ASSA RECOGNITION AWARD 2017

PROJECT PROPONENT:
Pag-IBIG Fund (Home Development Mutual Fund) - Philippines

CATEGORY:
Transformation Recognition Award

1. **NAME OF THE PROJECT:**

   <u>Premium for Green Technologies in Pag-IBIG Fund's Property Appraisal/Valuation: An Incentive to Promote Sustainable Home Design</u>

2. **OBJECTIVES OF THE PROJECT:**

   The project has the following objectives:

   a. To concretize Pag-IBIG Fund's support to mitigate the effects of climate change and to maximize and utilize renewable energy resources
   b. To update Pag-IBIG Fund's housing loan program and make it relevant amidst the current challenges in sustainable development

3. **NATURE OF THE PROJECT:**

   Pag-IBIG Fund believes in providing a good balance between environment and development. Through its project, Pag-IBIG Fund implemented housing loan policies to support the acquisition/installation of solar panels and other Green Code compliance for residential homes, and enhanced its Revised Manual on Real Estate Appraisal to give additional points to appraised projects with green features. These actions led to triple-win situations for the member-borrower (higher loan amount, increased savings in power and water bills, extra savings for loan repayment), developer-borrower (higher profit for sellability), and Pag-IBIG Fund (higher housing loan take-outs and collection efficiency, higher valuation of collateral property).

   Philippine Green Building Code (GB Code)

   Pag-IBIG Fund adheres to the Philippine Green Building Code, the Referral Code of the National Building Code of the Philippines or Presidential Decree No. 1096.

   The then Department of Public Works and Highways Secretary Rogelio L. Singson approved the GB Code on June 22, 2015. Its provisions will apply to all new construction and/or with alteration of buildings.

   The Total Gross Floor Area (TGFA) refers to the sum of the dwelling areas, common area, and accessory area within the building. The required minimum

TGFA for a residential dwelling is 20,000 sq.m. for a condominium and 10,000 sq.m. for a mixed-use occupancy.

The Office of the Building Official will review the building permit application for Green Buildings as prepared by design professionals in compliance with the requirements of the GB Code.

Green Building Certification Process

Proper authorities and/or agencies issue the Certification as to what green features are present in the housing project. The concerned local government unit where the housing project is located handles the application and approval of the Green Building Certificates:
1. Green Building Pre-Compliance Certificate (GBPCC) in Building Design
2. Green Building Compliance Certificate (GBCC) in Construction.

No Building Permit and Occupancy Permit will be issued without a GBPCC in Building Design and a GBCC in Construction, respectively.

4. WHY IT SHOULD BE RECOGNIZED:

Pag-IBIG Fund, in its efforts to support a good balance between environment and development, came up with two solutions: housing loan policies to support the acquisition/installation of solar panels and other Green Code compliance for residential homes, and enhancement to its Revised Manual on Real Estate Appraisal to give additional points to appraised projects with green features.

A. Pag-IBIG Housing Loan for the Acquisition/Installation of Solar Panels and for Other Green Code Compliance

Last May 19, 2015, the then Pag-IBIG Fund Chief Executive Officer Atty. Darlene Marie B. Berberabe issued a Memorandum on the “Availment of Pag-IBIG Housing Loan for the Acquisition/Installation of Solar Panels.:

These were the ensuing policies:
1. A qualified Pag-IBIG Fund member may be allowed to avail of a housing loan for the acquisition/installation of solar panels as part of home improvement or as a component of the housing unit to be purchased subject to the prevailing Pag-IBIG Fund retail housing loan programs.
2. The loan will be secured by a collateral that will consist of the same residential property to which the loan proceeds are applied.

To date, Pag-IBIG Fund already has 13 housing loan borrowers, with loan purpose of mostly house construction, who have availed of its premium for initiating Green Code Compliance in their housing units.

Most of the features considered are:
1. Energy Efficiency – Natural Ventilation, for providing natural air to enter into the house thru their operable windows; Daylight Provision, for providing wide windows to allow daylight into the room space; and Renewal Energy Technologies, like providing solar panels as another source of electricity
2. Water Efficiency – by using water efficient fixtures like double flush water closet, handheld bidet, low-flow urinals and the like

B. Enhancement to the Pag-IBIG Fund Revised Manual on Real Estate Appraisal

Last October 10, 2016, the Pag-IBIG Fund Senior Management Committee approved the Proposed Enhancement to the Pag-IBIG Fund Revised Manual on Real Estate Appraisal, as presented by the Office of the Manager of Property Valuation Department.

These were the enhancements:
1. Modification of Premium for Green Features in the Appraisal Valuation of Properties
2. Adjustments in the Reproduction Cost-New (RCN) of Housing Units

Performance Standards Considered in the Valuation Process

In the appraisal valuation of housing projects, Pag-IBIG Fund considers the following performance standards:
1. ***Energy Efficiency*** – requires the adoption of efficient practices, designs, methods, and technologies that reduce energy consumption, resulting in cost savings.
Examples:
a. *Building Envelope with Glass Properties* – This is energy efficient and has full-length aluminum glass curtain wall.
b. *Natural Ventilation* – The Lumivent Technology allows the free flow of natural light and air. This incorporates three-storey high garden atriums every five floors and vents at both sides of the building.
c. *Mechanical System* – This includes air conditioning system, water heating system, and variable speed drives and high-efficiency motors.
d. *Electrical System* – This includes daylight provision (windows, skylight, clerestory, and light scoop); daylight control lighting system (wherein photoelectric sensors connected to luminaries help in dimming or switching off lamps that do not require to be operated due to presence of adequate daylight); occupancy sensors for lighting control (like in covered car parks wherein lighting is being controlled by the occupancy sensors); and renewable energy technologies like solar panels, wind energy, and hydro energy.
2. ***Water Efficiency*** – requires the adoption of efficient practices, plan, design, materials, fixtures, equipment, and methods that reduce water consumption, resulting in cost savings.

Examples:
a. *Water Fixtures* – This includes dual flush water closet, water closet with sink, low-flow showerheads, and waterless urinals.
b. *Water Management* – This includes rainwater harvesting system and water recycling system.
3. ***Solid Waste Management*** – requires the adoption of efficient waste management practices and use of eco-friendly materials.
Example:
a. *Material Recovery Facility*
4. ***Site Sustainability*** – requires the adoption of planning, design, construction, and operation practices that minimize the adverse impact of buildings on ecosystems and water resources.
Example:
a. *Open Space Utilization* - This includes the provision of green areas or landscaped areas, like vegetated roof deck, plant boxes, wall-mounted vegetation, and landscaped garden.

Modified Premium for Green Features in the Appraisal Valuation of Properties

The enhanced Pag-IBIG Fund Revised Manual on Real Estate Appraisal gives a premium or incentive of up to a maximum of 20% corresponding to the green component present in the housing project or housing unit being appraised. The efficiency and serviceability ratings are also considered.

1. ***For a Subdivision (House & Lot)***

Premium for Green Feature	**House**	**Land Dev/t**	
A. Energy Efficiency			
1. Building Envelope: Glass Properties	1%		
2. Natural Ventilation	1% to 2%		**
3. Mechanical System			
Variable Speed Drives and High-Efficiency Motors		1%	
4. Electrical System			
Daylight Provision	1%		
Daylight Control Lighting System	1%		
Occupancy Sensors for Lighting Control	1%		
Renewable Energy Technologies (solar panels, wine energy, hydro energy)	1% to 3%		*
B. Water Efficiency			
1. Water Fixtures	1% to 2%		*

2. Water Management			
Rainwater Harvesting	2%		
Water Recycling	2%		
C. Solid Waste Management			
1. Material Recovery Facility		1% to 2%	**
D. Site Sustainability			
1. Open Space Utilization (provision of green areas or landscaped areas)		2%	

Max. of 20.00%

* Point allocation will be given according to the efficiency rating that the Green Feature introduces.

** Point allocation will be given according to the serviceability of the Green Feature.

2. ***For a Condominium Project***

Premium for Green Feature		
A. Energy Efficiency		
1. Building Envelope: Glass Properties	1%	
2. Natural Ventilation	1% to 2%	**
3. Mechanical System		
Air Conditioning System	1%	
Water Heating System	1%	
Variable Speed Drives and High-Efficiency Motors	1%	
4. Electrical System		
Daylight Provision	1%	
Daylight Control Lighting System	1%	
Occupancy Sensors for Lighting Control	1%	
Renewable Energy Technologies (solar panels, wine energy, hydro energy)	1% to 3%	*
B. Water Efficiency		
1. Water Fixtures	1% to 2%	*
2. Water Management		
Rainwater Harvesting	1%	
Water Recycling	1%	
C. Solid Waste Management		
1. Material Recovery Facility	1% to 2%	**
D. Site Sustainability		

1. Open Space Utilization (provision of green areas or landscaped areas)	2%	
	Max. of 20.00%	

* Point allocation will be given according to the efficiency rating the Green Feature introduces.

** Point allocation will be given according to the serviceability of the Green Feature.

Guidelines on Rating

1. Efficiency Rating (*)

a. *Renewable Energy Technologies (solar panels, wind energy, hydro energy)*

Parameter	Efficiency	Rating
Annual energy reduction cost	15% to 30%	1%
	31% to 50%	2%
	51% or more	3%

b. *Water Fixtures*

Parameter	Efficiency	Rating
Water usage reduction percentage	30% to 50%	1%
	51% or more	2%

2. Serviceability Rating (**)

a. *Natural Ventilation*

Parameter	Serviceability	Rating
Size of the opening of the operable windows or balcony door	10% to 15% of the floor area	1%
	More than 15% of the floor area	2%

b. *Material Recovery Facility*

Parameter	Serviceability	Rating
Type and built of storage facility	Built of temporary structure like plywood or welded wire mesh	1%

	with proper markings for segregated wastes	
	Built of permanent structure like concrete or steel with proper markings for segregated wastes	2%

Housing Projects Appraised with Green Features

Pag-IBIG Fund appraised 10 housing projects with green features: seven subdivision projects and three residential condominium projects.

1. Subdivision Projects (7 projects)

Housing Project	No. of Residential Units/Lots
The Araya Park Residences (Rockfort Realty Corp.; Brgy. Tagapo, Sta. Rosa, Laguna)	327
Stoneridge Ville (Nicolex Dev't. Corp.; Brgy. Bigaa, Cabuyao, Laguna)	288
Kahaya Place (Northpine Land, Inc.; Zone 3, Dasmarinas, Cavite)	466
The Villas as Dasma-Highlands (Solar Resources, Inc.; Brgy. San Agustin, Dasmarinas, Cavite)	716
Bel Aldea Subdivision (San Miguel Properties, Inc.; Brgy. De Fuego, Gen. Trias, Cavite)	661 (Phase 1) 731 (Phase 2)
Lotus Lakeside (Richfield Properties, Inc.; Brgy. Molino, Bacoor, Cavite)	227
Terraverde Residences (CenQhomes Development Corp.; Brgy. Bancal, Carmona, Cavite)	656 (B.P. 220) 134 (P.D. 957)

2. Residential Condominium Projects (3 projects)

Housing Project	No. of Residential Units
Paseo Verde @ Real Tower 1 (Lucent Evermore Estate Dev't., Inc.; Brgy. Pulang Lupa Uno, Las Pinas City)	314
Urban Deca Tower EDSA (Fog Horn, Inc.; EDSA, Brgy. Highway Hills, Mandaluyong City)	1,148

D&G University Residences (DCTC & Garcia Realty Corp.; Moret St., Sampaloc, Manila City)	128

Green Features Seen in Appraised Housing Projects

1. The Araya Park Residences
- solar panel energy system on housing units
- sewage treatment facility
- multiple parks & playground

2. Stoneridge Ville
- natural ventilation on housing units
- daylight provision on housing units

3. Kahaya Place
- natural ventilation on housing units

4. The Villas as Dasma-Highlands
- natural ventilation on housing units
- solar powered streetlights

5. Bel Aldea Subdivision
- natural ventilation on housing units

6. Lotus Lakeside
- natural ventilation on housing units
- open space utilization

7. Terraverde Residences
- solar powered streetlights

8. Paseo Verde @ Real Tower 1
- natural ventilation on housing units
- solar panel energy system
- rainwater harvesting system
- recycling facilities

9. Urban Deca Tower EDSA
- vegetated roof deck garden

10. D&G University Residences
- solar panel energy system

The technical professionals, developers, and contractors, as well as individual homeowners, will be encouraged to help the Philippine government address the adverse effects of climate by ensuring that housing projects and housing units are planned, designed, constructed, operated, and maintained to the required efficiency level without significant increase in cost.

The granting of Green Premium in the valuation of housing projects financed under the housing loan programs of Pag-IBIG Fund will encourage proponents and developers to produce more housing projects that incorporate green features. This will eventually benefit the member-borrower in terms of long-term savings in power

and water. At the same time, the homeowners will live in a more environment-friendly community.

The savings that will be generated by the member-borrower due to the incorporated green features will enable him/her to increase his/her repayment capacity on his/her housing loan. This will then result to increased collection efficiency for Pag-IBIG Fund.

The Green Premium will increase Pag-IBIG Fund's valuation on properties offered as collateral. This will lead to an increased loanable amount for the member-borrower applying for the housing loan. Pag-IBIG Fund will have increased housing loan take-outs, while the member-borrower will have a greater chance of availing of housing loans due to the reduction in the required equities.

On July 2017, Pag-IBIG Fund will be receiving the Merit Award from the European Organization for Sustainable Development, for this project along with its two other projects Electronic Disbursement and Electronic Payment and Collection Facility, at the Karlsruhe Sustainable Finance Awards 2017 ceremonies to be held within the framework of this year's Global Sustainable Finance Conference.

The project, **Premium for Green Technologies in Pag-IBIG Fund's Property Appraisal/Valuation: An Incentive to Promote Sustainable Home Design**, deserves to be recognized by the ASEAN Social Security Association because it is an activity that transformed how Pag-IBIG Fund conducted its property appraisal and valuation in relation to its housing loan programs. It is an innovative endeavor that results to cost savings to the member-borrower in terms of electricity costs due to the solar panel, and profit to the developer-borrower in terms of higher saleability of the housing project to buyers who are environment-conscious.