

Green Evaluation

Ygrene Energy Fund Inc.'s GoodGreen Series 2019-1 Notes

Transaction Overview

GoodGreen 2019-1 is a special purpose vehicle (SPV) created to issue \$225 million in private placement notes (series 2019-1) secured by a portfolio of property-assessed clean energy (PACE) assets in California and Florida. PACE programs allow for low-cost financing of a variety of energy efficiency, renewable energy, water conservation, storm protection, and seismic improvements on residential and commercial properties; a special tax or an annual or semiannual assessment on a property's tax bill repays the financing. Ygrene Energy Fund Inc., the transaction sponsor, is a leading financing company that provides residential, multifamily, and commercial property PACE financing throughout the U.S. It provides collateral in the form of the PACE asset portfolio and uses the liens and tax payments to support the securitization. The notes are nonrecourse obligations of GoodGreen 2019-1 and are payable solely from the PACE assets.

Entity: GoodGreen 2019-1
Subsector: Specialized Finance
Location (HQ): California, U.S.
Financing value: \$225 million
Amount evaluated: 97.3%
Evaluation date: Jan. 9, 2019
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Green Evaluation Overview

Transaction's Transparency

- Use of proceeds reporting
- Reporting comprehensiveness

57

Transaction's Governance

- Management of proceeds
- Impact assessment structure

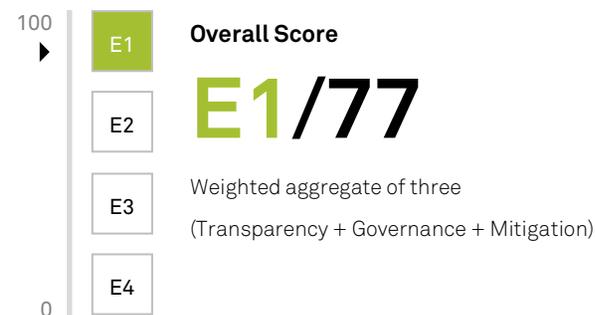
81

Mitigation

Sector	→ Net Benefit Ranking	→ Hierarchy Adjustments	
Renewable energy	Solar, general	Carbon	
Green refurbishment and energy efficiency	Insulation, HVAC, lighting, window/doors, appliances, general	Carbon	81
Water		Water	

Adaptation

NA



Project Description

GoodGreen 2019-1 will use the \$225 million in private notes to acquire and securitize a portfolio of PACE assets in California and Florida. PACE programs were established by state legislation and approved by local governments as a mechanism to provide low-cost financing for energy and water efficiency retrofits, distributed renewable energy generation, and (in some locations) storm resilience and seismic improvements for residential and commercial properties. PACE financings are repaid via an annual or semiannual assessment or special tax on the property owner's tax bill. PACE programs enable home and business owners to cover the upfront cost associated with environmentally beneficial property improvements and repay the financing over longer terms than are typically commercially available for similar projects.

The proceeds of the bonds we are assessing are allocated to green building refurbishments (83%), renewable energy (15%), and water conservation (2%) across California and Florida. We consider 97% of the total collateral value in our Green Evaluation. We treat wind-resistant improvements as green refurbishment measures using applicable proxies given the efficiency gains associated with these technologies. We exclude 3% of proceeds that are funding seismic and other improvements from our assessment. Although they are included as eligible projects under PACE programs, they are currently out of scope under our analytic approach.

Ygrene, a leading provider of residential and commercial PACE financing, is the transaction sponsor and it or an affiliate originates the PACE assets backing the securitization. Ygrene partners with local and regional governmental entities to administer and fund their PACE programs. The GoodGreen 2019-1 transaction involves assets issued through California and Florida PACE programs similar to Ygrene's GoodGreen 2018-1 notes, which also achieved an E-1 score in our Green Evaluation. To qualify for PACE financing, property improvements must meet program guidelines that each local agency develops. The guidelines typically restrict PACE funding to a set of authorized improvements that conserve energy or water; deploy renewable energy; and, in Florida, provide resilience improvements to protect against storm damage. The programs provide clear project selection criteria, a factor we see as beneficial for governance under our approach. The municipalities service the PACE assets through their annual or semiannual tax collection process and remit payments via a trustee to the holder of the PACE bonds. The PACE assets serve as the collateral, and the property liens and tax payments form the security.

Scoring Summary

This transaction achieves an overall Green Evaluation score of E1 on our scale of E1 (highest) to E4 (lowest) and an overall score of 77. The evaluation reflects a Mitigation score of 81 that is supported by building refurbishment, renewable energy installations, and energy efficiency measures in states with a total grid carbon intensity that we consider medium high, coupled with water conservation initiatives in areas with extremely high water stress. Our hierarchy overlay reflects the role technology plays in the transition to a low-carbon economy. The E1 score also reflects the strong Governance (81) score enabled through the defined eligibility criteria underlying the Florida and California PACE

programs along with third-party verification of bond proceeds allocation. The Transparency score of 57 reflects some reporting of environmental impacts annually, although the requirement to disclose this information only to interested parties instead of publicly on a website or alternative platform mitigates this. Another limitation is the number of environmental impact indicators disclosed.

Rationale

- The renewable energy projects, which consist largely of solar photovoltaics (PV) in California, are considered long-term green solutions and are placed at the top end of our carbon hierarchy, contributing to the overall mitigation score.
- Green building refurbishment projects account for the largest proportion of the proceeds allocation and are key factors in the mitigation score. A large proportion of the green buildings projects are green improvements to residential windows, doors, and skylights at Florida-based residential properties. These improvements fall below the solar projects in our carbon hierarchy.
- The GoodGreen2019-1 notes achieve a strong Governance score via the robust eligibility criteria established by the California and Florida programs underlying the PACE assets and the securitization structure that includes representations and warranties governing the use and management of proceeds. The Transparency score is 57, reflecting some reporting of environmental impacts to interested parties, but a lack of detailed, project-level environmental impact assessments.

Key Strengths And Weaknesses

The proceeds from the GoodGreen 2019-1 notes will fund the acquisition and securitization of a portfolio of PACE assets in California and Florida; and finance a number of green building refurbishment, renewable energy, water conservation, and energy efficiency improvements. We assess about 97% of the collateral pool, including green energy assets, green building assets, and water improvement-related assets. We assessed both collateral and prefunding projects.

The closing PACE assets are largely residential improvements. These make up 91% of the underlying collateral. The remaining 9% of the underlying collateral is composed of commercial assets, and this split is a factor in our Mitigation analysis given the relative energy savings potential in residential properties. 71% of the assets in GoodGreen-2019-1 are in Florida and the remaining 29% are located in California.

The range of projects financed through the PACE assets that we evaluated are mainly for green building refurbishments, which represent 83% of the pool, and include a number of building refurbishment measures such as wall insulation, roofing retrofits, heating, ventilation, air conditioning (HVAC) upgrades, window and door replacement, and high-efficiency LED lighting upgrades. We treat wind-resistant doors, windows, and roofing using comparable green refurbishment proxies given the efficiency benefits associated with these resilience improvements. The residential and commercial green refurbishment PACE assets in Florida achieve the highest net benefit scores given the comparatively medium-high carbon intensity of the Florida grid because of the state's reliance on fossil fuel-based assets and the relatively higher carbon emissions avoided through these efficiency measures. Refurbishment of residential windows, doors, and skylights, as well as residential HVAC systems represented

a significant proportion of the assets, and was a key factor in the Mitigation score.

Renewable energy projects in GoodGreen 2019-1 account for 15% of total value of projects evaluated and are mainly allocated to distributed PV systems; 72% of these liens are for California-based projects. The net benefits reflect California's already largely decarbonized electricity grid. However, we adjust the Mitigation score upward through our carbon hierarchy overlay, which reflects the role that solar PV technologies play in the transition to a low-carbon economy. These factors drive the Mitigation score of 81 for the GoodGreen 2019-1 notes.

The transaction's Governance and Transparency reflects robust proceeds allocation, management, and reporting. The strong Governance score is supported by the underlying PACE programs, which outline defined selection criteria for eligible assets. These guidelines include some qualified improvement types that fall into categories such as energy efficiency, renewable energy, water management, and emerging technology and innovative solutions that ensure that the PACE assets supporting the securitization involve environmentally beneficial projects. The local governmental entities verify the PACE liens and a third-party due diligence report is prepared for all assets, which provides additional assurance that proceeds are funding eligible projects. The securitization structure also includes a series of representations and warranties that govern the use and management of proceeds. The proceeds' prefunded portion is held in a separate subaccount where no other funds can be commingled.

Transparency is moderate, at 57. Our analysis considers the transaction's requirement to report on the proceeds allocation and overall environmental impact; it also evaluates the depth of this reporting, which is somewhat lacking in terms of detailed, project-level environmental impact reporting. Overall, the transaction scores highly in terms of Governance, achieving 81, and moderate in Transparency, achieving 57.

Sector level scores

Sector	Location	Technology	Use of Proceeds (US \$mil.)	Use of Proceeds treatment	Net Benefit Ranking
Green Energy	California	Solar PV	25	Estimated	39
Green Energy	Florida	Solar thermal	0.2	Estimated	68
Green Energy	Florida	Solar PV	8.0	Estimated	49
Water	California	Conservation: Commercial building	0.3	Estimated	10
Water	California	Conservation: Residential building	4.0	Estimated	67
Green Buildings	California	Refurbishment: residential HVAC	9.0	Estimated	80
Green Buildings	Florida	Refurbishment: residential HVAC	20	Estimated	100
Green Buildings	California	Refurbishment: Residential wall insulation	4.0	Estimated	80
Green Buildings	Florida	Refurbishment: Residential wall insulation	1.6	Estimated	90
Green Buildings	California	Refurbishment: Commercial HVAC	1.6	Estimated	60
Green Buildings	Florida	Refurbishment: Commercial HVAC	0.6	Estimated	90
Green Buildings	California	Refurbishment: Commercial wall insulation	0.2	Estimated	50
Green Buildings	Florida	Refurbishment: Commercial wall insulation	1.2	Estimated	80
Green Buildings	California	Refurbishment: Residential LED	1.0	Estimated	80
Green Buildings	Florida	Refurbishment: Residential LED	0.4	Estimated	90
Green Buildings	California	Refurbishment: Commercial LED	0.2	Estimated	50
Green Buildings	Florida	Refurbishment: Commercial LED	0.1	Estimated	80
Green Buildings	California	Refurbishment: Residential roof insulation	16	Estimated	60
Green Buildings	Florida	Refurbishment: Residential roof insulation	45	Estimated	70
Green Buildings	California	Refurbishment: Commercial roof insulation	1.0	Estimated	20

Green Buildings	Florida	Refurbishment: Commercial roof insulation	0.3	Estimated	50
Green Buildings	California	Refurbishment: Residential windows, doors, and skylights	6.0	Estimated	80
Green Buildings	Florida	Refurbishment: Residential windows, doors, and skylights	71	Estimated	90
Green Buildings	California	Refurbishment: Commercial windows, doors, and skylights	0.1	Estimated	50
Green Buildings	Florida	Refurbishment: Commercial windows, doors, and skylights	1.1	Estimated	80
Green Buildings	California	Water: Efficient heating, residential	0.6	Estimated	40
Green Buildings	Florida	Water: Efficient heating, residential	0.6	Estimated	40

219 million

Carbon

Green Evaluation Process

57
Transparency

81
Governance

81
Mitigation

Weighted aggregate of three
(Transparency + Governance + Mitigation)

E1/77
Overall Score

Technology	Baseline Carbon Intensity	Net Benefit Ranking	Carbon Hierarchy Adjustment	Environmental Impact Score	Proceeds (mil. US\$)
	High  Low CA & FL				
Wind power					
Solar power		42	Systemic decarbonization	85	33.85
Small hydro					
Large hydro (excluding tropical areas)					
Energy management and control					
Unspecified					
Green transport without fossil fuel combustion					
Green buildings – refurbishment		86	Significant decarbonization in sectors already aligned with a green economy	82	180.5
Unspecified					
Energy efficient projects (industrial and appliance efficiencies)					
Green transport with fossil fuel combustion					
Green buildings refurbishment					
Unspecified					
Nuclear					
Large hydro in tropical areas					
Unspecified					
Coal to natural gas					
Cleaner fuel production					
Cleaner use of coal					
Unspecified					
			Alleviating emissions of existing carbon-intense industries		
			Decarbonization technologies with significant environmental hazards		
			Improvement of fossil-fueled activities' environmental efficiency		

Increasing Decarbonization Impact

Water

Green Evaluation Process

57

Transparency

81

Governance

81

Mitigation

Weighted aggregate of three
(Transparency + Governance + Mitigation)

E1/77

Overall Score

Technology	Baseline Water Stress	Net Benefit Ranking	Water Stress and Hierarchy Adjustment	Environmental Impact Score	Proceeds (mil. US\$)
	<p>High ● CA Low</p>				
Recycling wastewater for water (agricultural uses)					
Recycling wastewater for water (other uses)					
Wastewater treatment with no energy recovery					
Wastewater treatment with energy recovery					
Unspecified					
Reducing water losses in water distribution network					
Unspecified					
Water desalination to supply municipal water					
Unspecified					
Conservation measure in residential buildings		10		56	4.3
Conservation measure in commercial buildings		67		36	0.3
Conservation measure in industrial buildings					
Smart metering in residential buildings					
Unspecified					

Increasing Water Sustainability

Increasing freshwater availability through system enhancements

Improving delivery of existing freshwater supplies

Increasing freshwater availability with significant negative environmental impact

Reducing demand on potable water supplies

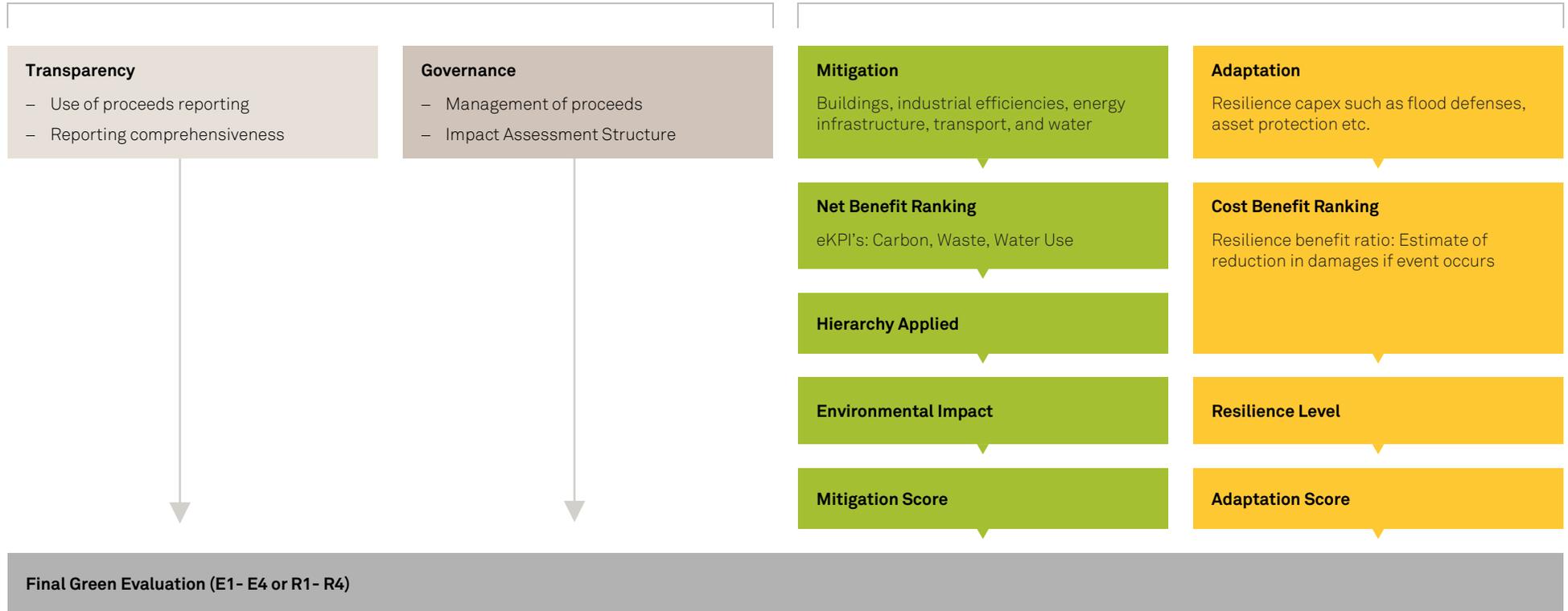
Our Green Evaluation Approach

Weighted aggregate of three:



Common approach used amongst opinion providers

Unique to S&P Global Ratings



eKPI – Environmental Key Performance Indicator

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