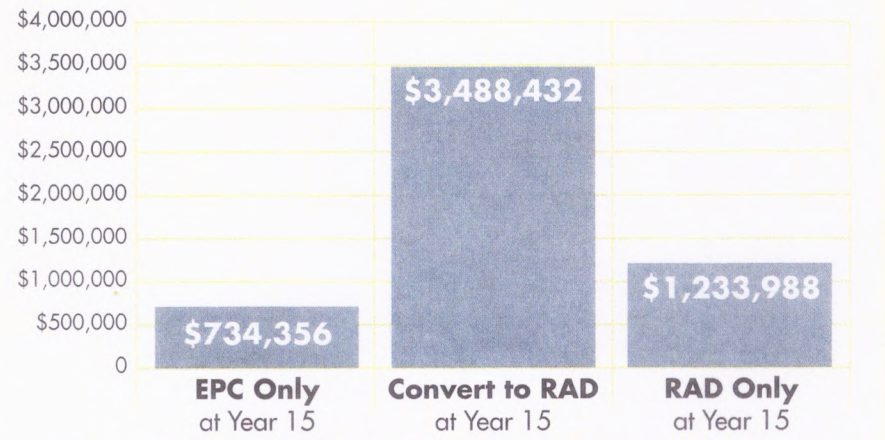
The five EPC scenarios are as follow:
(See Table 3, page 32.)

In nearly all scenarios, converting an existing EPC project to RAD has far greater economic benefit to the authority/project than does seeing EPC through to the end of its financing term alone. Also, in looking at RAD with debt only, in three scenarios, undertaking the same energy conservation measures as part of a RAD conversion, without first undertaking EPC is more beneficial than the EPC

Table 3–**Scenario Descriptions**

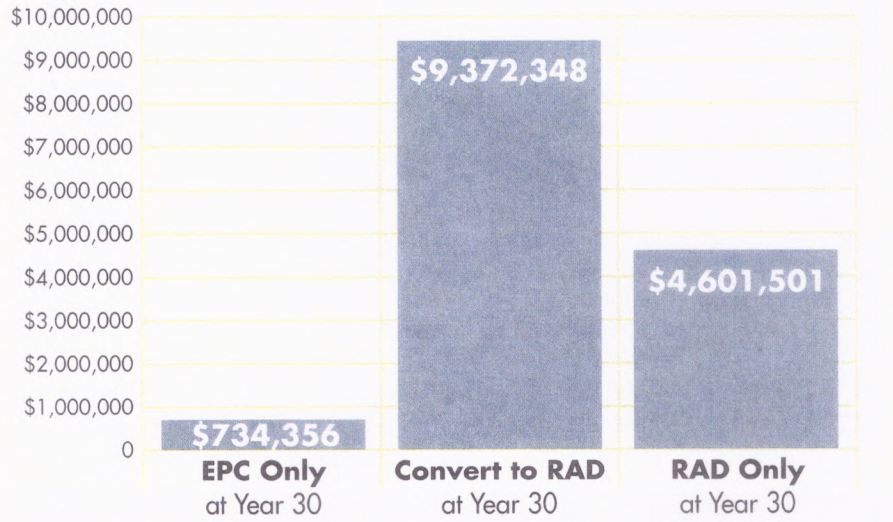
Economic Benefit	Distribution of EPC Incentives Under Each Scenario FRB/AOS/RPU	Project Parameters
Scenario 1	50%/25%/25%	**EPC Parameters & Terms** Hard costs of $2.5 million; 15 year term; 4% interest rate; 3% annual inflation; and, 0.5% replacement cost factor. **RAD Parameters & Terms** 30 years term; and, 4% interest.
Scenario 2	50%/0%/50%	
Scenario 3	50%/50%/0%	
Scenario 4	0%/50%/50%	
Scenario 5	100%/0%/0%	

Figure 2—**Scenario 1, at year 15 using debt only**



RAD also includes $2.5MM debt in this scenario.

Figure 3—**Scenario 1, at year 30 using debt leveraged**



RAD includes debt leveraged with 4% equity in this scenario.

at the end of the 15-year financing term. Since the economic benefit of EPC ends when the financing is repaid, but continues under RAD, when the analysis is taken out to 30 years, RAD will always be more beneficial than EPC alone under all of the scenarios.

The following graphs help visualize the tables discussed above. The first illustration, Figure 2, compares Scenario 1 at year 15 with EPC-to-RAD conversion and RAD-only solutions using debt only.

The second illustration, Figure 3, compares Scenario 1 at year 30 with EPC-to-RAD conversion and RAD-only solutions using debt leveraged with 4 percent LIHTC. An EPC converted to RAD is the optimum approach under debt only for 15 years.

Since the economic benefit of EPC ends when the financing is repaid, but continues under RAD, when the analysis is taken out to 30 years, RAD will always be more beneficial than EPC alone under all of the scenarios.

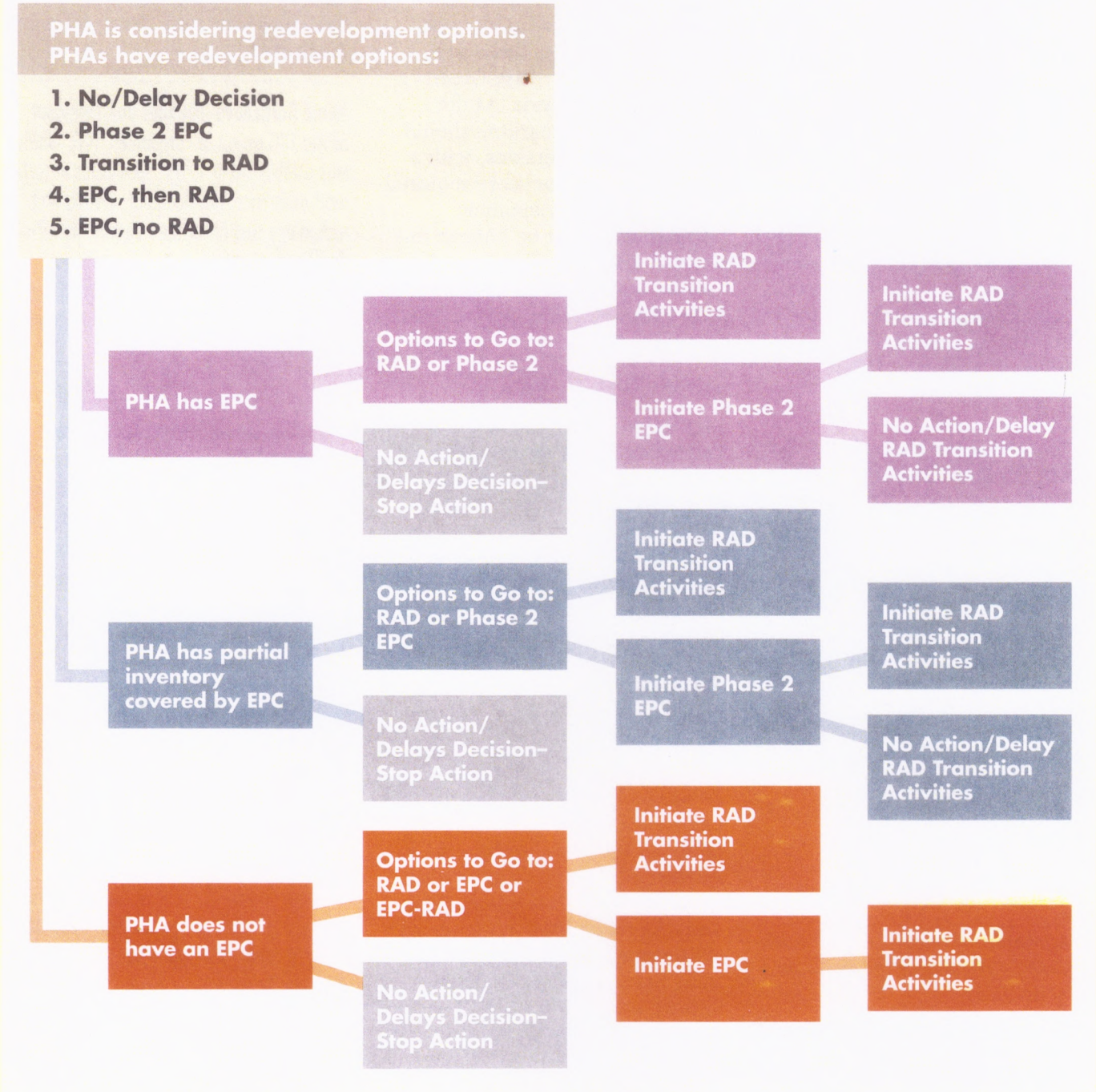
Let's walk through what could represent a typical decision process for a PHA considering an EPC or RAD. Figure 4 starts with a PHA that recognizes its capital redevelopment needs including energy.

In all scenarios, converting an EPC through RAD is better than undertaking an EPC alone. Also, in 12 of 15 scenarios, undertaking the same energy project via RAD alone is better than doing so via an EPC alone.

Looking Forward: Energy Incentives Post-RAD Transition

As RAD conversions grow to scale and the Section 8 platform becomes increasingly the focus for all affordable housing

Figure 4–**EPC–RAD Decision Intersection**



policymaking related to energy efficiency, the paucity of viable energy-efficiency financing strategies for properties with particularly significant capital needs looms large. In its recent PIH Notice, PIH-2012-32 (HA), REV-2, HUD has begun to address the barriers on the multifamily side that deal with utility allowances; however, more needs to be done. For example, HUD should provide guidance and establish a pilot for PACE and bill repayment, and establish an overarching policy framework that reviews all of the barriers and their potential solutions.

Many of the concepts below can be combined with future RAD conversion requirements; all deserve elaboration and further analysis by HUD and affordable housing advocates and stakeholders:

- Establishment of energy performance contracting for afford-

able housing properties, such as that contemplated in pilot Social Investment Bond negotiations with Enterprise Community Partners (utilizing third-party aggregation and administration);

- Partnership with Fannie Mae and others to establish Energy Efficiency Mortgages accompanied by relaxed debt/income ratios for properties making comprehensive investments;
- Aggressive marketing in pursuit of Property Assessed Clean Energy financing implementation, with an even more streamlined HUD approval process than that now offered;
- Pursuit of utility Pay for Performance program designs for electricity and gas investments in efficient equipment upgrades;
- Aggregated power purchase agreements for photovoltaic (PV) and other renewable technologies, and implementation of virtual net metering as demonstrated by Pacific Gas & Electric today;
- Utilization of on-bill repayment options provided by electric and gas utilities;
- Encouragement of one-stop contracting for audit, design, implementation and financing of efficiency and renewable measures via a host of incentives, including utility allowances flexibility;
- Adoption of energy benchmarking for all HUD-assisted multifamily properties;
- Partnerships with Housing Finance Agencies to facilitate offering of low cost, accessible financing for properties seeking deep retrofits; and,
- Encouragement of healthy homes and resilience measures as integral part of retrofit packages, including partnerships with health insurance and health providers in low-income neighborhoods.

More aggressive policy adaptations for future RAD conversions should consider a mandatory energy building standard for developments, scored by energy features such as those provided in the Enterprise Green Communities criteria. At the very least benchmarking should accompany conversions, with a minimum grade or score required for conversion acceptance. Mandates will not be enforceable without corresponding incentives and access to affordable debt, especially debt that can be offset by utility savings.

Acknowledgments

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Additional Resources:

Status of HUD's Rental Assistance Demonstration (RAD) Evaluation and Results to Date, September 30, 2014; U.S. Department of Housing and Urban Development (HUD), Office of Policy Development & Research (PD&R), summarizing the approach to evaluating RAD, and reports on RAD progress and achievements through August 2014. Subsequently, an Interim Report: Evaluation of HUD's Rental Assistance Demonstration, has been drafted and is under final publication preparation by PD&R, anticipated for release in Summer 2016.

Conversion of Public Housing to Project-Based Assistance Broad Data Analysis Report, March 14, 2012; Quantitative exploration of the implications of changing the funding of our nation's public housing stock from the current Annual Contributions Contract (ACC) program to project-based Section 8 rental assistance or project-based vouchers (Project-Based Assistance).

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