RENOVATE AMERICA
GREEN BOND

HERO GREEN BOND FRAMEWORK

FRAMEWORK OVERVIEW AND SECOND OPINION BY SUSTAINALYTICS

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1. INTRODUCTION

Renovate America, Inc. ("Renovate America") developed a green bond framework under which it intends to issue multiple series of green notes (the "Senior Notes," "Bonds" or "HERO Green Bonds") through its ABS platform called Home Energy Renovation Opportunity ("HERO") Funding. The Senior Notes are secured by a pool of limited obligation improvement bonds called Property Assessed Clean Energy ("PACE") bonds, the proceeds of which are used to finance energy efficiency, renewable energy and water conservation projects and products. The HERO Green Bond Framework is consistent with the current Green Bond Principles 2016 ("GBP") as held by the International Capital Market Association ("ICMA").

Renovate America has engaged Sustainalytics to provide a second-party opinion on the HERO Green Bond Framework and the framework's environmental credentials. As a part of this engagement, Sustainalytics reviewed relevant public and internal documents, and held conversations with various members of Renovate America's management team to understand the environmental impact of the planned use of proceeds for the Bonds project selection process based on established eligibility criteria and transparency of the management of issued Green Bonds. This document contains two sections: (1) Framework Overview – summary of the Renovate America HERO Green Bond Framework, and (2) Sustainalytics' Opinion – an opinion on the framework.

2. OVERVIEW OF ISSUER

Overview

Renovate America is a technology-focused finance company headquartered in San Diego, California, with over 650 full-time employees. Founded in 2009, it partners with local governments to administer the financing process for home improvement projects involving installation of energy efficiency, renewable energy and water efficiency products through its HERO program. The HERO program received a Climate Leadership Certificate for Innovative Partnerships by the U.S. Environmental Protection Agency (EPA) in March 2016. The HERO program operates under California's PACE legislation, which allows homeowners to finance renewable energy, energy efficiency and water efficiency renovations through voluntary property tax assessments. Renovate America is retained by local municipalities to establish and administer their PACE programs. As of March 2017, Renovate America has financed over 2.27 billion USD in PACE funding for 93,000 residential property owners.

The PACE Process

The HERO program has been providing homeowners with the opportunity to finance solar, energy and water efficiency and renewable energy improvements at no upfront cost. Enabled by PACE legislation, local governments raise capital through issuances of limited obligation municipal bonds or PACE bonds. The proceeds from these bonds are administered by the HERO program and are used to enable homeowners to carry out renewable energy, energy and water efficiency home improvements. The HERO program pays the contractors directly for the installation of water efficient, energy efficient or renewable energy generating products in consumer homes. Homeowners, through the HERO technology platform, choose both the contractors and the eligible products to be installed on their properties. By virtue of the PACE financing structure, homeowners do not incur upfront payments for their energy and water efficient home improvements. Instead, homeowners repay the financing for their green renovations through property tax payments. Municipalities collect this repayment as a part of their annual tax collection process, and remit these tax payments to PACE bondholders via a trustee. In July 2016, the White House issued a statement announcing executive actions to support the expansion of PACE financing. The Federal Housing Administration (FHA) also issued guidance on July 19, 2016 confirming that properties with PACE assessments can be purchased and refinanced with FHA mortgage insurance, subject to certain requirements being met.

Securitization of PACE Bonds through the Issuer

The Notes issued by Renovate America are secured by a pool of PACE bonds. The PACE bonds in turn are secured by the voluntary PACE assessments levied against the homeowners' properties. Renovate America facilitates and manages the origination of these PACE assessments on behalf of the PACE bond issuers.

Renovate America has more than 8,000 registered licensed contractors participating in its HERO program. Renovate America provides these contractors with training programs on marketing and eligible equipment criteria, access to financing and marketing data, and tracking capabilities. All registration and administration fees charged are split between other partners and service providers of the PACE program (i.e. municipalities, legal consultants, public finance consultants etc.). Renovate America's principal source of revenue stems from the difference in interest rates between its provision of funds to the PACE bond issuers for their PACE programs and borrowing activities and origination fees.

3. FRAMEWORK OVERVIEW

Renovate America has developed the HERO Green Bond Framework, which meets the four key pillars of the Green Bond Principles: use of proceeds, project selection process, management of proceeds, and reporting.

3.1 Use of Proceeds

The proceeds of the Green Bonds will be or has been allocated towards home improvement projects funded through the HERO program that meet the following criteria.

3.1.1 Eligibility Criteria

To be eligible to be funded by the proceeds, the projects funded must fall within the following product categories:

1. **Renewable & Alternative Energy Products**
    a. Solar Photovoltaic Systems
    b. Solar Thermal
    c. Advanced Energy Storage System - Electric Vehicle Charging Station
    d. Stationary Fuel Cell Power System

2. **Energy Efficiency Products**
    a. High-Efficiency Heating, Ventilation, and Air Conditioning (HVAC)
    b. Building Envelope (Insulation, Cool Roofing, Air Sealing, etc.)
    c. High-Efficiency Lighting
    d. High-Efficiency Pool Equipment
    e. High-Efficiency Water Heating
    f. Windows, Doors, and Skylights

3. **Water Efficiency Products**
    a. Indoor Water Efficient Fixture & Fittings
    b. Outdoor Water Efficient Landscaping

Improvements that are required for the installation of product types falling into one or more of the previous 3 categories are also eligible to be funded.

3.2 Project Evaluation and Selection Process

Renovate America selects projects for funding through Green Bond proceeds by assessing if the project falls under one or more of the three eligibility criteria specified above in Section 3.1.1. The project must fall under one or more of the three eligibility criteria to be refunded through Bond proceeds.

In addition, projects selected for refunding through Bond proceeds must also meet the following criteria:

1. The project must meet certain product specific eligibility criteria, as outlined in Appendix 1. The products that are used for the project must meet the product-specific eligibility criteria detail the

minimum product performance, installation values, and/or qualification requirements for each product type.

2. The used product's energy/water efficiency or renewable energy generation performance must be measurable and verifiable for its installed application in a broad variety of single-family residential property settings.
3. The used product's energy efficiency/water efficiency/energy generation must be achieved through broadly available, non-proprietary technology that is offered by more than one manufacturer.
4. If the cost of a qualified product for a project is significantly greater than their conventional/standard efficiency counterpart, the incremental cost incurred will be offset by direct savings (i.e. utility bill reduction) or indirect savings (i.e. property value increase, induced economic impact, etc.) within a reasonable period of time.

The HERO product specific eligibility criteria (as outlined in Appendix 1) for the projects outlined above reference third-party efficiency program standards and certified product directories (when available) that rely on internal and external subject matter expertise to generate relevant standards and eligibility specifications. This third-party reference process ensures that products have met a nationally recognized standard of efficiency and have submitted the necessary performance documentation in order to be listed in the directories.

The third-party sources used for the HERO eligibility specifications are prioritized as follows:

- American National Standards Institute
- ASTM International
- Air Conditioning Heating and Refrigeration Institute
- Building Performance Institute
- California Energy Commission
- California Self Generation Incentive Program
- California Solar Initiative Program
- California Title 24, Section 6 Building Efficiency Standards
- Cool Roof Rating Council
- Home Ventilating Institute
- International Association of Plumbing and Mechanical Officials
- National Fenestration Rating Council
- Underwriters Laboratory
- U.S. Department of Energy (DOE) Appliance Certification Database
- U.S. Department of Energy (DOE) ENERGY STAR Product Directory
- U.S. Environmental Protection Agency (EPA) WaterSense Product Directory
- SoCal Water Smart Program
- Solar Rating and Certification Corporation

Product Catalogue

The HERO program uses a custom database (product catalogue) that aggregates product records and associated details (i.e. manufacturer, brand, model, performance specifications, etc.) from the third-party reference sources listed above. Aggregated product records are then filtered on the defined eligibility specifications for each product type and flagged as being eligible or not eligible for HERO financing. The product catalogue includes over 1.3 million eligible product records that are available to contractors and property owners for their projects and is updated on a daily basis to ensure that records are consistent with the third-party product directories.

In addition to the HERO product eligibility specifications, all product specifications and installation quality must meet or exceed applicable local, state, and/or federal permitting, codes, and standards.

As the program administrator of the HERO program, Renovate America receives applications for potential projects through contractor referrals or directly from interested homeowners. Each contractor is assessed if they are licensed and bonded by the California Contractors State License Board, and if they are registered with Renovate America to participate in the HERO program. In this process, Renovate America ensures that the projects meet the program criteria and product specific eligibility criteria.

3.3 Management of Proceeds

The Green Bonds are secured by PACE bonds, which are in turn backed by PACE assessments in the pool. Renovate America, through one of its affiliates, is the sole buyer of PACE Bonds issued by the PACE bond issuers. The net proceeds from the issuance of the HERO Senior Notes are used to acquire PACE bonds. The purchase of the PACE bonds is made using the proceeds from the Senior Notes, resulting in full allocation of the proceeds to the PACE bonds that are backed by the PACE assessment pool. The transaction of issuing the Senior Notes and purchasing the PACE bonds by Renovate America (through one of its affiliates) occurs at the same time.

3.4 Reporting

Allocation Reporting

As all of the initial proceeds will be allocated immediately, verification of allocation of the Green Bond proceeds will be disclosed at time of issuance of the Senior Notes in the offering memorandum and any subsequent purchases will involve only PACE bonds that meet the PACE bonds eligibility criteria.

Impact Reporting

Renovate America utilizes a proprietary calculation model to estimate the environmental impacts of the projects related to PACE bonds. Renovate America reports on estimated impact in the following areas:

- Water savings,
- Energy savings,
- Renewable energy generation, and
- Greenhouse Gas (GHG) emission reductions.

Renovate America calculates the estimated impact in each of these areas using proprietary forecasting models that are largely derived from relevant third-party sources. Each model is customized for inputs that are specific to the property being assessed, taking into account the location of house, the year built, the number of occupants, climate zone, etc. Where applicable, Renovate America reports on both annual and life-time metrics of the installed improvements. The impact reporting methodology, its original third-party source, and the associated metrics are listed below.

Water Savings

1. *Methodology*

   Water savings estimates are reported for both indoor and outdoor water efficiency projects. This impact model derives primarily from methodologies used by the U.S. Environmental Protection Agency (EPA) WaterSense Program, the California Department of Water Resources, and the California Institute for Public Policy.

2. *Specific Impact Metrics*
    a. Annual Water savings (gallons & bill savings)
    b. Lifetime Water savings (gallons & bill savings)

Energy Savings

1. *Methodology*
   Energy savings estimates are reported for each energy efficiency home improvement project. The impact model used to calculate home energy savings derives from calculation methodologies used by the U.S. Department of Energy (DOE).
2. *Specific Impact Metrics*
    a. Annual kWh Savings
    b. Annual Therm Savings
    c. Annual Energy Savings (kWh-e & bill savings)
    d. Lifetime Energy Savings (kWh-e & bill savings)

Greenhouse Gas (GHG) Emission Reduction

1. *Methodology*
   GHG emission reductions are reported for both energy efficiency projects and projects that generate renewable energy. The impact model used to calculate GHG emission reduction derives from methodologies used by the U.S. EPA eGRID Power Profiler, and the GHG Equivalency Calculator.
2. *Specific Impact Metrics*
    a. Annual Emission Reduction (Tons GHG)
    b. Lifetime Emission Reduction (Tons GHG)

Renewable Energy Generation

1. *Methodology*
   Renewable energy generation estimates are reported for solar photovoltaic installation projects. The impact model used to calculate renewable energy generation estimates derives from methodologies used by the National Renewable Energy Laboratory's PV Watts Calculator.
2. *Specific Impact Metrics*
    a. Sum of Solar System Size (W)
    b. Annual Energy Savings (kWh & bill savings)
    c. Lifetime Energy Savings (kWh & bill savings)

See Appendix 2 for figures on the estimated environmental impacts of the underlying projects funded by the proceeds of the HERO 2017-1 Notes.

4. SUSTAINALYTICS' OPINION

HERO Program- an innovate program that contributes to climate change mitigation

The HERO program is an effective way to promote the uptake of energy and water efficiency products as well as renewable energy-generating products in the U.S. PACE incentivizes home owners to install green products by financing their installation through increased home property taxes, payable over an extended time frame. Hence, homeowners do not have to pay for these energy efficiency renovations upfront, and energy savings often offset associated costs.

Renovate America, as a PACE program administrator, offers homeowners financing for the green investments which are paid back through additional property taxes. In addition, the HERO program simplifies installation of these green improvements by offering homeowners an innovative technology platform where the homeowners can select green improvements products offered at fair market value, select contractors (usually local), and benefit from strong consumer protection mechanisms. By leveraging the PACE program, Renovate America, with its HERO program, is promoting and helping home owners install green projects and improve home energy efficiency.

Use of credible third party standards

The HERO program bases its products' eligibility on two sets of criteria—HERO program-specific criteria, and product-specific criteria. The product-specific criteria are based on credible third-party efficiency standards and certified product directories. The HERO program ensures compliance to the eligibility criteria through an internal review process for product selection.

Transparent collection and reporting of impact data

Renovate America collects and documents performance on estimated impact metrics for each PACE assessment/product installation. Sustainalytics has reviewed Renovate America's reporting file, and is of the opinion that the issuer has a robust system in place to transparently disclose estimated impacts related to every Bond issued under this framework. Impact reporting for the first issuance under the HERO Green Bond Framework (Series 2017-1) is detailed in Appendix 2.

Advancing the U.N. Sustainable Development Goals

The Sustainable Development Goals (SDGs) were set in September 2015 through a multi-stakeholder partnership, and form an agenda for achieving sustainable development by the year 2030. These goals are widely considered to be the next step to the Millennium Development Goals (MDG), which were time-bound to 2015. Unlike the MDG's, the SDGs emphasize the elimination of inequality and disparity in opportunity globally, in both developed and developing countries. In particular, SDG 7 'Affordable and Clean Energy' has targets associated with doubling the rate of energy efficiency, increasing substantially the share of renewable energy in the global energy mix, and ensuring universal access to affordable, reliable, and modern energy services. Through incentivizing homeowners to install energy efficient and renewable energy generating products, Renovate America is contributing to all the above mentioned targets, and to the advancement of the SDGs.

Alignment with Green Bond Principles 2016

Sustainalytics has determined that Renovate America's HERO Green Bond Framework aligns with the four pillars of the Green Bond Principles 2016. For detailed information please refer to the Green Bond/Green Bond Programme External Review Form at the end of this document.

Conclusion

All proceeds from all Green Bonds issued under the HERO Green Bond Framework will be allocated towards residential home improvements in the areas of renewable energy, energy efficiency and water efficiency through the purchase of PACE bonds. Sustainalytics is of the opinion that the framework is aligned with the four pillars of the ICMA Green Bond Principles 2016. The criteria that are used for projects that are refinanced by the Green Bonds are comprehensive and the selection processes are diligent. Renovate America's rigorous approach to quantifying and reporting estimated impact provides transparency to investors regarding the impact of projects funded by the Green Bond. Sustainalytics is of the opinion that the HERO Green Bond Framework is robust, credible and effective in supporting energy efficiency projects for residential properties in the U.S.

APPENDICES

Appendix 1 – HERO Program Residential Eligible Product List

California HERO Program Residential Eligible Product List

ALL PRODUCTS

In addition to the HERO Product Eligibility Specifications listed below, it is the sole responsibility of the HERO Contractor and property owner (Project Stakeholders) to meet or exceed applicable local, state, and/or federal permitting, codes, and standards. Project Stakeholders are fully and solely responsible for ensuring products are installed is in accordance with all applicable manufacturer specifications, warranty guidelines, and industry best practices. All products are to be installed as real property that is not intended for removal over the useful life of the product.

RENEWABLE AND ALTERNATIVE ENERGY PRODUCTS

PRODUCT CATEGORY	PRODUCT TYPE	ELIGIBILITY SPECIFICATIONS	MAXIMUM TERM (YEARS)
Alternative Energy	Advanced Energy Storage System	1. System must be pre-approved and listed in the HERO Eligible Product Database 2. System must have obtained certification from a nationally recognized testing laboratory for one of the acceptable standards: a. UL 1973 b. UL Subject 9540 c. IEC 62842-2 d. IEC 62109 e. UL 1741 f. Other equivalent standard 3. System must maintain roundtrip efficiency ≥ 63.5% 4. System must carry a minimum 10-year manufacturer warranty	10
	Electric Vehicle Charging Station	1. Product must certified as meeting the Underwriters Laboratory Subject 2594 Standard Testing for Charging Stations 2. Product must be a Level 2 charger with SAE J1772 standard charging plug	10
	Fuel Cell Power System	1. System must be certified as meeting the ANSI/CSA America FC1 standard	15

California HERO Program Residential Eligible Product List

PRODUCT CATEGORY	PRODUCT TYPE	ELIGIBILITY SPECIFICATIONS	MAXIMUM TERM (YEARS)
Alternative Energy	Small Wind Turbine	1. Product must be certified by the Small Wind Certification Council as meeting the requirements of the AWEA Small Wind Turbine Performance and Safety Standard (9.1-2009)	20
Solar Electric	Solar Inverter	1. Product must be listed as California Energy Commission as SB1-compliant product	20
	Solar Panel	1. Product must be listed as California Energy Commission as SB1-compliant product	25
Solar Thermal	Solar Pool Heater	1. Product must have the OG-100 Collector Certification by the Solar Rating and Certification Corporation (SRCC)	15
	Solar Water Heater	1. System must have the OG-300 System Certification by the Solar Rating and Certification Corporation (SRCC)	15

ENERGY EFFICIENCY PRODUCTS

PRODUCT CATEGORY	PRODUCT TYPE	ELIGIBILITY SPECIFICATIONS	MAXIMUM TERM (YEARS)
Building Envelope	Air Sealing	1. Air sealing should be performed to BPI, ENERGY STAR, and/or ASHRAE 62.2 guidelines for air sealing, ventilation, and weatherization	10
	Attic Insulation	1. R-value ≥ 38 2. Product should be installed following ENERGY STAR guidelines	25
	Cool Roof - Prescriptive	1. Product must be listed in the CRRC or ENERGY STAR product directories. 2. Low-Slope Roof (≤ 2:12) Efficiency: a. Aged (3 yrs.) Solar Reflectance ≥ 0.5 3. Steep-Slope Roof (> 2:12) Efficiency: a. Aged Solar Reflectance ≥ 0.15	25

California HERO Program Residential Eligible Product List

PRODUCT CATEGORY	PRODUCT TYPE	ELIGIBILITY SPECIFICATIONS	MAXIMUM TERM (YEARS)
Building Envelope	Cool Roof - Performance	1. If a Cool Roof - Prescriptive roofing product is not specified, one of the following performance measures must also be implemented in the scope of work: a. Provide an air-space of at least 1" between the top of the roof deck and the bottom of the roofing product b. Insulate attic floor to R-value ≥ 38 c. Seal & Insulate attic HVAC duct work to R-8 and ≤ 6% leakage d. Install an eligible radiant barrier (Reflectivity ≥ 0.9 and Emittance ≤ 0.1) with reflective side facing air space e. Insulate above roof deck to R-value ≥ 4 f. Install roof construction with thermal mass with a weight of at least 25 lb/ft^2	25
	Heat Reflective/Cool Wall Coverings	1. Product must be a preapproved HERO Cool Wall Coating product 2. Product must have solar reflectance ≥ 0.5 as tested to ASTM C1549-09 standard 3. Product primary application surface must be exterior wall surfaces of conditioned buildings 4. Trim, soffit, and/or fascia may be included in work scope as secondary items, as applicable 5. Product is <u>only</u> eligible to be installed on properties located within CA Building Climate Zones 4-10 and 12-15	20
	Insulated Siding	1. R-value ≥ 2 2. Certified as meeting ASTM D7793 standard and listed by Vinyl Siding Institute or certified as meeting an alternative equivalent standard 3. Primary application surface must be exterior walls of conditioned buildings 4. Trim, soffit, and/or fascia may be included in work scope as secondary items, as applicable	25

California HERO Program Residential Eligible Product List

PRODUCT CATEGORY	PRODUCT TYPE	ELIGIBILITY SPECIFICATIONS	MAXIMUM TERM (YEARS)
Building Envelope	Radiant Barrier	1. Radiant Barrier type products must be installed with reflective side facing an open air space and meet the following performance ratings: a. Reflectivity ≥ 0.9 b. Emittance ≤ 0.1 2. Radiation Control Coating type products must be installed to face an open air space and meeting the following performance ratings: a. Emittance ≤ 0.25	20
	Under Floor Insulation	1. R-value ≥ 19 2. Product should be installed following ENERGY STAR guidelines	25
	Wall Insulation	1. R-value ≥ 13 2. Product should be installed following ENERGY STAR guidelines	25
Heating, Ventilation, and Air Conditioning (HVAC)	Air-Source Heat Pump	1. Product must be AHRI Certified 2. Split System Efficiency: a. SEER ≥ 14.5 b. EER ≥ 12 c. HSPF ≥ 8.2 3. Package System Efficiency: a. SEER ≥ 14 b. EER ≥ 11 c. HSPF ≥ 8.0	15
	Attic Fan	1. Product must be equipped with a thermostat control	15
	Biomass / Wood Stove	1. Product must be certified and listed on the EPA Certified Wood Stoves list	15
	Boiler	1. Product must be AHRI Certified 2. Efficiency: a. AFUE ≥ 85%	20
	Ceiling Fan	1. Product must be ENERGY STAR Certified	10

California HERO Program Residential Eligible Product List

PRODUCT CATEGORY	PRODUCT TYPE	ELIGIBILITY SPECIFICATIONS	MAXIMUM TERM (YEARS)
Heating, Ventilation, and Air Conditioning (HVAC)	Central Air Conditioner	1. Product must be AHRI Certified 2. Split System Efficiency: a. SEER ≥ 14.5 b. EER ≥ 12 3. Package System Efficiency: a. SEER ≥ 14 b. EER ≥ 11	15
	Duct Replacement	1. Duct system leakage: a. Partial Replacement: ≤ 15% total system nominal flow b. Full Replacement: ≤ 6% total system nominal flow 2. Duct Insulation R-Value ≥ 6	20
	Duct Sealing	1. Ducts should be sealed with UL-181 listed duct sealing materials (mastic, foil tape, duct board, etc.)	20
	Evaporative Cooler	1. Product must be listed in California Energy Commission Appliance Efficiency Database 2. Window installed product is not eligible	10
	Furnace	1. Product must be AHRI Certified 2. Efficiency if equipped with ECM: a. AFUE ≥ 80% 3. Efficiency if not equipped with ECM: a. AFUE ≥ 90%	20

California HERO Program Residential Eligible Product List

PRODUCT CATEGORY	PRODUCT TYPE	ELIGIBILITY SPECIFICATIONS	MAXIMUM TERM (YEARS)
Heating, Ventilation, and Air Conditioning (HVAC)	Geothermal Heat Pump	1. Product must be ENERGY STAR Certified 2. Closed Loop Water-to-Air Efficiency: a. EER ≥ 14.1 b. COP ≥ 3.3 3. Open Loop Water-to-Air Efficiency: a. EER ≥ 16.2 b. COP ≥ 3.6 4. Closed Loop Water-to-Water Efficiency: a. EER ≥ 15.1 b. COP ≥ 3.0 5. Open Loop Water-to-Water Efficiency: a. EER ≥ 19.1 b. COP ≥ 3.4 6. DGX Efficiency: a. EER ≥ 15.0 b. COP ≥ 3.5	15
	Heat/Energy Recovery Ventilator	1. Product must be certified by the Home Ventilation Institute (HVI)	10
	Hydronic Radiant Heating System	1. System must be powered by one of the following high-efficiency heating sources: a. Boiler (AFUE ≥ 85%) b. Gas Storage Water Heater (EF ≥ 0.67) c. Gas Tankless Water Heater (EF ≥ 0.90) d. Electric Heat Pump Water Heater (EF ≥ 2)	15
	Mini-Split Air Conditioner	1. Product must be AHRI certified 2. Efficiency: a. SEER ≥ 15	15
	Mini-Split Heat Pump	1. Product must be AHRI certified 2. Efficiency: a. SEER ≥ 15 b. HSPF ≥ 8.2	15
	Ventilation Fan	1. Product must be ENERGY STAR Certified	10
	Whole House Fan	1. Product must be listed in California Energy Commission Appliance Efficiency Database	20

California HERO Program Residential Eligible Product List

PRODUCT CATEGORY	PRODUCT TYPE	ELIGIBILITY SPECIFICATIONS	MAXIMUM TERM (YEARS)
Lighting	Lighting Control	1. Product must be listed in the California Energy Commission Appliance Efficiency Database. 2. Eligible control types include: a. Automatic Time-Switch b. Daylight/Photo- Sensor c. Dimmer d. Occupant/Motion/Vacancy Sensor	20
	Lighting Fixture	1. Product must be ENERGY STAR Certified	20
Pool Equipment	Automatic Pool Cover	1. Product must be UL certified as meeting ASTM F1346 Standard Performance Specification	10
	Electric Heat Pump Pool Heater	1. Product must be listed in California Energy Commission Appliance Efficiency Database 2. COP ≥ 4.5	10
	Gas Pool Heater	1. Product must be listed in California Energy Commission Appliance Efficiency Database 2. Thermal Efficiency ≥ 83%	10
	Pool Pump	1. Product must be ENERGY STAR Certified 2. Single Speed Pump Efficiency: a. EF ≥ 3.8 3. Multi-Speed Pump Efficiency: a. EF ≥ 3.8 for most efficient speed	10
Water Heating	Electric Heat Pump Storage Water Heater	1. Product must be ENERGY STAR Certified 2. Efficiency: a. EF ≥ 2.0	10
	Gas Storage Water Heater	1. Product must be ENERGY STAR Certified 2. Efficiency: a. EF ≥ 0.67	10
	Gas Tankless Water Heater	1. Product must be ENERGY STAR Certified 2. Efficiency: a. EF ≥ 0.90	10

California HERO Program Residential Eligible Product List

PRODUCT CATEGORY	PRODUCT TYPE	ELIGIBILITY SPECIFICATIONS	MAXIMUM TERM (YEARS)
Water Heating	Hot Water Delivery System	1. System meets the EPA WaterSense Guide for Efficient Hot Water Delivery Systems definition for one of the following water delivery options: a. Dedicated Recirculation Line b. Whole House Manifold System c. Demand-initiated Recirculating System d. Core Plumbing System	25
Windows, Doors, and Skylights	Door	1. Product must be NFRC Certified 2. Opaque (No Glass) Efficiency: a. U-Factor ≤ 0.17 b. SHGC = Any 3. ≤ 1/2-Lite (Some Glass) Efficiency: a. U-Factor ≤ 0.25 b. SHGC ≤ 0.25 4. > 1/2-Lite (Mostly Glass) Efficiency: a. U-Factor ≤ 0.30 b. SHGC ≤ 0.25	25
	Exterior Window Shading Device	1. Product must shade to at least one window or door 2. Product must be one of the following styles: a. Patio Cover b. Fixed Awning c. Operable Awning d. Operable Shutter e. Solar Screen 3. Product is NOT eligible to be installed on properties located within LA County or California Building Climate Zones 1, 3-5 4. Other exterior structural products including, but not limited to, sunroom enclosures, exterior decks, balconies, roof overhangs, detached/free-standing arbors, detached/free-standing pergolas, and/or carports are NOT eligible 5. Interior window shading products are NOT eligible	15

California HERO Program Residential Eligible Product List

PRODUCT CATEGORY	PRODUCT TYPE	ELIGIBILITY SPECIFICATIONS	MAXIMUM TERM (YEARS)
Windows, Doors, and Skylights	Skylights and Tubular Daylighting Device	1. Product must be NFRC Certified 2. Efficiency: a. U-Factor ≤ 0.53 b. SHGC ≤ 0.28	20
	Window	1. Product must be NFRC Certified 2. Efficiency: a. U-Factor ≤ 0.30 b. SHGC ≤ 0.25	25
	Window Film	1. Product must be NFRC Certified	10

WATER EFFICIENCY PRODUCTS

PRODUCT CATEGORY	PRODUCT TYPE	ELIGIBILITY SPECIFICATIONS	MAXIMUM TERM (YEARS)
Indoor Water Efficiency	Faucet	1. Product must be WaterSense Qualified 2. Flow rate ≤ 1.5 GPM 3. Must be permanently installed	15
	Gray Water System	1. System must meet California Plumbing Code, Chapter 16A 2. Eligible system types include: a. Single Fixture b. Multi-Fixture Simple (≤ 250 GPD) c. Multi-Fixture Complex (> 250 GPD)	20
	Showerhead	1. Product must be WaterSense Qualified 2. Flow rate ≤ 2.0 GPM	15
	Toilet	1. Product must be WaterSense Qualified 2. Toilet and urinals fixtures are eligible 3. Flow rate ≤ 1.28 GPF	20
Outdoor Water Efficiency	Artificial Turf	1. Product must be water and air permeable 2. Product must be non-toxic and lead free 3. Product installation must carry ≥ 10 year warranty	10

California HERO Program Residential Eligible Product List

PRODUCT CATEGORY	PRODUCT TYPE	ELIGIBILITY SPECIFICATIONS	MAXIMUM TERM (YEARS)
Outdoor Water Efficiency	Artificial Turf Premium	1. Product must be water and air permeable 2. Product must be non-toxic and lead free 3. Product installation must carry ≥ 15 year warranty	15
	Drip Irrigation	1. Product installed in turf, garden, planter, or flower bed area	10
	Drought Tolerant Landscaping	1. Product installation area must replace existing live turf grass area 2. Requested financing amount may include: a. Removal/disposal of existing turf grass material b. Site preparation for landscaping installation c. Installation of drought tolerant landscaping options d. Installation or conversion to eligible irrigation options 3. Requested finance amount may NOT include: a. Installation of live plants or biodegradable plant material b. Removal of pre-existing hardscape areas (i.e. driveways, pools, etc.) c. Installation of water features (i.e. ponds, fountains, etc.) d. Installation of any other products not listed in specification #2	20
	Rainwater Catchment System	1. Sized to hold ≥ 50 gallons at one time 2. Must be permanently installed	20
	Sprinkler Nozzle	1. Product must be on SoCal Water Smart Qualified Sprinkler Nozzle product list	10
	Weather-Based Irrigation Controller	1. Product must be WaterSense Qualified	10

Appendix 2 –Impact Statistics for HERO Funding Notes 2017-1

As is explained in Section 3.4 on Impact Reporting, Renovate America utilizes proprietary forecasting models to estimate the environmental impacts of the projects related to PACE Bonds. The following tables show environmental impact figures which are estimated from the projects funded by the first issuance under this framework (series 2017-1).

Impact Statistics HERO Funding Notes 2017-1

Environmental Impact	Impact Metrics	Impact Figures
Water Savings	Annual Water Savings (Gal)	62,443,524
	Lifetime Water Savings (Gal)	1,092,405,540
	Annual Water Bill Savings (USD)	281,291
	Lifetime Water Bill Savings (USD)	11,040,110
Energy Savings	Annual kWh Savings	27,473,655
	Annual Therm Savings	1,078,389
	Annual Energy Savings (kWh-e)	59,081,249
	Lifetime Energy Savings (kWh-e)	1,060,247,432
	Annual Energy Bill Savings (USD)	7,861,795
	Lifetime Energy Bill Savings (USD)	284,336,088
Greenhouse Gas (GHG) Emission Reduction	Annual Emission Reduction (Tons)	15,347
	Lifetime Emission Reduction (Tons)	280,487

Appendix 3: Green Bond/Green Bond Programme External Review Form

Green Bond / Green Bond Programme
External Review Form

Section 1. Basic Information

Issuer name: Renovate America, Hero Funding Trust

Green Bond ISIN or Issuer Green Bond Framework Name, if applicable*:*

Review provider's name: Sustainalytics

Completion date of this form: April 2017

Publication date of review publication:

Section 2. Review overview

SCOPE OF REVIEW

The review assessed the following elements and confirmed their alignment with the GBPs:

☒	Use of Proceeds	☒	Process for Project Evaluation and Selection
☒	Management of Proceeds	☒	Reporting

ROLE(S) OF REVIEW PROVIDER

☒	Consultancy (incl. 2nd opinion)	☐	Certification
☐	Verification	☐	Rating
☐	Other *(please specify)*:		

EXECUTIVE SUMMARY OF REVIEW and/or LINK TO FULL REVIEW *(if applicable)*

Please refer to Green Bond Framework and Second Opinion Document above.

Section 3. Detailed review

1. USE OF PROCEEDS

Overall comment on section *(if applicable)***:**

The Use of Proceeds of this bond are clearly described in the legal documentation of the security. Energy efficiency, renewable energy, water conservation have a clear environmental impact, and contribute to climate change mitigation.

Based on the review of these project categories, Sustainalytics is confident regarding the green credentials of the use of proceeds.

Use of proceeds categories as per GBP:

- ☒ Renewable energy
- ☒ Energy efficiency
- ☐ Pollution prevention and control
- ☐ Sustainable management of living natural resources
- ☐ Terrestrial and aquatic biodiversity conservation
- ☐ Clean transportation
- ☐ Sustainable water management
- ☐ Climate change adaptation
- ☒ Eco-efficient products, production technologies and processes
- ☐ Other *(please specify)*:
- ☐ Unknown at issuance but currently expected to conform with GBP categories, or other eligible areas not yet stated in GBPs

2. PROCESS FOR PROJECT EVALUATION AND SELECTION

Overall comment on section *(if applicable)***:**

The Senior Notes issued are backed by assets in the form of PACE bonds funding projects and products managed through Renovate America's HERO program. For the eligible projects and products, eligibility is based on two sets of criteria—HERO program-specific criteria, and product specific criteria. Collectively, these criteria specify that the funded product contributes to energy and water savings and meets minimum local, state, and federal product codes and standards. The product-specific criteria are based on credible third-party efficiency standards and certified product directories. Furthermore, the HERO program ensures compliance to the eligibility criteria through an internal review process for product selection. For these reasons, Sustainalytics is of the opinion that the process to select eligible projects is credible.

Evaluation and selection

- ☒ Defined and transparent criteria for projects eligible for Green Bond proceeds
- ☒ Summary criteria for project evaluation and selection publicly available
- ☒ Documented process to determine that projects fit within defined categories
- ☐ Other *(please specify):*

Information on Responsibilities and Accountability

- ☒ Evaluation / Selection criteria subject to external advice or verification
- ☐ Other *(please specify)*:
- ☐ In-house assessment

3. MANAGEMENT OF PROCEEDS

Overall comment on section *(if applicable)***:**

The Green Bonds are secured by PACE bonds, which are in turn backed by PACE assessments in the pool. Renovate America, through one of its affiliates, is the sole buyer of PACE Bonds issued by the PACE bond issuers. The net proceeds from the issuance of the HERO Senior Notes are used to acquire PACE bonds. The purchase of the PACE bonds is made using the proceeds from the Senior Notes, resulting in full allocation of the proceeds to the PACE bonds that are backed by the PACE assessment pool. The transaction of issuing the Senior Notes and purchasing the PACE bonds by Renovate America (through one of its affiliates) occurs at the same time.

Tracking of proceeds:

☒ Green Bond proceeds segregated or tracked by the issuer in a systematic manner

☒ Disclosure of intended types of temporary investment instruments for unallocated proceeds

☐ Other *(please specify)*:

Additional disclosure:

☐ Allocations to future investments only

☐ Allocations to both existing and future investments

☐ Allocation to individual disbursements

☒ Allocation to a portfolio of disbursements

☒ Disclosure of portfolio balance of unallocated proceeds

☐ Other *(please specify)*:

4. REPORTING

Overall comment on section *(if applicable)*:

As all of the initial proceeds will be allocated immediately, verification of allocation of the Green Bond proceeds will be disclosed at time of issuance of the Senior Notes in the offering memorandum and any subsequent purchases will consist solely of PACE Bonds that meet the PACE bonds eligibility criteria.

Renovate America utilizes a proprietary calculation model to estimate the environmental impacts of the projects related to PACE Bonds. Renovate America reports on estimated impact in the following areas:

- Water savings,
- Energy savings,
- Renewable energy generation, and
- Greenhouse Gas (GHG) emission reductions.

Use of proceeds reporting:

☐ Project-by-project

☒ On a project portfolio basis

☐ Linkage to individual bond(s)

☐ Other *(please specify):*

Information reported:

☒ Allocated amounts

☐ GB financed share of total investment

☐ Other *(please specify):*

Frequency:

☒Annual

☐ Semi-annual

☐ Other:

Impact reporting:

☐ Project-by-project	☒ On a project portfolio basis
☐ Linkage to individual bond(s)	☐ Other *(please specify):*

Frequency:

☒ Annual	☐ Semi-annual
☐ Other	

Information reported (expected or ex-post):

☒ GHG Emissions / Savings	☒ Energy Savings
☐ Other ESG indicators *(please specify):*	

Means of Disclosure

☐ Information published in financial report	☐ Information published in sustainability report
☒ Information published in ad hoc documents	☐ Other *(please specify):*

☐ Reporting reviewed *(if yes, please specify which parts of the reporting are subject to external review):*

USEFUL LINKS *(e.g. to review provider methodology or credentials, to issuer's documentation, etc.)*

HERO Program - Renovate America, https://renovateamerica.com/hero-program

SPECIFY OTHER EXTERNAL REVIEWS AVAILABLE, IF APPROPRIATE

Type(s) of Review provided:

☐ Consultancy (incl. 2nd opinion)	☐ Certification
☐ Verification / Audit	☐ Rating
☐ Other *(please specify):*	

Review provider(s):

Date of publication:

ABOUT ROLE(S) OF REVIEW PROVIDERS AS DEFINED BY THE GBP

(i) Consultant Review: An issuer can seek advice from consultants and/or institutions with recognized expertise in environmental sustainability or other aspects of the issuance of a Green Bond, such as the establishment/review of an issuer's Green Bond framework. "Second opinions" may fall into this category.

(ii) Verification: An issuer can have its Green Bond, associated Green Bond framework, or underlying assets independently verified by qualified parties, such as auditors. In contrast to certification, verification may focus on alignment with internal standards or claims made by the issuer. Evaluation of the environmentally sustainable features of underlying assets may be termed verification and may reference external criteria.

(iii) Certification: An issuer can have its Green Bond or associated Green Bond framework or Use of Proceeds certified against an external green assessment standard. An assessment standard defines criteria, and alignment with such criteria is tested by qualified third parties / certifiers.

(iv) Rating: An issuer can have its Green Bond or associated Green Bond framework rated by qualified third parties, such as specialised research providers or rating agencies. Green Bond ratings are separate from an issuer's ESG rating as they typically apply to individual securities or Green Bond frameworks / programmes.

Disclaimer

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SUSTAINALYTICS

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