

Smart Investing for a Green Home

How to use residential loans to pay less each month for more benefits including:

- Superior Building Quality and Comfort
- Lower Energy and Repair Costs for your Home
- Greater Environmental Responsibility for our Planet
- Better Health and Enjoyment for your Family



What is a Green Home?

There are many valid approaches to creating a Green Home but all are thoughtful in their design, construction and operation and minimize or eliminate the environmental impact of the creation and operation of the home. Here are some of the main components of Green Homes:

Energy Efficiency & Green Energy

Using "Bio-Climatic Design" principles (explained further below), a superior "Building Envelope" with significantly improved insulation and better doors and windows, and more efficient Heating, Ventilating, and Air Conditioning (HVAC) or natural ventilation and "Passive House" approaches; a Green Home minimizes energy use. Introduction of Green Energy – either on the home itself or through specifying contractually the delivery of Green Energy through Energy Suppliers ensures the reduction or elimination of fossil fuel derived energy.

Location

The construction of a green home does not utilize land with important contributions to bio diversity or a city's green space. The location reduces transportation impacts by having access to public transportation or rail or bus terminals and/or is in a "walk-able" community with the homeowner's needs for shopping, dining, schools, etc. nearby.

Sustainable & Healthy Materials

Green Homes utilize materials that are non-toxic to the home's occupants and safe in their production. Heavy construction materials are chosen that are manufactured close to the construction site to minimize transportation impact. Materials that contained recycled materials or, better, creatively "up-cycle" or "re-purpose" items that might otherwise end up as waste should be included. Durable materials mean less repair costs, less construction waste, and reduced environmental impact over time.

Indoor Air Quality

Technology solutions or natural ventilation (or both) are employed to ensure air is both healthy and pleasant. Paints, other coatings and adhesives are chosen that do not introduce toxins into the home.

Bio-Climatic Design: Lighting, Shading and More

Green Homes use "bio-climatic design" principles that include shading from the summer sun and collecting the winter sun with thoughtful orientation of the building and placement of the windows and skylights. Deciduous trees drop their leaves in winter to allow in sun and evergreen trees keep their leaves to protect against harsh winter winds and "solar gains" from summer sunshine. Indoor lighting is designed to ensure a safe, productive, and warm environment with a minimum amount of energy use. Designs that ensure natural daylight enters the building without solar gains in summer contribute to a Green Home.

Construction Site and ongoing Property Management

The construction process of a green home takes important steps to ensure the building does not damage or destroy the surrounding environment (reducing/eliminating erosion, protecting existing trees and bio-diversity on the site). In addition, residents receive information and have facilities (e.g. Composting area, Recycling Collection area, etc.) to operate their homes in an environmentally-responsible manner to ensure the home over time has a neutral to positive impact on the planet. Landscaping is created using creativity and indigenous plants to minimize "Urban Heat Islands", reduce the need for pesticides, fertilizers and irrigation systems.

Other Green Design Principles

Green Homes are designed to be durable to minimize repairs and heavy construction work if future needs changes. Smart design allows for different uses of the home as a family's needs change or new owners arrive with different needs. Green building principles demand better planning efforts and "Integrated Design" of the different disciplines to ensure optimal results, maximizes the use of space, avoid costly construction mistakes, and minimize waste in the building process.



CERTIFIED BY



ROMANIA
GREEN
BUILDING
COUNCIL

The Romania Green Building Council is a non-profit, non-political association endeavouring to deliver the market, educational, and legislative conditions necessary to promote high performance construction that is both environmentally-responsible and profitable. The RoGBC endeavours to create an exemplary development model for the region by ensuring the built environment will not imperil future generations but rather be a source of safety, health, comfort, innovation, and economic opportunity.

Green Homes certified by the Romania Green Building Council require better energy efficiency, indoor air quality, elimination of toxic building materials including paints, other coatings, adhesives and flooring, superior and efficient lighting quality, and other attributes that ensure a more healthy, enjoyable and valuable home.

For more information please visit:
www.RoGBC.org



Finding a balance when investing in your home

There is a direct correlation between the energy efficiency and green performance of a home and the level of quality in the design, construction and operation of that home. Fear of bank financing often leads homeowners to take suboptimal decisions who under-invest in the design and construction process (often choosing homes only on the lowest "Cost per Square Meter" value) and resulting in owning homes that are more costly to heat and cool, require more maintenance, more frequent renovations, and subject to reduced long-term asset values relative to Green Homes.

The most cost-effective moment to invest in energy efficiency and other green features of a home is at the earliest moments of its initial design and creation. This is particularly true regarding the "building envelope" or the roof, windows and walls which contribute substantially to energy efficiency performance but are costly and problematic to improve after the initial construction is complete.

Responsible financing is often the best choice to bring forward the available resources early into the construction process of homes allowing the homeowner to offset their early investment in quality and energy performance (via monthly mortgage payments) with the savings (via reduced monthly energy and repair bills).



Financial example: Lower Monthly Costs with Green Homes

This case study compares an average “new build” project on the Romania market (represented by the “B” Energy Performance Certificate score) versus a “low A” and a Green Homes qualified project. The various components of the energy performance of the home are quantified. A “total monthly cost of ownership” is calculated to compare the financial impact of the owner of each residential units. This model makes conservative assumptions omitting, for example, the likely reduced repair costs of a green home versus a standard home.

	EPC “B” rated apartment**	EPC “A” rated apartment**	Green Homes qualified apartment
NET SAVINGS WITH GREEN HOMES*			
Sale price of 70 sqm apartment (€)	79,738	81,731	85,000
Loan amount (€)	67,777	69,471	72,250
Monthly mortgage payment (€)	364	373	388
Cost of energy/apartment/month (€)	101	65	33
Total cost of monthly ownership (€)	465	438	421

* Assumptions: Net size of apartment: 70 sqm; Market price: €1,139/sqm; Payment period: 30 years; Construction cost: €600/sqm.

** EPC = Energy Performance Certificate: this displays the results of an energy audit using the Romanian methodology in conformity with the European Union's Energy Performance for Buildings Directive.

COSTS AND SAVINGS OF ENERGY EFFICIENT AND OTHER GREEN MEASURES

Construction parameters

Increase in construction cost from green measures (%)	0%	5%	15%
Construction cost (€/sqm)	600	630	690

Energy consumption

Energy consumption for heating (kWh/sqm/year)	117	70	50
Energy consumption for domestic hot water (kWh/sqm/year)	35	15	15
Energy consumption for air conditioning (Cooling) (kWh/sqm/year)	35	20	10
Energy consumption for ventilation (kWh/sqm/year)	10	5	5
Energy consumption for lighting (kWh/sqm/year)	49	40	10
Total energy consumption for apartment (kWh/sqm/year)	246	150	90

Cost of energy

Average monthly cost of gas and electricity for 70 sqm apartment (€)	101.48	65.27	32.98
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MORTGAGE RATE CALCULATION***

Size of apartment (sqm)	70	70	70
Price of apartment (€)	79,738	81,731	85,000
Percent of down payment	15%	15%	15%
Down payment (€)	11,961	12,260	12,750
Interest	5%	5%	5%
Repayment period (years)	30	30	30
Loan value (€)	67,777	69,471	72,250
Monthly payment (€)	364	373	388

*** These calculations are only an indication of potential savings of using a mortgage to invest in a green home. This is **not** an offer for an actual mortgage or any other loan product. Changes in the interest rate, energy prices, and predicted versus actual home energy performance can modify the results significantly.



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