

September 13, 2012

Alfred M. Pollard, General Counsel
Attn: Comments/RIN 2590-AA53
Federal Housing Finance Agency, Eighth Floor
400 Seventh Street, SW.
Washington, DC 20024

Sent via electronic mail with separate attachments and overnight mail with CD of attachments

Dear Mr. Pollard:

The undersigned (“Joint Commenters”) submit these comments on the Notice of Proposed Rulemaking (“NPR”) on Enterprise Underwriting Standards concerning whether, and under what conditions, the Federal National Mortgage Association (“Fannie Mae”), and the Federal Home Loan Mortgage Corporation (“Freddie Mac”) (collectively, the “Enterprises”) will purchase mortgages of properties participating in local Property Assessed Clean Energy (“PACE”) programs.¹

The Joint Commenters include the U.S. Conference of Mayors, National League of Cities, National Association of Counties, National Association of State Energy Officials, Alliance to Save Energy, American Council for an Energy-Efficient Economy, American Council on Renewable Energy, American Institute of Architects, BlueGreen Alliance, Boulder County, County of Los Angeles, County of Sonoma, Dow Chemical Company, ICLEI-Local Governments for Sustainability USA, Interstate Renewable Energy Council, Los Angeles Area Chamber of Commerce, Masco Corporation, Natural Resources Defense Council, Environmental Defense Fund, Efficiency Now, PACENow, Renewable Funding LLC, Sierra Club, Solar Energy Industries Association, Sungevity, U.S. Green Building Council, Vote Solar Initiative, and numerous other individual local governments, trade associations, energy companies, and nongovernmental organizations representing millions of Americans.

The Joint Commenters object to the unsupported premise of the NPR that PACE programs materially increase financial risks to the Enterprises, and to the Proposed Rule, which goes even further than past Federal Housing Finance Agency (“FHFA”) actions and proposals to block local government PACE programs. FHFA must issue a final rule based on facts on the record, not assertions, and consider the environmental impacts of its actions, as well as the substantial public interest in PACE.

In Section I below, we provide additional evidence demonstrating that PACE does not materially increase financial risk to the Enterprises. In Section II, we explain why FHFA’s Proposed Rule is not supported by evidence in the record for this proceeding. In Section III, we discuss why the record amply supports the adoption of a modified version of FHFA’s Third Risk Mitigation Alternative (“Alternative 3”), whereby, so long as the local government complies with the rigorous underwriting standards and program guidelines set forth in Alternative 3:

¹ Enterprise Underwriting Standards, 77 Fed. Reg. 36086 (proposed June 15, 2012) (to be codified at 12 CFR Part 1254) (hereinafter “NPR”).

1. the Enterprises shall *not* take actions to accelerate mortgages on homes with PACE obligations;
2. the Enterprises shall *be permitted* to purchase mortgages on such homes, and be directed to treat PACE assessments in a similar manner as any other local government tax or assessment; and
3. Enterprise consent to first priority PACE liens shall be deemed to have been given.

This modified version of Alternative 3 is well supported by the evidence on the record and to the extent FHFA perceives risk to the Enterprises, satisfies FHFA's obligations to protect the safety and soundness of the Enterprises while considering the environment and the public interest, and respects the well-established taxing and assessment rights of local governments. We also urge FHFA to leave open the door to the use of an insurance product or reserve fund if such a product becomes available in the future.

I. PACE Does Not Materially Increase Risks to the Enterprises

More than 30,000 comment letters in response to FHFA's Advance Notice of Proposed Rulemaking ("ANPR") supporting PACE were submitted by state and local governments from around the country, federal, state, and local elected officials, banks, real estate developers, energy companies, organizations and concerned individuals.² The Joint Commenters hereby incorporate by reference the numerous studies, articles, legal decisions and other sources cited in those comments providing a large body of evidence that PACE increases the value of homes, reduces homeowners' energy costs (thereby making mortgage repayment more likely), contributes to job growth and economic activity, and helps local governments and communities reach clean energy goals.³ In addition, the Joint Commenters hereby respond to FHFA's assertions in the NPR regarding perceived risk to the Enterprises resulting from local government PACE programs.

A. PACE Will Increase the Value of Homes and the Enterprises' Portfolios

FHFA's Proposed Rule is grounded in its unsupported conclusion that PACE materially increases financial risk to the Enterprises because it is uncertain whether the value added by

² See Exhibit A, which provides a partial list of organizations and elected officials which submitted comments urging FHFA to adopt a rule enabling residential PACE programs to move forward. As FHFA acknowledges, only a few of the more than 33,000 letters submitted in response to the ANRP expressed opposition to PACE. NPR, 77 Fed. Reg. at 36089.

³ Comments submitted on the ANPR are *available at*:
<http://www.fhfa.gov/Default.aspx?Page=89&ListNumber=5&ListID=21591&ListYear=2012&SortBy=>

PACE-financed improvements exceeds the total amount of the PACE assessment.⁴ First, if it is merely uncertain whether such value exceeds costs, it would be arbitrary and capricious for FHFA to conclude that PACE materially increases risks to the Enterprises and to adopt a Proposed Rule that blocks residential PACE. There is no evidence on the record that PACE will decrease the value of homes. As our responses below to FHFA's other arguments demonstrate, all evidence is to the contrary and PACE programs decrease risk and enhance the value of the Enterprises' portfolios.⁵

1. Hard Data Demonstrate that Energy Efficiency and Renewable Energy Improvements Increase Home Values

As discussed in tens of thousands of comments filed in response to the ANPR, numerous studies demonstrate with actual home price data that energy efficiency upgrades and renewable energy improvements increase home values.⁶ A new study published by economists at the University of California and Maastricht University in the Netherlands after the publication of the NPR found that homes that achieved energy performance ratings (Energy Star, LEED for Homes or GreenPoint Rated) sell for 9 percent more (± 4 percent) than comparable homes.⁷ The study examined data from 4,321 actual homes in California against a control group of 1.6 million homes, controlling for outside variables such as location, size, vintage and desirable features such as swimming pools, views, and air conditioning. According to the California Energy Commission, a study published in the *Appraisal Journal* showed that "a \$1 reduction in annual energy bills resulted in more than [a] \$10 increase in resale value."⁸ This is consistent with a 2011 Lawrence Berkeley National Laboratory study which examined sales of 2000 homes across California with photovoltaic ("PV") installations against a comparable set of 70,000 homes without PV from 2000 to 2009 found that, on average, the net installed cost of PV installations was \$5.00/watt and the average sales price premium for homes with PV was \$5.50/watt, which

⁴ NPR, 77 Fed. Reg. at 36099-36100. FHFA's characterization of PACE as having a "lien-priming" attribute mischaracterizes the nature of PACE. As FHFA knows, PACE is an application of the longstanding, unquestionable state and local government authority to make assessments to finance improvements with a valid public purpose to legitimate government concerns regarding energy security, job creation and environmental protection. See Comments of Vote Solar Initiative on the ANPR (March 26, 2012) at 2-4, available at: http://www.fhfa.gov/webfiles/23804/372_Vote_Solar_Initiative.pdf. Liens securing local government taxes and assessments have always held priority over private mortgages. See *id.* at note 8.

⁵ In addition to other benefits, increasing net home values reduces loan-to-value ratios, driving down the risk of default.

⁶ See, e.g., Comments of Vote Solar Initiative on the ANPR, *supra* note 4 at 6-7.

⁷ Nils Kok, Maastricht University & University of California, Berkeley and Matthew E. Kahn, University of California, Los Angeles, *The Value of Green Labels in the California Housing Market | An Economic Analysis of the Impact of Green Labeling on the Sales Price of a Home* (July 2012) at 1, available at: http://issuu.com/nilskok/docs/kk_green_homes_071912/1?mode=a_p.

⁸ California Energy Commission, *What is Your Home Energy Rating?* (2011) at 12, available at: <http://www.energy.ca.gov/2009publications/CEC-400-2009-008/CEC-400-2009-008-BR-REV1.pdf>.

translates to a premium of over \$17,000 for an average 3.1 kW solar system.⁹ By contrast, FHFA offers no actual data whatsoever to support its conclusion that PACE will decrease the value of mortgages and materially increase risks to the Enterprises.¹⁰

2. Energy Price Data Does Not Support FHFA's Risk Conclusion

FHFA argues that the impact of PACE on home values is uncertain because energy prices are variable and unpredictable. This assertion, too, is not borne out by the evidence.

According to the U.S. Department of Energy ("U.S. DOE"), "[e]nergy costs have risen steeply over the past 60 years and are expected to continue rising."¹¹ Underlying factors affecting this upward trend include higher prices for generating fuel (e.g. coal), the need for new infrastructure, and compliance costs for meeting new environmental regulations designed to safeguard public health and mitigate climate change.¹² From 2000 to 2011, residential electricity prices increased at rate of 2.5 percent annually, which is 25 percent higher than the 1.99 percent rate of inflation.¹³ See also Exhibit B, Figure 2.

Since 2006, regulators and utilities in several states have been "revisiting electricity rates that have been frozen for years. The new rate proceedings are needed to fund new infrastructure

⁹ Brian Hoen, Ryan Wiser, Peter Cappers, and Mark Thayer, *An Analysis of the Effects of Residential Photovoltaic Energy Systems on Home Sales Prices in California*, Lawrence Berkeley National Laboratory (April 2011) at iii, 4, 46, available at: <http://eetd.lbl.gov/ea/emp/reports/lbnl-4476e.pdf>. In addition, the study noted that homeowners with PV also benefit from electricity cost savings prior to the sale. See also Earth Advantage Institute, *Certified Homes Outperform Non-Certified Homes for Fourth Year* (June 8, 2011) (finding that existing homes in the Portland area with green certification sold for 30 percent more than homes without such certification, based on regional MLS data and consistent with a four-year trend), available at: <http://www.earthadvantage.org/resources/library/research/certified-homes-outperform-non-certified-homes-for-fourth-year/>.

¹⁰ The only support cited by FHFA for its concern that the value of PACE improvements will be lower than the total assessment amount is a *Remodeling Magazine* article based on *estimated* prices of remodeling projects and realtors' subjective *estimates* of the resale value of such projects. See NPR, 77 Fed. Reg. at 36099 (citing "remodeling Cost vs. Value Report 2011-2012," *Remodeling Magazine*, available at: <http://www.remodeling.hw.net/2011/costvsvalue/national.aspx>); see also methodology for such report, explained at: <http://www.remodeling.hw.net/2011/costvsvalue/article/costvsvaluedatasource.aspx>. These estimates are inconsistent with the hard data analyzed in the studies cited above and elsewhere throughout this record. Given FHFA's role as conservator and regulator of the Enterprises, it should have access to data regarding the home value impact of Energy Efficient Mortgages, for example. FHFA has supported its Proposed Rule with no such evidence.

¹¹ See, e.g., U.S. Dept. of Energy, *The Role of Appraisals in Energy Efficiency Financing* (May 2012) at 3, available at: <http://www.nrel.gov/docs/fy12osti/54329.pdf>.

¹² Edison Electric Institute, "Rising Electricity Costs: A Challenge For Consumers, Regulators, And Utilities" (May 2006), available at: www.eei.org/whatwedo/PublicPolicyAdvocacy/StateRegulation/Documents/rising_electricity_costs.pdf.

¹³ U.S. DOE, Energy Information Administration, *Table 5.3. Average Retail Price of Electricity to Ultimate Customers: Total by End-Use Sector, 2002-June 2012* (August 8, 2012), available at: www.eia.gov/electricity/data.cfm#sales; see also Edison Electric Institute, *supra* note 12.

<http://www.eei.org/whatwedo/PublicPolicyAdvocacy/StateRegulation/Documents/rising_electricity_costs.pdf>.

investments and to ensure electric rates cover today's higher fuel and operating costs."¹⁴ According to Edison Electric Institute, "the bottom line is that we are living in a rising cost environment, and electricity prices have been a great deal for many years."¹⁵

While there has been some decrease in electricity prices in some states recently, the factors contributing to this are expected to be temporary. Historically low natural gas prices are one contributing factor, but those prices are widely viewed to be unsustainably low. Indeed, there are already indications that such prices are beginning to tick upward. FHFA cites no evidence supporting a conclusion that electricity prices are expected to decrease over the long term. Nor would it be reasonable to conclude that this is a true risk. Since 1990, electricity prices have followed a fairly consistent upward trend. *See* Exhibit C, Figure 2. Moreover, according to the U.S. DOE's Energy Information Administration ("EIA") projections, electricity prices are expected to continue to rise through 2035, regardless of whether you assume a future with higher coal and oil prices. *See* Exhibit C, Figures 4 and 5.¹⁶ The EIA also predicts an increase in residential natural gas prices through 2035. *See* Exhibit C, Figure 6.

If the cost of energy rises, the presence of efficiency measures or renewable generation financed through PACE assessments will serve as a hedge and reduce the risk of mortgage default. The mortgage industry already accepts a large degree of uncertainty in traditional loans, from changes in insurance and tax rates to consumer spending, all of which have material impacts on the household budget. But unlike the other variables, the energy savings caused by PACE improvements serves to insulate borrowers from energy price volatility. In sum, the record does not support FHFA's assertion that uncertainty regarding energy prices means that PACE increases financial risk to the Enterprises.

3. Residential Appraisal Standards Have Evolved, and Will Enable the Value of PACE-Financed Improvements to Be Realized

FHFA argues that PACE increases risks to the Enterprises because "rational" purchasers will reduce the amount of their bids on homes that have benefitted from PACE improvements by the amount of the remaining special assessment obligation.¹⁷ This assertion is unsupported by evidence on the record. To the contrary, appraisers do not typically reduce residential valuations

¹⁴ *See supra* note 12 at 1.

¹⁵ *Id.* at 8.

¹⁶ Figure 3 depicts the U.S. government's official projected price increase in residential electricity prices through 2035. Note that PACE assessments are made at a fixed dollar amount per year over the term of the assessment, and are not inflation-adjusted. Given the EIA's projected nominal increase in electricity prices, and the Alternative 3 Underwriting and Program Requirements, including that energy and water cost savings exceed PACE assessment amounts, PACE will result in energy savings. Figure 4 shows the same EIA electricity price projections to 2035, adjusted to 2010 dollars. Even adjusting for inflation, EIA does not predict that electricity prices will decrease in the long term. FHFA's conclusion that energy price uncertainty increases risks to the Enterprises is not supported by evidence on the record.

¹⁷ NPR, 77 Fed. Reg. at 36100.

by the amount of local government taxes and assessments.¹⁸ As discussed extensively in comments on the ANPR, PACE is a means by which local governments use their traditional taxing and assessment authority to address a legitimate public purpose. Although the purchaser may be obligated to pay an additional property assessment, energy savings will offset this additional yearly expense and the PACE-funded measure will improve the value of the home.¹⁹

Under uniform national standards, appraisals must include the value of energy efficiency and renewable energy improvements.²⁰ The appraisal industry has evolved to enable appraisers to account for the resale value of energy efficiency and renewable energy improvements.²¹ For example, in 2011, the Appraisal Institute issued a “Residential Green and Energy Efficient Addendum” to the Uniform Residential Appraisal Report (Fannie Mae Form 1004), which facilitates the process of determining the value of clean energy improvements and making comparable sales analyses.²² In 2010, the National Association of Realtors launched a “Green MLS Tool Kit,” which facilitates the inclusion of energy efficiency and renewable energy improvements in the regional Multiple Listing Service (“MLS”) databases.²³ The Appraisal Institute provides extensive educational programs to assist appraisers in valuing residential clean energy features and complying with the Uniform Standards of Professional Appraisal Practice.²⁴

¹⁸ Instead, special assessments may be considered to be monthly housing expenses of the borrower by a lender in underwriting a borrower’s mortgage. *See, e.g.* Fannie Mae, *Selling Guide Fannie Mae Single Family* (May 2012) at 481, available at: <https://www.efanniemae.com/sf/guides/ssg/sg/pdf/se1051512.pdf>. PACE-funded improvements decrease monthly utility expenses, thereby offsetting the assessment expense while increasing the underlying value of the property.

¹⁹ *See, e.g.* Adomatis, Sandra K., “Valuing High Performance Houses,” *The Appraisal Journal* (Spring 2010) at 201.

²⁰ *See, e.g.* *Selling Guide Fannie Mae Single Family*, *supra* note 18 at 562; Adomatis, Sandra K., “Describing the Green House Made Easy,” *The Appraisal Journal* (Winter 2012) at 29 (citing Uniform Standards of Professional [Appraisal] Practice Rule 1-1(e)).

²¹ *See, e.g.* U.S. DOE, *supra* note 11 at 8.

²² Residential Green and Energy Efficient Addendum (AI Reports® Form 820.03), available at: http://www.appraisalinstitute.org/education/downloads/ai_82003_reslgreenenergyeffaddendum.pdf; http://www.appraisalinstitute.org/education/green_energy_addendum.aspx; *see also* Adomatis, *supra* note 20 at 21.

²³ *See* The Green MLS Tool Kit, *Welcome to the Green MLS Tool Kit*, available at: <http://www.greenthemls.org/index.cfm>; *see also* *The Role of Appraisals in Energy Efficiency Financing*, *supra* note 21 at 9.

²⁴ *See* Adomatis, *supra* note 20 at 22 (describing Valuation of Sustainable Buildings Professional Development Program); *see also* http://www.appraisalinstitute.org/education/prof_dev_programs.aspx. Appraisers are required by law to be educated regarding current appraisal requirements and must certify that they have knowledge and experience in appraising the particular type of property in the local market area. *See, e.g.* *The Role of Appraisals in Energy Efficiency Financing*, *supra* note 21 at 17-18 (citing Section 202(f) of the National Housing Act). Appraisers that lack knowledge and experience appraising properties with energy efficiency or renewable energy improvements are not qualified to appraise properties with such features, in particular those that serve as security for FHA-insured mortgages. *See id.* Educational resources and tools are available now to enable appraisers to account for the value of clean energy improvements.

In 2011, Sandia National Laboratories and Solar Power Electric released a tool (“PV Value™”) to enable appraisers and others to more precisely establish the value of PV systems.²⁵ PV Value™ uses an “Income Capitalization Approach” commonly used by appraisers and is intended for use by real estate appraisers, mortgage underwriters, credit analysts, real property assessors, insurance claims adjusters, and others.²⁶ This tool has been endorsed by the Appraisal Institute and works in conjunction with the Residential Green and Energy Efficient Addendum.²⁷ PV Value™ takes into account the annual energy output,²⁸ module degradation rate, site-specific shading impacts, current utility rate, utility escalation rate, operations and maintenance expenses and other factors for a specific system in determining the value of such system. PV Value addresses FHFA’s concern that the energy savings to be achieved by renewable energy projects funded through PACE must be site and region-specific.²⁹

In sum, the real estate market has already evolved -- and will continue to develop new tools, methods, and products -- to account for the positive home value impact of clean energy improvements. Therefore, FHFA’s concerns regarding risks to the Enterprises are not supported by the record.

4. The Alternative 3 Requirement that Savings Exceed Assessment Costs Mitigates FHFA’s Perceived Risk

Any risk perceived by FHFA relating to the uncertainty of the impact of PACE assessments on home values would be sufficiently mitigated if FHFA adopts a modified version of its own proposed Third Risk Mitigation Alternative (H.R. 2599 Underwriting Standards), which includes the following requirement:

“The total energy and water cost savings realized by the property owner and the property owners’ successors during the useful lives of the improvements, as determined by the audit or feasibility study performed pursuant to [NPR Section V(B)(c)(xi)] are expected to exceed the total cost to the property owner and the property owner’s successors of the PACE assessment.”³⁰

This requirement that energy and water savings exceed PACE assessment costs, as determined pursuant to a rigorous audit by a person certified by the Building Performance Institute, a Rating

²⁵ Sandia National Laboratories, PVValue™ Photovoltaic Energy Valuation Model, *available at*: http://energy.sandia.gov/?page_id=8047; Jamie L. Johnson, Solar Power Electric, Geoffrey Klise, Sandia National Laboratories, *PV Value™ User Manual v. 1.1* (Sept. 1, 2012), *available at*: http://energy.sandia.gov/wp/wp-content/gallery/uploads/PV_Value_v1_1_user_manual.pdf.

²⁶ *Id.*

²⁷ “Appraisal Institute Announces Support for New Solar Valuation Form” (Jan. 31, 2012), *available at*: <http://info.appraisalinstitute.org/blog/bid/121532/Appraisal-Institute-Announces-Support-for-New-Solar-Valuation-Tool>; http://energy.sandia.gov/?page_id=8047.

²⁸ Calculated using National Renewable Energy Laboratory’s PVWatts™ tool. *See* Johnson et. al, *supra* note 25 at 6.

²⁹ NPR, 77 Fed. Reg. at 36101.

³⁰ NPR, 77 Fed. Reg. at 36109.

Provider accredited by the Residential Energy Service network or a person who has achieved similar independent certification,³¹ would more than adequately mitigate against the risk asserted by FHFA. Studies have demonstrated the strong positive correlation between energy savings and sales price premiums.³² The adoption of this standard would also address FHFA's concern that technological and aesthetic change will decrease the value of PACE-financed improvements.³³

B. PACE is Likely to Increase Homeowners' Cash Flow and Decrease the Risk of Mortgage Default

FHFA's Proposed Rule relies upon an unfounded assertion that PACE materially increases financial risk to the Enterprises because it is uncertain whether PACE-funded improvements will reduce borrowers' monthly expenses. To the contrary, the overwhelming weight of the evidence cited in this rulemaking supports a conclusion in a recent report released by Capital-E, American Council for an Energy Efficient Economy ("ACEEE"), Appraisal Institute, Citigroup, JPMorgan Chase and the National Association of State Energy Officials that "[e]nergy efficiency measures typically enhance a borrower's ability to pay since the monthly energy bill reductions typically exceed the additional monthly payments associated with the energy efficiency improvements."³⁴

Energy costs are the second largest cost to homeowners after mortgage payments.³⁵ As discussed in Section I(A)(3) above, residential energy prices are likely to increase over the long term. The U.S. Department of Housing and Urban Development ("HUD") promotes mortgages to finance residential energy efficiency improvements backed and insured by the Federal Housing Administration ("Energy Efficient Mortgages" or "EEM") because it recognizes that energy efficiency improvements contribute positively to the value of mortgage lenders' portfolios and urges mortgagees to "[m]ake improvements which will actually save you money."³⁶ According to HUD, "[c]ost-effective energy improvements result in lower utility bills,

³¹ *Id.*

³² Hoen et. al, *supra* note 9 at iii (finding that "[w]hen expressed as a ratio of the sales price premium to estimated annual electricity cost savings associated with PV, an average ratio of 14:1 to 22:1 can be calculated; these results are consistent with those of the more-extensive existing literature on the impact of energy efficiency (and energy cost savings more generally) on home sales prices."); *see also id.* at 2 (citing prior studies on this correlation).

³³ In addition, because most PACE-funded improvements will require compliance with local permitting requirements, community aesthetic norms will be addressed.

³⁴ Kats, Greg, Menkin, Aaron, Dommu, Jeremy and DeBold, Matthew, *Energy Efficiency Financing Models and Strategies* (October 2011) at 18, available at: http://www.cap-e.com/Capital-E/Capital-E_files/Energy_Efficiency_Financing-Models_and%20Strategies.pdf.

³⁵ See U.S. DOE, *supra* note 11 at 3, Figure 1.

³⁶ HUD, Energy Efficient Mortgage Homeowner Guide, available at: http://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/sfh/eem/eemhog96 (stating that "[t]he lender saw an opportunity for them to improve on their investment and recommended an Energy Efficient Mortgage.")

conserve energy and, thus, make more income available for the mortgage payment.”³⁷ Fannie Mae itself allows borrowers to finance the cost of energy efficiency improvements as part of the purchase or refinancing of their property through the EEM program and purchases HUD’s PowerSaver loans.³⁸

Numerous federally-recognized tools exist to estimate the energy savings to be derived from a particular clean energy improvement. HUD’s own EEM program, supported by Fannie Mae, relies upon estimated savings to be achieved by energy efficient improvements, as determined by a certified energy consultant using the Home Energy Rating System (“HERS”).³⁹ A HERS rating calculates estimated operating cost of a home, taking into account energy consumption, location and energy efficient features.⁴⁰ This methodology could be used to calculate the energy savings of specific proposed PACE-funded improvements. Several home energy auditing tools analyzed in a report prepared for the U.S. DOE also have the capability to estimate energy savings.⁴¹ In addition, many states’ official technical reference manuals include stipulated energy savings values for efficiency measures.⁴²

FHFA also makes the argument that PACE materially increases financial risks to the Enterprises because, after making energy efficiency or renewable energy improvements, homeowners could choose to consume additional energy (i.e. so-called “rebound effects”). FHFA cites no evidence about the extent of the rebound effect, nor does it quantify how it could result in material financial risk to the Enterprises. Rebound theorists themselves acknowledge that there is a “paucity of data that support large rebound hypotheses.”⁴³ Where there is any empirical data regarding rebound effects, studies show that rebounds are small and diminish over

³⁷ HUD Mortgagee Letter 2005-21 (May 6, 2005) available at: http://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/sfh/eem/eemlette; see also California Energy Commission, *supra* note 8 at 9 (stating that a “\$100 per month reduction in your utility bills frees up enough cash to pay for a \$17,000 increase in your mortgage (assuming 6 percent interest over 30 years).”).

³⁸ See, e.g. Kenneth R. Harney, “FHA and Fannie Mae offer loans for home energy improvements,” *Los Angeles Times* (May 1, 2011), available at: <http://articles.latimes.com/2011/may/01/business/la-fi-harney-20110501>; Green Mortgages, *Fannie Mae’s Energy Efficient Mortgage*, available at: <http://www.greenmortgagecompany.com/green-mortgage-programs/fannie-mae-eem.html>.

³⁹ See HUD, Energy Efficient Mortgage Program, available at: http://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/sfh/eem/energy-r.

⁴⁰ See California Energy Commission, *supra* note 8 at 6.

⁴¹ SENTECH, Inc., Review of Selected Home Energy Auditing Tools In Support of the Development of a National Building Performance Assessment and Rating Program (Nov. 2, 2010) (prepared for the U.S. DOE), available at: http://apps1.eere.energy.gov/buildings/publications/pdfs/homescore/auditing_tool_review.pdf at p. 23, 32, 36.

⁴² For example, California’s Database for Energy Efficient Resources (“DEER”) provides estimates of the energy-savings potential of common residential energy efficiency measures. California Public Utilities Commission, Database for Energy Efficient Resources, available at: <http://www.deeresources.com/>; see also Data.gov, *Resources*, available at: <http://www.data.gov/communities/node/48/resources>.

⁴³ David B. Goldstein, Sierra Martinez and Robin Roy, “Are there Rebound Effects from Energy Efficiency? – An Analysis of Empirical Data, Internal Consistency, and Solutions,” *ElectricityPolicy.com* (May 8, 2011) at 12, available at: <http://www.electricitypolicy.com/archives/3138-are-there-rebound-effects-from-energy-efficiency-an-analysis-of-empirical-data-internal-consistency-and-solutions>.

time.⁴⁴ A study by ACEEE found that direct rebound effects are generally ten percent or less in the residential context.⁴⁵ This means that 90 percent of the energy savings generated by energy efficiency measures result in decreased energy use.⁴⁶ The study went on to show that the rebound effect can be reduced with increased consumer education and depth of energy efficiency measures.⁴⁷ PACE programs that follow the program and underwriting standards set forth in Section V(B)(c)(i)-(xviii) of the NPR (the “Alternative 3 Underwriting and Program Requirements”) require an audit or feasibility study that discloses costs and energy savings, and will increase customer awareness about energy usage and cost savings, thereby reducing rebound effects. In sum, FHFA’s concerns about the rebound effect are overstated.⁴⁸

Finally, FHFA assumes without evidence that simply because a household can in theory spend energy efficiency savings on more energy, this increases the risk of mortgage default. This position is unsupported by evidence. The only rational way to view the effect of a PACE improvement where savings exceed costs is that it increases the household’s monthly discretionary budget by lowering the amount dedicated to paying utility bills. As mortgage holders, the Enterprises will always be in a better position where a household has more funds available to meet monthly expenses. FHFA’s contrary view is not supported.

FHFA next argues that it is unclear whether PACE-financed improvements will increase cash flow because the affordability of solar systems relative to conventional forms of electricity is dependent on tax incentives and other subsidies. Yet the evidence shows that the solar energy industry is achieving record cost reductions on a pre-incentive basis. Over the past two and a half years the average pre-incentive installed price of a residential solar system has decreased by 22

⁴⁴ *Id.* at 12-13.

⁴⁵ Steven Nadel, ACEEE, *The Rebound Effect: Large or Small?* (Aug. 2012), available at: <http://aceee.org/files/pdf/white-paper/rebound-large-and-small.pdf>. This study calculates the rebound effect as the percentage decrease in reduced consumption. *See id.* at 1.

⁴⁶ Steven Nadel, ACEEE, *The Rebound Effect: Real, But Not Very Large* (Aug. 2012), available at: <http://www.aceee.org/blog/2012/08/rebound-effect-real-not-very-large> (stating that even if the rebound effect is as high as 20 percent, then “80% of the savings from energy efficiency programs and policies register in terms of reduced energy use, which benefits the environment and public health. And the 20% rebound contributes to increased consumer amenities (like more comfortable homes), as well as to a larger economy and more jobs. Therefore, these savings are not ‘lost,’ but put to other generally beneficial uses.”) (citing Casey Bell, ACEEE, *How Does Energy Efficiency Create Jobs?* (Nov. 14, 2011), available at: <http://aceee.org/blog/2011/11/how-does-energy-efficiency-create-job>)).

⁴⁷ *Id.* at 7.

⁴⁸ In addition, FHFA’s view that rebound is a wholly negative phenomenon is arbitrary. Some rebound can occur, for example, in a low-income household that was not able to afford adequate heating or cooling prior to weatherization or insulation. *See Nadel, supra* note 45 at 2. The fact that the household after the improvement consumes some of the savings as energy use in this circumstance should be viewed as a public good. FHFA is required to consider these types of co-benefits as an aspect of the public interest, and their presence weighs in favor of allowing PACE to proceed. *See* 12 U.S.C. § 4513(a)(1)(B)(v) (requiring FHFA to ensure that the Enterprises operate consistent with the public interest).

percent per watt.⁴⁹ In fact, solar is nearing grid parity in some markets.⁵⁰ In any event, if incentives for solar energy decline in the future and this causes residential PV installations to become less cost effective, then the requirement contained in Alternative 3 that energy and water cost savings exceed PACE assessment costs will mitigate any risk to the Enterprises.

Finally, the requirement in Alternative 3 that energy and water cost savings exceed the cost of PACE assessments will further ensure that PACE increases homeowners' cash flow and decreases risk of mortgage default. The evidence on the record clearly supports the conclusion that PACE will increase homeowner cash flow, thereby decreasing mortgage default risks. FHFA must not ignore the substantial evidence in the record establishing that PACE does not pose material risks to the Enterprises.

II. FHFA Should Not Adopt the Proposed Rule

Under the Administrative Procedure Act, FHFA's actions must be based on evidence in the administrative record and must consider reasonable alternative courses of action.⁵¹ Further, FHFA is obligated under its own implementing statute to ensure that the activities and operations of the Enterprises are consistent with the public interest.⁵² In light of the vast weight of the evidence on the record supporting the conclusion that PACE does not materially increase risks to the Enterprises, and that the risk mitigation standards set forth in the FHFA's proposed Third Risk Mitigation Alternative sufficiently protect the Enterprises against any risk perceived by FHFA (as discussed further in Section III below), it would be arbitrary and capricious for FHFA to promulgate the Proposed Rule set forth in the NPR.

FHFA's Proposed Rule is even more draconian and harmful to local government PACE programs than the proposed action cited in the ANPR. In addition to prohibiting the Enterprises from buying mortgages on properties with PACE liens, it requires the Enterprises to

immediately take such actions as are necessary to secure and/or preserve their right to make immediately due the full amount of any obligation secured by a mortgage that becomes, without the consent of the mortgage holder, subject to a first-lien PACE

⁴⁹ GTM Research, Solar Energy Industries Association, U.S. Solar Market Insight Report (Q1 2012), available at: <http://www.greentechmedia.com/research/ussmi/>.

⁵⁰ Morgan Bazilian, IjeomaOnyeji, Michael Liebreich, Ian MacGill, Jennifer Chase, Jigar Shah, Dolf Gielen, Doug Arent, Doug Landfear, and Shi Zhengrong, Bloomberg New Energy Finance, "Re-Considering the Economics of Photovoltaic Power," available at: <https://www.bnef.com/PressReleases/view/216> (May 16, 2012) at 12; see also Michael Liebreich, Jenny Chase and Morgan Bazilian, Bloomberg New Energy Finance, *Re-Considering the Economics of PV Power* (Sept. 5, 2012) at 3, available at: http://votesolar.org/wp-content/uploads/2012/09/bnef_ppt_2012-09-04.pdf.

⁵¹ 5 U.S.C. § 706(2); *Motor Vehicle Manufacturers Ass'n of U.S., Inc. v. State Farm Mutual Auto Ins. Co.*, 463 U.S. 29, 43, 46, 48 (1983) ("State Farm").

⁵² 12 U.S.C. § 4513(a)(1)(B)(v).

obligation. Such actions may include, to the extent necessary, interpreting or amending the Enterprises' Uniform Security Instruments.⁵³

Thus, the Proposed Rule allows the Enterprises to fully accelerate mortgages on properties participating in PACE and would prohibit the Enterprises from consenting to first priority PACE obligations under any conditions. FHFA's Proposed Rule interferes with the well-established authority of local governments to finance improvements with a valid public purpose through assessments⁵⁴ and imperils an extremely effective means of creating jobs, stimulating economic activity, ensuring energy security and protecting public health and the environment,⁵⁵ all of which purposes are clearly in the public interest.

III. FHFA Should Adopt a Modified Version of Its Third Risk Mitigation Alternative

FHFA has an obligation to consider alternatives to its proposed course of action and may not ignore reasonable alternatives.⁵⁶ The NPR presents three risk mitigation alternatives to the Proposed Rule and invites public comment suggesting modification to these alternatives which would address FHFA's duty to ensure that the Enterprises operate in a safe and sound manner. Based on the evidence in the record, FHFA should adopt a modified version of its Third Risk Mitigation Alternative, as described in Section III(B) below.

A. Alternative 3 Program and Underwriting Standards Are Rigorous, Workable, and Sufficiently Clear

Alternative 3 provides rigorous underwriting criteria and other protections to reduce the risk of default, ensure that PACE-financed improvements add to the value of homes, protect homeowners, and sufficiently protect the Enterprises from risk perceived by FHFA.⁵⁷ If implemented, this alternative would provide a nationally uniform set of requirements that would govern local government PACE programs. The reasonable program requirements in Alternative 3 include energy and water cost savings that exceed the cost of PACE assessments, audits or feasibility studies performed by certified raters,⁵⁸ the use of qualified contractors, a limit on the

⁵³ NPR, 77 Fed. Reg. at 36107.

⁵⁴ See Comments of Vote Solar Initiative on the ANPR (March 26, 2012) at 2-4, *available at*: http://www.fhfa.gov/webfiles/23804/372_Vote_Solar_Initiative.pdf.

⁵⁵ FHFA is also obligated under the National Environmental Policy Act ("NEPA") to consider the environmental impacts of its actions. FHFA has not yet publicly circulated any NEPA analysis. If FHFA were to adopt the Proposed Rule, this would violate its obligation under NEPA to prepare an environmental impact statement. See, e.g., 42 U.S.C. § 4332(C); *Ctr. for Biological Diversity v. Kempthorne*, 588 F.3d 701, 711 (9th Cir. 2009).

⁵⁶ See, e.g., *State Farm*, 463 U.S. at 46, 48.

⁵⁷ See NPR §V(B)(3)c(b), 77 Fed. Reg. at 36108-09.

⁵⁸ We note that some local governments have raised concerns that the audit requirements contained in NPR § V(B)(c)(xi) may be prohibitively expensive for smaller PACE-funded projects. FHFA should work with local governments with experience implementing PACE programs and consider whether some of the audit requirements can be modified for projects under a specified dollar amount while achieving the risk mitigation goals set forth in Alternative 3.

term of the PACE obligation to the useful lives of the improvements, proper recordation of PACE liens, written PACE agreements expressing all material terms, and extinguishment of PACE liens upon payment in full of PACE assessment obligations.⁵⁹ As discussed above, the requirement that energy and water cost savings exceed the cost of PACE assessments addresses FHFA's concern regarding whether a homeowner is able to repay a mortgage and ensures that the improvement increases the value of the home.⁶⁰

Alternative 3 also requires stringent yet reasonable underwriting standards, including that mortgage debt and property taxes are current, there are no involuntary liens on the property, a limit on the total PACE assessment to 10 percent of the estimated value of the property, and a 15 percent equity requirement for the home.⁶¹ These requirements more than adequately protect the Enterprises against all of the risks perceived by FHFA and are workable from the perspective of local governments with experience operating PACE programs.

FHFA contends that elements of Alternative 3 are "inherently vague," citing as an example that Alternative 3 does not provide a methodology for computing the costs and savings associated with PACE improvements.⁶² Alternative 3 contains sufficient detail to guide sound PACE program development at the local level. If FHFA finds it to be necessary, it could provide further detail regarding the methodology for determining whether energy and water cost savings exceed the cost of PACE assessments, discount rates, or other details via a guidance document issued after consultation with agencies possessing subject matter expertise, local governments with actual PACE program implementation experience, and representatives of the residential energy efficiency improvement and renewable energy industries.

There are numerous methodologies available to estimate the savings to be achieved by PACE-financed efficiency improvements. For example, FHA and HUD's EEM program, which is supported by Fannie Mae, requires that energy efficiency measures be cost-effective, meaning that "the total cost of the improvements is less than the total present value of the energy saved over the useful life of the energy improvement."⁶³ The cost of improvements and savings to be achieved are determined by an energy consultant using the HERS system. Discount rates and

⁵⁹ See NPR, 77 Fed. Reg. at 36108-09.

⁶⁰ See Section I(A)(4) above.

⁶¹ NPR, 77 Fed. Reg. at 36108-09.

⁶² *Id.* at 36102, 36109.

⁶³ See HUD, *supra* note 39.

other details can be drawn from these longstanding federally-backed energy efficiency financing programs.⁶⁴

For solar PV systems funded via PACE, numerous sources are available to determine expected electricity production and electricity cost savings for a specific system in a specific location (customized for system size, utility rates, array type, tilt angle, shading and azimuth angle) for purposes of determining whether the energy savings exceed assessment costs, including National Renewable Energy Laboratory's PVWatts™ calculator, which is the national standard for such calculations.⁶⁵ The U.S. DOE provides a similar tool for estimating the cost and energy savings of solar water heaters.⁶⁶

FHFA similarly critiques Alternative 3 on the ground that FHFA is unsure how the “weighted average expected useful life of the PACE improvement” is to be calculated. The lives of energy efficiency measures are documented in many official state and regional technical reference manuals, databases of stipulated energy savings values for efficiency measures.⁶⁷ Calculating the expected useful lives of energy efficiency and renewable energy measures funded via PACE is not a significant stumbling block that justifies the Proposed Rule, which would block local government PACE programs.

Finally, the NPR states that “in FHFA’s view, it would be more productive to conduct pilot studies on the impact on home values from EE improvements and enforce such standards than to select among financing methods.”⁶⁸ By allowing PACE to proceed in compliance with its reasonable Alternative 3 Underwriting and Program Requirements, FHFA would not be selecting an energy efficiency or renewable energy financing method; FHFA would be merely fulfilling its statutory obligations while stepping out of the way of one highly promising solution and enabling local governments to exercise their authority to finance improvements with a valid public purpose.

⁶⁴ For example, the Residential Energy Services Network (RESNET), an independent organization which sets forth standards on an annual basis to ensure accurate and reliable home energy ratings that are recognized by the DOE, EPA, IRS, and US mortgage industry (including the Enterprises), determines the economic parameters for evaluating energy conservation measures and EEMs, including discount rates. See <http://www.resnet.us/about>; see, e.g., http://www.resnet.us/standards/RESNET_Mortgage_Industry_National_HERS_Standards.pdf. PVValue provides another useful resource for determining appropriate discount rates. See Sandia National Laboratories, *supra* note 25.

⁶⁵ See <http://www.nrel.gov/rredc/pvwatts/>.

⁶⁶ See U.S. DOE, *Estimating the Cost and Energy Efficiency of a Solar Water Heater*, available at: <http://energy.gov/energysaver/articles/estimating-cost-and-energy-efficiency-solar-water-heater>.

⁶⁷ See Data.gov, *supra* note 42 (explaining that the California Public Utilities Commission’s DEER database calculates the effective useful lives of energy efficiency measures); see also California Public Utilities Commission, *supra* note 42.

⁶⁸ NPR, 77 Fed. Reg. at 36109.

B. Alternative 3 Should be Modified in the Final Rule so that it can be Practically Implemented by Local Governments

Although the underwriting criteria and other protections contained in Alternative 3 provide sufficient mitigation of the risks perceived by FHFA, Alternative 3 is unworkable as drafted in the NPR. As drafted, Alternative 3 requires Enterprise consent to local government assessments for valid public purposes even if the Alternative 3 Underwriting and Program Requirements are satisfied. Under FHFA's proposed version of Alternative 3, if the applicable Enterprise does not consent to a local government PACE lien for a particular home, the Enterprises are still prohibited from purchasing a mortgage on such home and are still permitted to make the full mortgage on such home immediately due. As drafted, Alternative 3 does not ensure that the applicable Enterprise will indeed consent to a local government PACE lien even if the local government complies with the rigorous underwriting standards and program requirements set forth in Alternative 3. This formulation renders PACE programs unworkable from the perspective of local governments implementing PACE programs. In addition, given the complexity of the residential mortgage aftermarket, property owners rarely know the identity of the current underlying holder of their mortgage and therefore obtaining lender consent would be infeasible.⁶⁹ For these reasons, Alternative 3 must be altered in order to allow residential PACE programs to proceed.

FHFA should therefore adopt a modified version of Alternative 3 whereby, so long as all PACE obligations are (or promptly upon their creation will be) recorded in the relevant jurisdiction's public land-title records and the applicable jurisdiction complies with the Alternative 3 Underwriting and Program Requirements, then the Enterprises shall *not* take actions to make immediately due the full amount of any obligation secured by a mortgage that becomes subject to a first-lien PACE obligation and shall *be permitted* to purchase mortgages subject to first-lien PACE obligations. Under this modified Alternative 3, if the local government has complied with the Alternative 3 Underwriting and Program Requirements, the existence of a PACE lien shall not be a factor in the Enterprises' purchasing decisions (i.e. the Enterprises shall be directed to treat PACE liens the same way they treat liens for all other local government taxes and assessments) and consent to a first priority PACE lien shall be deemed to have been given. This variation on Alternative 3 provides a compromise that clarifies the ambiguity with regard to Enterprise consent in the version of Alternative 3 as drafted, is amply supported by the record evidence, can be implemented by local governments right away and will allow PACE programs to move forward.

⁶⁹ See, e.g. Gretchen Morgenson, "More Home Foreclosures Loom As Owners Face Mortgage Maze," *New York Times* (August 6, 2007) at A; see also http://www.huffingtonpost.com/2010/11/16/mortgage-security-chart_n_784274.html.

C. FHFA Should Leave Open the Door To Future Risk Mitigation Via Insurance or a Reserve Fund

We also urge the FHFA, in its final rule adopting this modified version of Alternative 3, to leave open the future opportunity to address its concerns through implementation of elements of its proposed Alternative 1 (Guarantee/Insurance). At this time, there is no insurance product in the marketplace or an established reserve fund that protects against “100% of any net loss” as suggested by FHFA.⁷⁰ Requiring such a guarantee would be unprecedented, and we believe entirely unwarranted given the lack of evidence to support FHFA’s conclusion that PACE materially increases financial risk to the Enterprises.

At some point in the future, however, some form of insurance or loan loss reserve could provide additional risk mitigation. The Federal Housing Administration currently provides mortgage insurance on energy efficiency mortgage and loan products,⁷¹ and so it is not inconceivable to envision the development of a federally-backed or private insurance product or reserve fund capable of providing reasonable insurance against perceived risk to the Enterprises from the existence of PACE liens on residential properties.

A number of private mortgage insurance companies currently insure the Enterprises against losses that may be incurred where homebuyers seek to borrow more than 80 percent of the purchase price of a home.⁷² Insured losses include those that could result from a failure to make payments on mortgage balances, accrued interest, and foreclosure costs (such as property taxes, and assessments).⁷³ Insuring against losses associated with PACE assessments is likely to be attractive to private mortgage insurers for at least two reasons: given higher loan-to-value qualification standards established by PACE programs, insurers would have an opportunity to insure against a much stronger pool of homes than is the case with their current core business (where prospective buyers have equity of less than twenty percent), and a market opportunity would extend to all homes in jurisdictions with PACE programs, not just those seeking initial financing or refinancing.

We urge the FHFA to work with the undersigned organizations, local governments administering PACE programs, and private mortgage insurers to explore potential insurance products. We also urge the FHFA to work with these organizations to analyze the feasibility of

⁷⁰ See NPR, 77 Fed. Reg. at 36107.

⁷¹ See HUD, “HUD Announces Pilot Program to Help Homeowners Pay for Energy Improvements to Their Homes,” (Nov. 9, 2010), *available at*: http://portal.hud.gov/hudportal/HUD?src=/press/press_releases_media_advisories/2010/HUDNo.10-251; *see also* factsheet regarding the FHA Power Saver Pilot Program, *available at*: <http://portal.hud.gov/hudportal/documents/huddoc?id=FHAPowerSaverFactSheet.pdf>.

⁷² MGIC, *How Mortgage Insurance Works*, *available at*: <http://www.mgic.com/pdfs/71-42917-how-mi-wrk.pdf>; Genworth Financial, *What is Mortgage Insurance?*, *available at*: http://www.smartermi.com/content/mortgageinsurance/us/en/learn/what_is_mortgage_insurance.html.

⁷³ *See id.* at 5.

establishing a credit reserve that could mitigate against risks perceived by FHFA. FHFA cannot merely block PACE, as the Proposed Rule would do, without exploring reasonable risk mitigation alternatives.

As noted above, no insurance product or reserve fund meeting FHFA's stringent risk tolerance criteria currently exists, and the Alternative 3 Underwriting and Program Requirements thoroughly address FHFA's perceived risks to the Enterprises and can be implemented now to allow local government PACE programs to move forward. Thus, we recommend that FHFA adopt the modified form of Alternative 3 described in Section III(B) above. The final rule should also provide that if an insurance product or reserve fund that provides sufficient protection against the risk to the Enterprises perceived by FHFA becomes available in the future, local governments should be permitted to choose whether to utilize such products or comply with the Alternative 3 Underwriting and Program Requirements.

IV. Conclusion

The Joint Commenters welcome the opportunity to work with FHFA to further refine the modified alternative to the Proposed Rule if necessary. In addition, other agencies with subject matter expertise in energy policy and technology stand ready to assist FHFA in the development of its rule.⁷⁴ It would be arbitrary and capricious for FHFA to close the door to residential PACE by issuing the Proposed Rule when a workable compromise is available now.

(Continued on next page)

⁷⁴ See, e.g., Comments of U.S. DOE on the ANPR (March 26, 2012) at 2-4, available at: http://www.fhfa.gov/webfiles/23801/369_U.S._Department_of_Energy_with_Attachments.pdf.

Based on the record evidence and FHFA's obligations to consider the impact of its actions on the environment and the public interest as well as reasonable alternatives to its proposed course of action, FHFA should adopt Alternative 3 to the Proposed Rule (modified as proposed in these comments), and should leave open the door to the future use of an insurance product or reserve fund. This reasonable alternative enables FHFA to enhance the value of the Enterprises' portfolio while respecting the rights of local governments to protect the public health and safety and allowing this extremely effective engine of job creation to move forward.

Sincerely,



Kateri Callahan
President
Alliance to Save Energy



Andrew Goldberg
Managing Director
Government and Community Relations
The American Institute of Architects



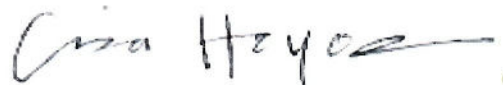
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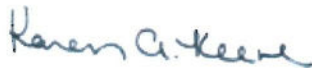
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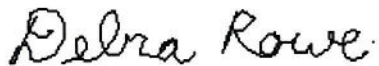
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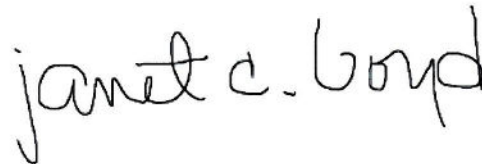
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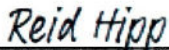
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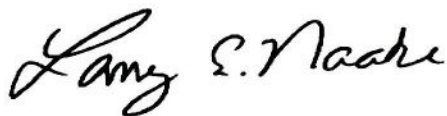
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Vote Solar Initiative



David Magid
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You Save Green, Incorporated

Enc: The following references are included via email and CD for your review and inclusion in the administrative record.

ENCLOSED REFERENCES

**Attachment
No.**

- A** Adomatis, Sandra K., "Describing the Green House Made Easy," *The Appraisal Journal* (Winter 2012), available at: <http://adomatisappraisalservice.com/GreenHouse.pdf>
- B** Adomatis, Sandra K., "Valuing High Performance Houses," *The Appraisal Journal* (Spring 2010), available at: <http://www.alliancees.org/wp-content/uploads/2010/12/TAJ-Valuing-High-Performance-Houses.pdf>
- C** Appraisal Institute, AI Reports® Releases New Form 820.03: Residential Green and Energy Efficient Addendum, http://www.appraisalinstitute.org/education/green_energy_addendum.aspx (last visited Sept. 11, 2012)
- D** "Appraisal Institute Announces Support for New Solar Valuation Form" (Jan. 31, 2012), available at: <http://info.appraisalinstitute.org/blog/bid/121532/Appraisal-Institute-Announces-Support-for-New-Solar-Valuation-Tool>
- E** Appraisal Institute, Professional Development Programs, http://www.appraisalinstitute.org/education/prof_dev_programs.aspx (last visited Sept. 11, 2012)
- F** Brian Hoen, Ryan Wiser, Peter Cappers, and Mark Thayer, *An Analysis of the Effects of Residential Photovoltaic Energy Systems on Home Sales Prices in California*, Lawrence Berkeley National Laboratory (April 2011), available at: <http://eetd.lbl.gov/ea/emp/reports/lbnl-4476e.pdf>
- G** California Energy Commission, What is Your Home Energy Rating? (2011), available at: <http://www.energy.ca.gov/2009publications/CEC-400-2009-008/CEC-400-2009-008-BR-REV1.pdf>

- H** California Public Utilities Commission, Database for Energy Efficient Resources, *available at: <http://www.deeresources.com/>; see also Data.gov, Resources, available at: <http://www.data.gov/communities/node/48/resources>*
- I** Casey Bell, ACEEE, *How Does Energy Efficiency Create Jobs?* (Nov. 14, 2011), *available at: <http://aceee.org/blog/2011/11/how-does-energy-efficiency-create-job>*
- J** Data.gov, Resources, *available at: <http://www.data.gov/communities/node/48/resources>*
- K** David B. Goldstein, Sierra Martinez and Robin Roy, “Are there Rebound Effects from Energy Efficiency? – An Analysis of Empirical Data, Internal Consistency, and Solutions,” *ElectricityPolicy.com* (May 8, 2011), *available at: <http://www.electricitypolicy.com/archives/3138-are-there-rebound-effects-from-energy-efficiency-an-analysis-of-empirical-data-internal-consistency-and-solutions>*
- L** Earth Advantage Institute, *Certified Homes Outperform Non-Certified Homes for Fourth Year* (June 8, 2011), *available at: <http://www.earthadvantage.org/resources/library/research/certified-homes-outperform-non-certified-homes-for-fourth-year/>*
- M** Edison Electric Institute, “Rising Electricity Costs: A Challenge For Consumers, Regulators, And Utilities” (May 2006), *available at: www.eei.org/whatwedo/PublicPolicyAdvocacy/StateRegulation/Documents/rising_electricity_costs.pdf*
- N** Fannie Mae, *Selling Guide Fannie Mae Single Family* (May 2012), *available at: <https://www.efanniemae.com/sf/guides/ssg/sg/pdf/sel051512.pdf>*
- O** Genworth Financial, *What is Mortgage Insurance?*, *available at: http://www.smartermi.com/content/mortgageinsurance/us/en/learn/what_is_mortgage_insurance.html* (last visited Sept. 11, 2012).
- P** Green MLS Tool Kit, *Welcome to the Green MLS Tool Kit*, *available at: <http://www.greenthemls.org/index.cfm>*

- Q** Green Mortgages, *Fannie Mae's Energy Efficient Mortgage*, available at: <http://www.greenmortgagecompany.com/green-mortgage-programs/fannie-mae-eem.html> (last visited Sept 11, 2012).
- R** Gretchen Morgenson, "More Home Foreclosures Loom As Owners Face Mortgage Maze," *New York Times* (August 6, 2007), available at: http://www.nytimes.com/2007/08/06/business/06home.html?_r=1&pagewanted=print
- S** GTM Research, Solar Energy Industries Association, U.S. Solar Market Insight Report (Q1 2012), available at: <http://www.greentechmedia.com/research/ussmi/> (last visited Sept 11, 2012).
- T** HUD, Energy Efficient Mortgage Homeowner Guide, available at: http://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/sfh/eem/eemhog96 (last visited Sept 11, 2012).
- U** HUD, Energy Efficient Mortgage Program, available at: http://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/sfh/eem/energy-r (last visited Sept. 11, 2012).
- V** HUD, "FHA PowerSaver Pilot Program" factsheet, available at: <http://portal.hud.gov/hudportal/documents/huddoc?id=FHAPowerSaverFactSheet.pdf> (last visited Sept. 11, 2012).
- W** HUD, "HUD Announces Pilot Program to Help Homeowners Pay for Energy Improvements to Their Homes," (Nov. 9, 2010), available at: http://portal.hud.gov/hudportal/HUD?src=/press/press_releases_media_advisories/2010/HUDNo.10-251
- X** HUD Mortgagee Letter 2005-21 (May 6, 2005), available at: http://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/sfh/eem/eemlette
- Y** Jamie L. Johnson, Solar Power Electric, Geoffrey Klise, Sandia National Laboratories, *PV Value™ User Manual v. 1.1* (Sept. 1, 2012), available at:

http://energy.sandia.gov/wp/wp-content/gallery/uploads/PV_Value_v1_1_user_manual.pdf

- Z** Kats, Greg, Menkin, Aaron, Domm, Jeremy and DeBold, Matthew, *Energy Efficiency Financing Models and Strategies* (October 2011), available at: http://www.cap-e.com/Capital-E/Capital-E_files/Energy_Efficiency_Financing-Models_and%20Strategies.pdf
- AA** Kenneth R. Harney, "FHA and Fannie Mae offer loans for home energy improvements," *Los Angeles Times* (May 1, 2011), available at: <http://articles.latimes.com/2011/may/01/business/la-fi-harney-20110501>
- BB** Michael Liebreich, Jenny Chase and Morgan Bazilian, Bloomberg New Energy Finance, *Re-Considering the Economics of PV Power* (Sept. 5, 2012), available at: http://votesolar.org/wp-content/uploads/2012/09/bnef_ppt_2012-09-04.pdf
- CC** MGIC, *How Mortgage Insurance Works*, available at: <http://www.mgic.com/pdfs/71-42917-how-mi-wrk.pdf>
- DD** Morgan Bazilian, Ijeoma Onyeji, Michael Liebreich, Ian MacGill, Jennifer Chase, Jigar Shah, Dolf Gielen, Doug Arent, Doug Landfear, and Shi Zhengrong, Bloomberg New Energy Finance, "Re-Considering the Economics of Photovoltaic Power," available at: <https://www.bnef.com/PressReleases/view/216>
- EE** National Renewable Energy Laboratory, Renewable Resource Data Center PVWatts, <http://www.nrel.gov/rredc/pvwatts/> (last visited Sept. 11, 2012).
- FF** Nils Kok, Maastricht University & University of California, Berkeley and Matthew E. Kahn, University of California, Los Angeles, *The Value of Green Labels in the California Housing Market | An Economic Analysis of the Impact of Green Labeling on the Sales Price of a Home* (July 2012), available at: http://www.corporate-engagement.com/files/publication/KK_Green_Homes_071912.pdf
- GG** Residential Energy Services Network, *2006 Mortgage Industry National Home Energy Rating Systems Standards*, available at:

http://www.resnet.us/standards/RESNET_Mortgage_Industry_National_HERS_Standards.pdf

- HH** Sandia National Laboratories, PVValue™ Photovoltaic Energy Valuation Model, available at: http://energy.sandia.gov/?page_id=8047 (last visited Sept. 11, 2012).
- II** SENTECH, Inc., Review of Selected Home Energy Auditing Tools In Support of the Development of a National Building Performance Assessment and Rating Program (Nov. 2, 2010) (prepared for the U.S. DOE), available at: http://apps1.eere.energy.gov/buildings/publications/pdfs/homescore/auditing_tool_review.pdf
- JJ** Steven Nadel, ACEEE, *The Rebound Effect: Large or Small?* (Aug. 2012), available at: <http://aceee.org/files/pdf/white-paper/rebound-large-and-small.pdf>
- KK** Steven Nadel, ACEEE, *The Rebound Effect: Real, But Not Very Large* (Aug. 2012), available at: <http://www.aceee.org/blog/2012/08/rebound-effect-real-not-very-large>
- LL** U.S. Dept. of Energy, Energy Information Administration, *Table 5.3. Average Retail Price of Electricity to Ultimate Customers: Total by End-Use Sector, 2002-June 2012* (August 8, 2012), available at: www.eia.gov/electricity/data.cfm#sales
- MM** U.S. Dept. of Energy, *Estimating the Cost and Energy of a Solar Water Heater*, available at: <http://energy.gov/energysaver/articles/estimating-cost-and-energy-efficiency-solar-water-heater>
- NN** U.S. Dept. of Energy, *The Role of Appraisals in Energy Efficiency Financing* (May 2012), available at: <http://www.nrel.gov/docs/fy12osti/54329.pdf>
- OO** William Alden, “Man Makes Ridiculously Complicated Chart To Find Out Who Owns His Mortgage,” *The Huffington Post* (November 16, 2010), available at: http://www.huffingtonpost.com/2010/11/16/mortgage-security-chart_n_784274.html

Exhibit A

Organizations and Elected Officials that Submitted Comments on ANPR in Support of PACE

Alliance to Save Energy
Ann Arbor Energy Commission
American Public Power Association
Appraisal Institute
Architecture 2030
Mayor of the City of Aspen, Colorado
Aspen Skiing Company
Bay Area Air Quality Management District
BlueGreen Alliance
Boulder County Board of Commissioners
Business Council for Sustainable Energy
Brighthouse Energy Solutions, LLC
California Attorney General
California Custom Building Services, Inc.
California Energy Commission
California Energy Efficiency Industry Council
California Governor Jerry Brown
California State Senator Jared Huffman
California Assembly Member Fran Pavley
California Solar Energy Industries Association
California State Association of Counties
California State Treasurer, Bill Lockyer
Center for Biological Diversity
Center for Environmental Innovation in Roofing
Center on Wisconsin Strategy
Citigroup Global Markets, Inc., on behalf of its Municipal Securities Division
Citizens Climate Lobby
Citizens for Pennsylvania's Future
City of Ann Arbor, Michigan
City of Northfield, Minnesota
City of Palm Desert, California
Clean Energy Coalition
Climate Action Center
Coalition for a Clean Colorado
Colorado Governor's Energy Office
Colorado Municipal League
Connecticut Clean Energy Finance and Investment Authority
Connecticut Department of Energy and Environmental Protection
Connecticut Fund for the Environment
Community Office for Resource Efficiency
Conservation Services Group

Consumers Union
Board of Supervisors, County of Ventura, California
County of Los Angeles
Los Angeles Area Chamber of Commerce
County of Santa Clara, California
County of Suffolk, New York
District of Columbia, District Department of the Environment
Dow Chemical Company
Eagle County, Colorado Board of Commissioners
Efficiency First
Energy Task Force of the City and County of San Jose, California
Environment America
Environmental Defense Fund
Environmental Entrepreneurs
Fay-Penn Economic Development Council
Florida Catastrophic Storm Risk Management Center, Florida State University
Florida PACE Funding Agency
Florida Retail Federation
Great Lakes Environmental Law Center
Green America
High Country Conservation Center
Illinois Solar Energy Association
International Ground Source Heat Pump Association
Jones Lang LaSalle
Jordan Institute
JPR Plumbing and Heating
Kansas City, Missouri City Council
Leon County, FL Board of Commissioners
Local Government Commission
Long Island Green Homes
Masco Corporation
Mayor of the City of Boulder, Colorado
Mayor of City of College Park, Maryland
Mayor of City of New York, New York
Mayor of City of Redlands, California
Mayor of City of San Francisco, California
Mayor of the City of Visalia, California
Metropolitan Washington Council of Governments
Mid America Regional Council
Midwest Energy Efficiency Alliance
Montgomery County, Maryland
Mountain View, California City Council
National Association of Counties
National League of Cities
National Association of Regulatory Utility Commissioners
National Wildlife Federation

Natural Resources Defense Council
Northern Westchester Energy Action Consortium
New York City Energy Efficiency Corporation
New York Solar Energy Society
PACENow
Pitkin County Board of Commissioners
Placer County, California Treasurer/Tax Collector
Powersmith Home Energy Solutions
Renewable Communities Alliance
Renewable Funding
Renew Missouri
Renovate America
Renu Energy
Residential Energy Services Network
Sacramento Municipal Utilities District
Sarasota County, Florida
Solar Energy Industries Association
Sierra Club
Silicon Valley Leadership Group
Simon Property Group
Small Business Majority
Solar Done Right
Sonoma County Board of Supervisors
Southern Alliance for Clean Energy
Southern Westchester Energy Action Consortium
Stella Group, Ltd.
SunBlue Energy
Sustainability Institute at Molloy College
Sustainable Business Alliance
Tompkins County, New York Legislature
Town of Babylon, New York
Town of Bedford, New York
Town Council of the Town of New Shoreham
U.S. Conference of Mayors
U.S. Department of Energy
U.S. Green Building Council
U.S. Representative John Campbell
U.S. Representative Lois Capps
U.S. Representative Russ Carnahan
U.S. Representative Wm. Lacy Clay
U.S. Representative Jim Costa
U.S. Representative Susan Davis
U.S. Representative Nan Hayworth
U.S. Representative Mike Honda
U.S. Representative Peter King
U.S. Representative Zoe Lofgren

U.S. Representative Nita Lowey
U.S. Representative Dan Lungren
U.S. Representative Mary Bono Mack
U.S. Representative Doris Matsui
U.S. Representative John Sarbanes
U.S. Representative Jackie Speier
U.S. Representative Pete Stark
U.S. Representative Mike Thompson
U.S. Representative Peter Welch
U.S. Representative Lynn Woolsey
U.S. Senator Mark Begich
U.S. Senator Michael F. Bennet
U.S. Senator Jeff Bingaman
U.S. Senator Christopher A. Coons
U.S. Senator Al Franken
U.S. Senator Kirsten E. Gillibrand
U.S. Senator John F. Kerry
U.S. Senator Patrick Leahy
U.S. Senator Jeff Merkley
U.S. Senator Bernard Sanders
U.S. Senator Mark Udall
U.S. Senator Tom Udall
Utah Clean Energy
Village of Pinecrest, Florida
Vote Solar Initiative
Wasatch Clean Air Coalition
Ygrene Energy
Yonkers City Council

Exhibit B

Figure 1: Energy Information Administration Form 861, National Average Retail Electricity Prices, 1990-2010.

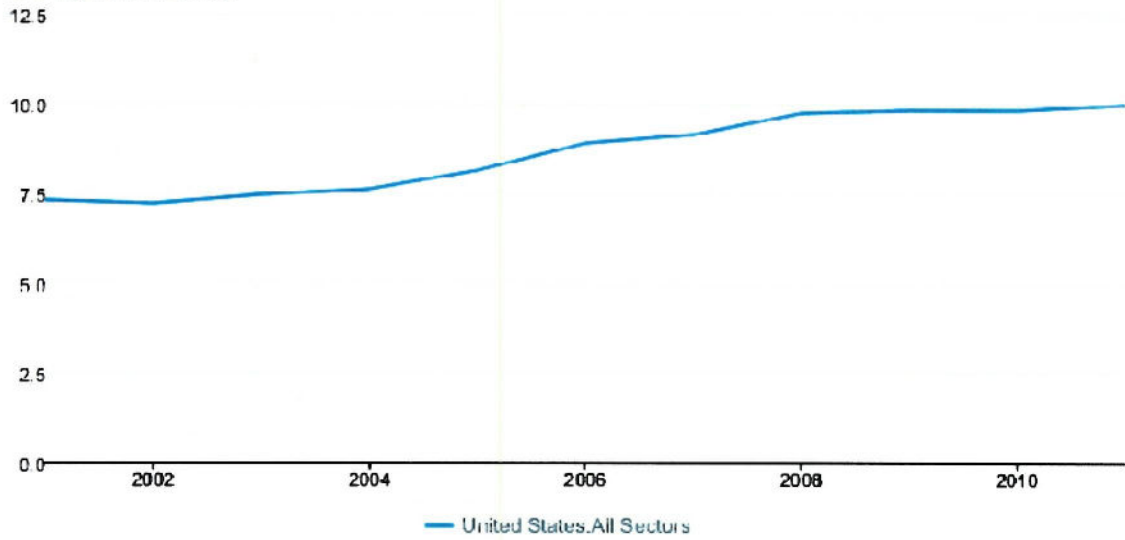
Year	Residential Price (Cents per kilowatthour)
1990	7.83
1991	8.04
1992	8.21
1993	8.32
1994	8.38
1995	8.40
1996	8.36
1997	8.43
1998	8.26
1999	8.16
2000	8.24
2001	8.58
2002	8.44
2003	8.72
2004	8.95
2005	9.45
2006	10.40
2007	10.65
2008	11.26
2009	11.51
2010	11.54

Source: Energy Information Administration, Form 861

Figure 2: Average Retail Electricity Prices (2000- 2011)

Average Retail Price of Electricity

Cents per Kilowatthour

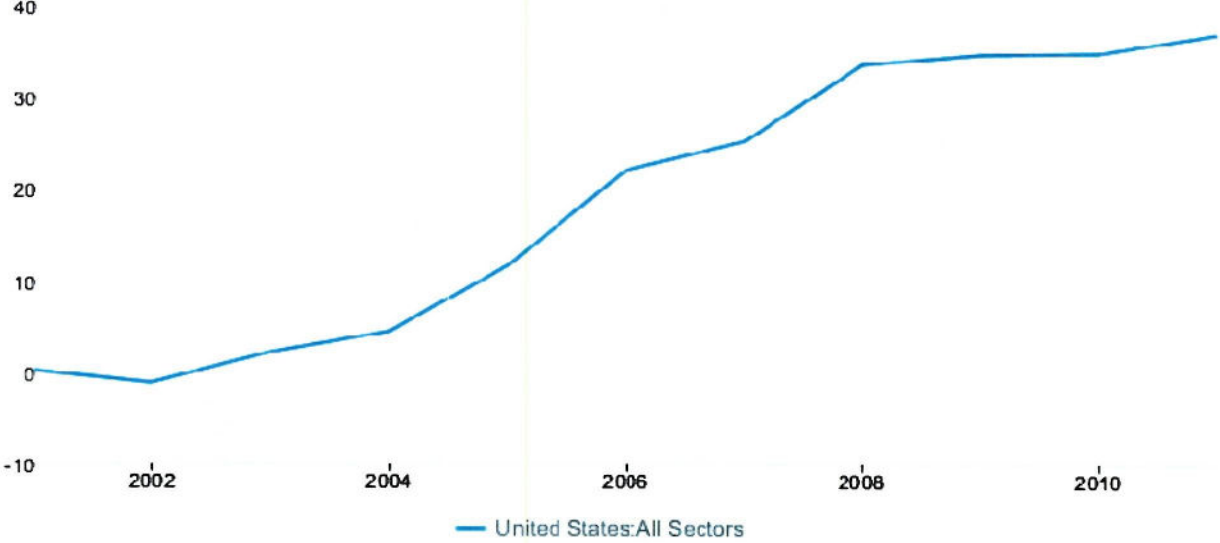


 Source: U.S. Energy Information Administration

Figure 3: Average Retail Electricity Prices - Indexed to 2001 Prices as a Percent (2000- 2011)

Average Retail Price of Electricity

Indexed to 2001 as percent:



 Source: U.S. Energy Information Administration

Exhibit C

Figure 4: Actual and Projected Electricity Prices for Residential Customers, 2011-2035

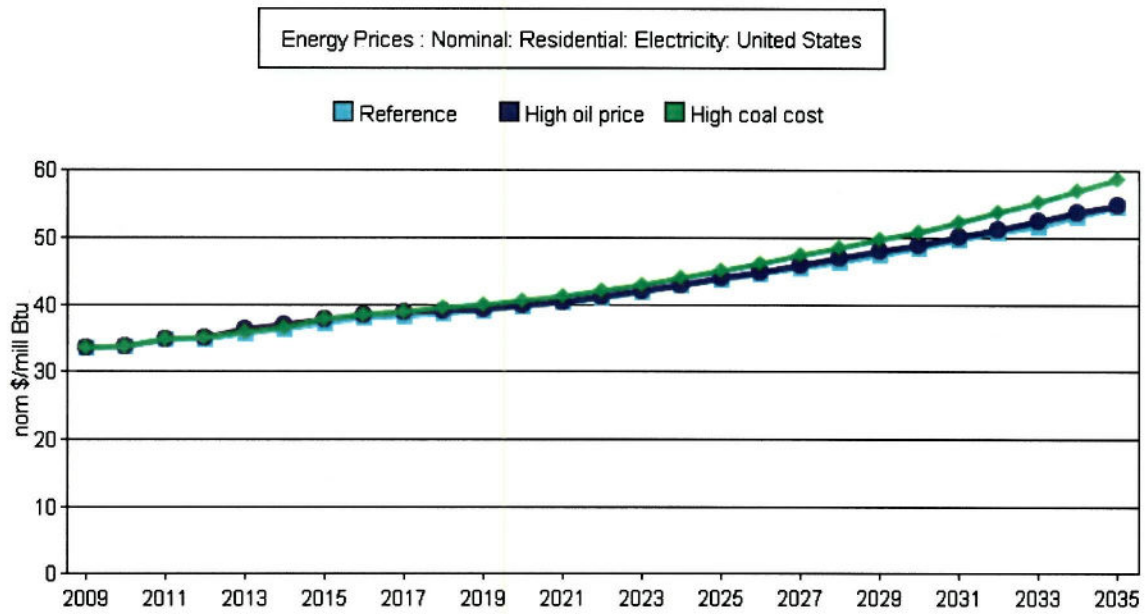


Figure 5: Actual and Projected Electricity Prices for Residential Customers, 2011-2035

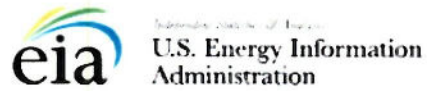
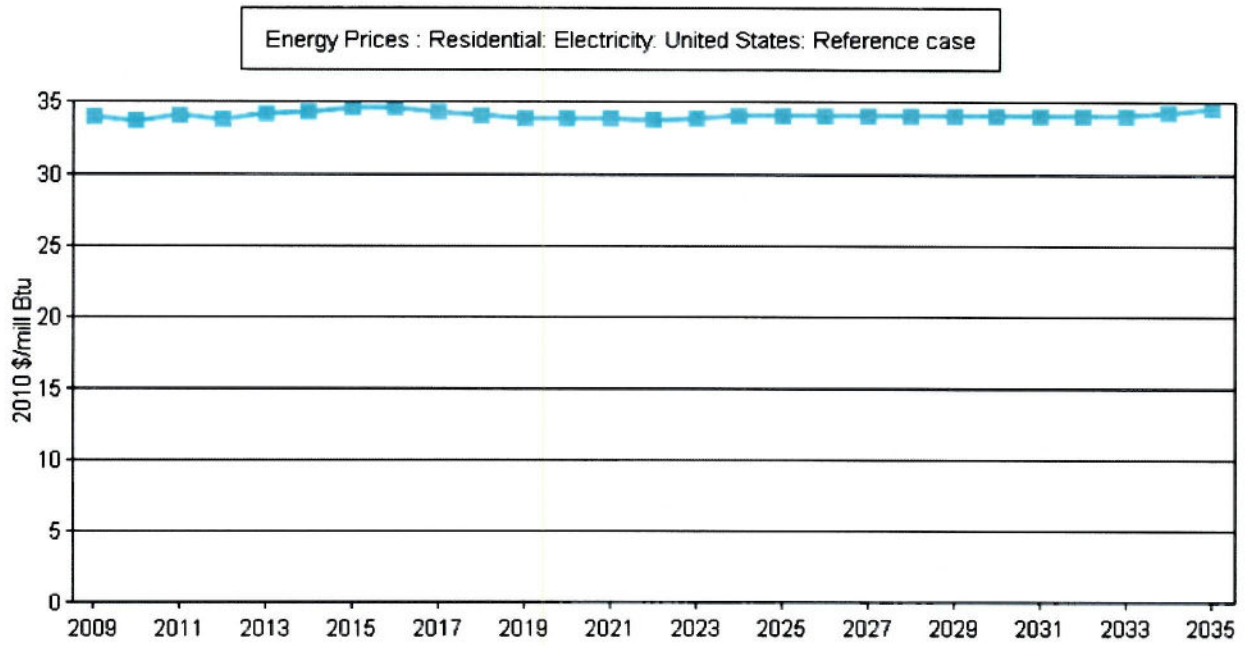


Figure 6: Actual and Projected Residential Natural Gas Prices, 2011-2035

