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Local Measures for Attracting Investments in Green Buildings

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September 2009

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FOREWORD

The Romania Green Building Council is pleased to present to you our report entitled " Local Measures for Attracting Investments in Green Building". While Romania faces international and local economic challenges, more stringent European legislative requirements, projected energy costs increases and concern for energy security, we believe municipalities can utilize local measures to address these challenges while creating a buoyant economic future and high-quality jobs for its citizens. Measures to promote energy efficiency in buildings and protect Romania's natural environment have been implemented in many visionary cities with minimal cost to public budgets.

Support for energy efficiency measures in buildings benefit citizens of all income levels, particularly the poorest members of society who are least able to protect themselves and their families from increasing energy costs. In addition, greener buildings mean having better design and use of space in buildings, more natural day light, healthier air quality, and contribute to more productive workspaces, higher quality of life at home and many other tangible benefits. As Romania builds its capacity in providing the necessary solutions for greener buildings, it earns capabilities in innovative industries which will prosper in the near future.

In addition, we are extremely grateful for the extensive assistance, analysis and recommendations from the professionals of Badea Clifford Chance. Their contribution was critical to the success of this initiative. Please do not hesitate to contact us with your questions, feedback, and opportunities to collaborate in the promotion of local measures for energy efficiency.

Steven Borncamp

President

Romania Green Building Council



THE REPORT TEAM



Steven Borncamp – President, Romania Green Building Council (RoGBC) - is a founding member of the RoGBC and organized the April 2009 edition of "Build Green CEE" conference in Bucharest and numerous other green building initiatives for the region. He has provided strategic advice and managed complex projects for leading multinational companies across a variety of industries in the Central and Eastern European region and the US. Steve is an early advocate of sustainable development and socially responsible business.



Florin Dobrescu – Technical Advisor for Romania Green Building Council - is an architectural designer and eco-entrepreneur developing an innovative, modular, green-housing system based on patent-pending, geodesic domes. His work has involved analysis, categorization and experimentation with a wide array of alternative building technologies. Mr. Florin Dobrescu had prior involvement with the construction industry focused on energy-efficient buildings based on Insulated Concrete Forms (ICF) technology.



Anca Bieru – Director of Membership & Public Affairs, Romania Green Building Council - holds an important role in establishing key contacts with potential partners, new members, and lobbying for the RoGBC. Moreover, she coordinates the activities of the organization's Legislative Outreach Task group, which collaborates with the public authorities for encouraging the creation and implementation of a legislation favorable to the sustainable development of the construction sector.



Perry Zizzi – Partner, Badea Clifford Chance - has over 14 years of experience as a business lawyer with expertise in environmental law (including green buildings, renewable energy), real estate (including acquisition, finance, development, leasing) and finance. He has extensive cross-border experience, having handled complex matters throughout Central and Eastern Europe, Western Europe and other parts of the world.



Adriana Akyol – Associate, Badea Clifford Chance - is a lawyer who specializes in Corporate M&A and Real Estate, having also expertise in regulatory and licensing matters in energy and environmental law (including green buildings, renewable energy). She has been involved in due-diligence projects advising major domestic and international clients active in these fields.

„Think globally, act locally!”



The Romania Green Building Council is a non-profit, non-political association of companies that promotes sustainable constructions by providing specific trainings and implementing pilot projects that demonstrate the feasibility of green buildings in Romania. Moreover, the RoGBC is working with the public authorities to encourage the necessary legislative measures for building green.

The organization seeks 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, comfort, innovation, and opportunity.

The RoGBC is officially accredited as an "Emerging council" with the World Green Building Council. The organization follows the model of other successful Green Building Councils that have achieved significant results in promoting environmentally responsible construction in other countries, such as the USA, Canada, Germany and Great Britain, and adapted to the Romanian market.

For more details please contact Anca Bieru: Anca.Bieru@RoGBC.org.

B A D E A
C L I F F O R D
C H A N C E

Badea Clifford Chance has built a solid reputation as a leading law firm in Romania assisting international clients on complex transactions, being regularly involved in major transactions shaping the business environment. The office provides high-quality legal services in a broad range of practice areas: Banking & Finance, Capital Markets, Corporate/M&A, Real Estate, Regulatory (environment, competition, employment, energy, IP, telecom).

INTRODUCTION

Climate change and the depletion of natural resources make sustainability a major and concerning topic. Major and high-quality solutions are now needed to match the magnitude of the problem.

Contrary to the past decade, when the issue of global warming was often disregarded, nowadays it is fully acknowledged by the governments of industrialized countries. An international treaty to address greenhouse gas emissions – the Kyoto Protocol – already exists, and it will be further improved at the end of this year, in Copenhagen.

The construction sector is one of the biggest energy consumers (40% of the final energy consumption)¹ and it is also responsible for a significant quantity of CO₂ emissions (36% of total CO₂ emissions). There is a great potential for reducing the emissions, especially through measures encouraging energy efficiency and the production of energy from renewable sources. The costs associated to these measures, especially those related to energy efficiency, are minimum, or even negative. These costs should not be seen as inefficient expenditure, but rather investments that will, in the future, save energy from conventional sources. Energy prices will continuously rise², while the current subsidies meant to protect citizens from increased costs, will prove to be unsustainable. Therefore, encouraging energy efficiency in the construction sector provides a solution to the problem at minimum costs, and not an annual expenditure from the public budget, as it is the case for subsidies.

The immediate benefits for citizens include: lower energy bills, new economic opportunities and jobs, greater comfort at home and office and an overall higher life quality.

As regards the public authorities, supporting the development of green buildings³ will have immediate quantifiable effects. Reducing the dependency on fossil fuels through measures promoting energy efficiency and energy production from renewable sources, increasing the use of locally produced construction materials and lowering construction waste volumes by reusing and recycling materials will stimulate the local economy and will certainly create new jobs .

¹ Impact Assessment Summary SEC/2008/2865, a document evaluating the impact of the new proposal for a European Directive regarding the Energy Efficiency of Buildings, elaborated by the European Commission

² Increased costs for both fossil fuel and CO₂ emissions generated by the inefficient thermal operators (which will not be included anymore in the GHG Emissions Credit Trading Scheme) – both leading to higher energy bills.

³ Green building = a highly energy efficient building (energy efficiency class A or more) and with a low environmental impact.

The building sector represents an important part of any energy efficiency plan or strategy aimed at mitigating climate change, and has great development potential. At the same time, we acknowledge the importance of integrating and implementing measures related to water and waste management, transport efficiency, energy production units efficiency in order to reduce energy consumption and greenhouse emissions.

OBJECTIVES OF THE STUDY:

The objectives of this report are the following:

- Identifying policies and programs successfully implemented in Europe and the United States focused on increasing energy efficiency and using renewable energy sources;
- Analyzing these programs and policies and identifying the adequate measures that could be implemented in Romania at a local level;
- Taking into account feedback received from the public authorities, real estate developers and architects.

Reducing energy consumption and CO₂ emissions has great potential in the building sector; concrete measures can be applied both to new and existing constructions.

This study focuses more on recommendations and measures directed to promote new green buildings and less on ways to rehabilitate existent constructions. This is due to the fact that the regulations and measures related to new constructions are easier to accept and implement by the local public authorities, taking into account as well the fields in which they a greater decision power⁴.

METHODOLOGY

The successful policies and programs applied in other countries were identified by consulting the existent reports⁵ and analyzing the information obtained from the international offices of the legal adviser Badea Clifford Chance, a member company of the Romania Green Building Council. The strategies for sustainable development and/or climate change mitigation developed in various cities were examined. The process of collecting and verifying the opinions on the best measures that can be implemented in Romania was completed in two stages, as follows:

- Interpreting the results of the questionnaire created by the RoGBC and sent to representatives of local public authorities, real estate developers and architects;

⁴ We recognize the importance and the efficiency of implementing measures related to the existing building stock. Encouraging the development of new buildings, more energy efficient is just a first step that needs to be followed by concrete initiatives addressing the existing buildings, in addition to the existing national programs (e.g., the National Program for Thermal Rehabilitation).

⁵ See references.

- Discussing the results and debating the effectiveness of the top 3-voted measures⁶ in a group discussion with representatives of local authorities, architects and real estate developers.

The final measures and recommendations were proposed after a close examination of the national legislation, in order to determine the areas in which the local authorities have decision power.

THE LEGISLATIVE FRAMEWORK

The harmonized European legislation includes a set of directives aimed to accelerate the implementation of sustainable development principles and norms in all areas, especially in the construction sector, which is responsible for about 40% of the total energy consumption, both at a global and EU level. Therefore, there is a constant pressure on governments to encourage sustainable development and set measures that may become a starting point in the development of efficient national, regional or local programs.

The European Energy Performance of Buildings Directive (EPBD) is considered to be the main legislative instrument that supports and regulates the development of energy efficient buildings. Also known as the “EU legislation for green buildings”, EPBD was transposed in the Romanian legislation through Law 372/2005.

The Law 372/2005 is in force as of 1st of January 2007 and regulates the following areas:

1. The general framework of the methodology for the calculation of the energy performance of buildings
2. The application of several minimum requirements regarding the energy performance of new buildings
3. The application of several minimum requirements regarding the energy performance of existing buildings that are undergoing a refurbishment process
4. The energy certification of buildings
5. The inspection and assessment of boilers and heating/cooling systems

At the moment, at a national level, the Law no. 372/2005 is still poorly implemented. This is mainly because the law does not clearly regulate and divide responsibilities among the different groups involved in the implementation process (public authorities, final beneficiaries, other groups such as energy auditors or public notaries). Implementing the law and verifying the existence and the display of the building’s energy performance certificate in the case of public authorities’ buildings, have a positive impact on the following:

⁶ The discussion groups were organized according to the “World Café” method.

- Raising final consumer awareness about the importance of energy efficiency of their homes or buildings that they will rent or purchase;
 - Encouraging developers to focus more on energy efficiency characteristics in their projects
 - Reducing energy consumption and CO₂ emissions in the building sector.

The lack of strong mechanisms to exploit the full potential of EPBD in reducing energy consumption in the building sector was noticed at a European level as well. As a result, EPBD is currently rediscussed and it is in the last phase before approval. The new regulations⁷ – relevant to the present study as well – include the following:

- All member states are to verify that all **new public buildings** have zero energy consumption or less by **31st of December 2015** and that all **new buildings** have zero energy consumption or less by **31st of December 2018**.
- By **30th of June 2011**, all member states are required to create national action plans to include measures for encouraging the development of energy efficient buildings and for reducing existing legal and market barriers; new financial and fiscal instruments are to be developed in order to help increase the energy efficiency of new or existing buildings.

THE ADVANTAGES OF GREEN BUILDINGS

Definition of a “green building”

A building is considered to be green or sustainable if it is highly energy efficient and a low impact on the environment. A green or sustainable building is a structure designed, built, refurbished, operated and reused in an environmentally-friendly manner, with efficient use of resources.

In evaluating a green building, the following elements should be taken into account:

- Sustainable site;
- Energy efficiency;
- Efficient use of materials;
- Efficient water use;
- Occupants’ health and safety;
- Construction operation and maintenance;
- Degree of innovation.

⁷ Included in the current version of the EPBD, which was voted by the European Parliament and which is currently (October 2009) under negotiation between the Council of Ministers, the European Commission and the European Parliament, in order to adopt a final version.

Advantages for the public authorities:

- The reduction of greenhouse gas emissions, by using low carbon footprint materials and through higher energy performance;
- Local energy production from renewable sources (solar, wind, geothermal etc.) and reduction of fossil fuel dependence;
- Supporting local businesses by making use of local construction materials and by introducing activities that require local workforce such as selective waste collection, recycling and reuse of building materials, etc.;
- Reduction of construction waste and of the environmental impact by reusing structures and recycling and reusing construction materials;
- Lower energy loads on the local utilities networks, accomplished by higher energy efficiency and water management (processing and reuse of greywaters, collection and use of rainwater, local sewage purification, sustainable irrigations etc.);
- Intergenerational equity, ensured by the use of abundant or renewable construction materials;
- Synthetically, green buildings represent an essential component of any sustainability plan, regardless of its applicability scale.

Advantages for the real estate developer / owner:

- Green buildings represent a current trend : sustainability has already occupied a critical place in any real estate business⁸
- Green buildings have a good quality/cost ratio⁹
- Green buildings sell/let faster
- Green building have better occupancy rates than conventional buildings
- Selling/letting price is higher for green buildings – as they have a better perceived value
- The risk for investing in green buildings is lower or comparable to investments in traditional buildings
- Green buildings have lower operating costs, compared to traditional buildings

⁸ According to the Jones Lang Lasalle: Global Trends in Sustainable Real Estate, 2007 – 62% of European and Middle Eastern respondents and 47% of global respondents supported this

⁹ Idem – 80% of the respondents stated that the added value they perceive for building a green construction is 0-10%.

Advantages for the occupant / final user:

- Great indoor quality:
 - natural lighting
 - ventilation that complies with the health norms
 - no or very low VOC (volatile organic compounds) emissions inside the building
 - thermal comfort
- Better health and productivity increase – the employee productivity gains are 10 times higher than the benefits associate with energy savings, in the case of a green building
- Low operating and maintenance costs

SUCCESSFUL POLICIES AND PROGRAMS THAT SUPPORT ENERGY EFFICIENCY IN BUILDINGS AND PRODUCTION OF ENERGY FROM RENEWABLE SOURCES

A series of remarks can be made regarding the role and importance of local measures and incentives in the area of sustainable development:

- The current expertise regarding sustainable development is based on a quantum of incentives and successful individual/local models;
- The efficiency of implementing European, national or regional policies can be greatly influenced by the local motivation and expertise – e.g. the capacity of absorption of European funds or even the rigor in applying local construction norms;
- There are successful European and international models that are based mostly on local measures.

Given the current context, the eco-municipality model in Sweden¹⁰ is remarkable. Starting in 1983 and following a sustainable development program entitled “The Natural Step”, a network of 70 eco-municipalities (the capital city of Stockholm included), representing 25% of all municipalities in Sweden, was developed. Some of these towns or cities have already reached fossil fuels independency. The eco-municipality model was so successful that other countries replicated it, including some municipalities in the USA, Japan, New Zealand, Estonia, Argentina, Kenya etc.

¹⁰ The city of Malmö: A sustainable city – ecological transformation in Malmö, 2008

EXAMPLES OF INCENTIVES FOR PROMOTING GREEN BUILDINGS – AT A CENTRAL LEVEL, IN MEMBER STATES OF THE EUROPEAN UNION AND THE UNITED STATES

Country	Financial Measures	Legal or Regulatory Measures
EU Countries		
Austria ¹¹	<ul style="list-style-type: none"> • Direct funding for insulation of homes. 	
France ¹²	<ul style="list-style-type: none"> • Tax credits (e.g. households can receive a tax reduction of 50% for investments in renewable electricity generated from photovoltaic technologies). • Ecoloans (at a zero interest rate loan of up to EUR 30,000 per home), for refurbishment works. It was introduced in 2009 to encourage homeowners to carry out energy efficiency improvement works. Its aim is to encourage energy efficiency in buildings and to produce thermal energy from renewable sources. The loan is open to anyone, with no revenue restrictions attached. In order to qualify, borrowers must prove to the creditors their intention to undertake a comprehensive renovation and, after the implementation, a high energy performance level. People willing to benefit from these loans have to choose at least two options among the following: <ol style="list-style-type: none"> 1. Thermal insulation of the walls; 2. Thermal insulation of the roof; 3. Replacement of doors and windows; 4. Installation of a more efficient heating system; 5. Installation of a water heating or housing heating system using renewable energy. 	<ul style="list-style-type: none"> • High technical standards. • Technical initiatives (advanced metering). • Public awareness campaigns to promote energy efficiency. • Energy certification of buildings. • Sustainable Development Savings Account (in French "Livret de Développement Durable"). It is a savings account not subject to tax, that replaced starting the 1st of January 2007 the Industrial Development Account. It can be opened by natural persons whose fiscal domicile is in France, at institutions and other entities authorized to take deposits. The payments/deposits made into the sustainable development account are limited to EUR 6000. The rules for opening and running Sustainable Development Savings Accounts are set by decree. Transactions related to Sustainable Development Savings Accounts are subject to on-site inspection by the Finance Inspectorate.

¹¹ According to the study "Status Review of Renewable and Energy Efficiency Support Schemes in EU" issued by the Council of European Energy Regulators on 10 December 2008.

¹² Information supplied by the French quarter of Badea Clifford Chance Company

Country	Financial Measures	Legal or Regulatory Measures
	<p>Households have from ten to fifteen years to pay back these loans. It applies to properties built before 1st of January 1990. The Eco-loan can be combined with a tax credit of up to 50%.</p> <ul style="list-style-type: none"> Accelerated amortization granted to companies for investments in materials aimed at saving energy and in equipment for generating energy from of renewable sources acquired or manufactured prior to 1st of January 2011. In addition, businesses are allowed to write-off their equipment costs in the first fiscal year. <p>Leasing/System of Sofergies. It is a special form of financing for energy saving equipment introduced in 1980. Sofergies are companies specializing in financing by means of property, plant and equipment leasing or of renting installations or materials designed for energy generation, protection of the environment or for public service concessions. Sofergies are able to provide, on a case by case basis, either a financial amortization or a fiscal depreciation, being the only leasing and rental companies able to do this. They can include in one contract both movable and immovable property. If the proportion accounts set for by immovable property is less than 20% of the total investment, Sofergies can also offer clients the option of amortizing immovable property over the same period of time as movable property, i.e. 7 or 10 years, rather than 20 years, an option which can be very advantageous (e.g., for increase of external charges, decrease of the net result and, consequently decrease of the corporation tax). Lastly, they are able to include in their</p>	

Country	Financial Measures	Legal or Regulatory Measures
	<p>elaboration the pre-financing of any subsidies, aid from FOGIME (French Energy Investment Guarantee Fund), and exceptional amortization applicable to certain materials (such as cogeneration or industrial purification plants).</p> <ul style="list-style-type: none"> • Reduced VAT of 5.5% for improvement, fit-out and maintenance works to dwellings finalized for more than 2 years. 	
Hungary ¹³		<ul style="list-style-type: none"> • The National Energy Savings Program promotes residential energy savings and assists residential take-up of renewable energy sources. • The Environmental & Energy Operative Program does the same but is targeted towards the business sector.
Ireland ¹⁴	<ul style="list-style-type: none"> • "Power save" is a tariff offered by suppliers to incentivize registered customers to reduce electricity consumption or increase exports during peak demand periods. In return, customers receive compensation via a payment mechanism based on the kWh reductions achieved during the "Power save Event". • The Winter Peak Demand Reduction Scheme encourages medium and large consumers with online quarter hour meters to reduce peak winter consumption and demand. Participants are rewarded for demand reductions via payments. The Winter Demand Reduction Incentive is offered by the State's largest supplier to customers on Low Voltage Maximum 	

¹³ See footnote 10 above.

¹⁴ See footnote 10 above.

Country	Financial Measures	Legal or Regulatory Measures
	<p>Demand tariffs, which reduces their demand for electricity for specific hours during winter months. As part of the Nightsaver tariff, customers pay a higher standing charge every 2 months and in return receive cheaper electricity between 11pm and 8am (winter time) and between midnight and 9am (summer time).</p>	
Italy ¹⁵	<ul style="list-style-type: none"> • Tax rebates for energy efficiency improvements in buildings and for the purchase of energy efficient equipment (e.g., 20% rebate for replacement of class A+ refrigerators). • Local governments may grant loans, subsidies, tax rebates for energy efficiency improvements but an energy efficiency certification is needed to access these incentives. 	
Norway ¹⁶		<ul style="list-style-type: none"> • The publicly owned enterprise, Enova SF, stimulates energy efficiency by encouraging cost-effective and environmentally sound investment decisions. Currently, Enova SF supports energy savings in new buildings by providing investment support equal to 0.2 to 0.5 NOK/kWh, with a maximum of 10% of the investment costs.
Portugal ¹⁷		<ul style="list-style-type: none"> • Promoting Efficiency in Electricity Consumption (PPEC) is a tender mechanism to promote energy efficiency in electricity consumption whereby eligible suppliers submit energy efficiency

¹⁵ See footnote 10 above.

¹⁶ See footnote 10 above.

¹⁷ See footnote 10 above.

Country	Financial Measures	Legal or Regulatory Measures
		<p>initiatives, tangible (e.g. residential lighting) or intangible (e.g., information campaign), for the industrial, services and residential sectors. The annual budget for 2009 and 2010 is of €11.5 million per year, which is financed through the Global Use of System Tariff paid for by all consumers. The measures are analyzed and approved by means of a competitive process and ranked according to pre-established rules, based on a cost-benefit analysis.</p> <ul style="list-style-type: none"> • Various regulations in place on efficiency standards of buildings to enhance energy performance of buildings and to establish an energy certification system for buildings.
Romania ¹⁸	<ul style="list-style-type: none"> • "Casa Verde" Program. It grants yearly non-reimbursable co-finance (the total amount for 2009 is of RON 310,000) from the Fund for Environment, for replacing or complementing the classical heating systems, with systems using solar, geothermal and wind energy, or with other systems which lead to improvement air, water and soil quality due to avoiding the using of fossil fuels. The direct beneficiaries are the administrative-territorial units (i.e., communes, cities, counties) which may submit projects for obtaining financing for real estates in their ownership or administration, or on behalf of owners/tenants associations located in 	<ul style="list-style-type: none"> • Since 1 January 2007 energy performance certificates must be obtained by the owners at completion of construction of new buildings, and must be provided by the owners to prospective buyers or tenants at conclusion of a sale or lease agreements with respect to existing buildings. With respect to the sale and lease of existing single family dwellings and apartments in blocks of flats the certification provisions will apply beginning with 1 January 2010.

¹⁸ See footnote 10 above.

Country	Financial Measures	Legal or Regulatory Measures
	<p>their administrative competence area. The percentage of the non-reimbursable financing is up to 80% of each project's eligible expenses. The local councils are to establish the amount of the participation quota for the owners/tenants associations. The maximum amount of financing per administrative-territorial units is: (i) RON 4,000,000 for administrative-territorial units with a population of more than 100,000 inhabitants, (ii) RON 3,000,000 for administrative-territorial units with a population between 50,000 and 100,000, (iii) RON 2,000,000 for administrative-territorial units with a population between 20,000 and 50,000 inhabitants, (iv) RON 1,000,000 for administrative-territorial units with a population between 3,000 and 20,000 inhabitants and (v) RON 500,000 for administrative-territorial units with a population of less than 3,000 inhabitants.</p> <ul style="list-style-type: none"> The Multi-Annual Thermal Refurbishment Program. Among other things, it aims to ensure the thermal insulation of blocks of flats built based on projects prepared between 1950-1990, with the purposes of achieving increase of energy performance of such buildings and thus decrease of the energy consumption for heating apartments by ensuring and maintaining the interior heating (the proposed target is a decrease of the specific annual energy consumption for heating under 100 kWh/sq. m. of useful area, in conditions of economic efficiency. The financing for the design of the intervention works comes from the local budgets of the administrative-territorial units/sectors of Bucharest, while the financing for the 	<ul style="list-style-type: none"> Simplified energy audits (such as questionnaires and IT programs in electronic format) are to be made available by the Romanian Agency for Energy Conservation or by the Ministry of Regional Development and Housing to the end consumers of less than 200 tep/year or the consumers for whom the performance of energy audits would lead to disproportionately high costs compared to the intended energy save. Considering the role of the public sector, the public administrative authorities are to apply in their public acquisitions, among other things, requirements for the use of energy audits, for the acquisition or renting of energy efficient buildings, or for replacement of or changes to buildings bought or rented, in order to make them more energy efficient.

Country	Financial Measures	Legal or Regulatory Measures
	<p>execution of the intervention works is derived as follows: (i) 50% from the state budget, within the funds approved each year in this respect in the budget of the Ministry of Regional Development and Housing; (ii) 30% from funds specially approved each year in this respect in the local budgets and/or from other sources legally created; (iii) 20% from the repair fund of the owners associations of the blocks of flats subject to refurbishment, or from other sources legally created. The 20% quota incurring to the owners associations is divided according to the quotas of joint ownership belonging to the owners of apartments in the block of flats subject to refurbishment. Exceptionally, the local public authorities may, within the limits of the funds specially approved each year in this respect, (i) perform advance payments of the quota of 20% due by the owners associations and may also decide with respect to the measures of recovering such advance payments; (ii) undertake part or all of the expenses due by the owner/s who cannot afford such payments. The public administrative authorities may also decide to undertake expenses representing the 50% quota due by the Ministry of Regional Development and Housing, within the limit of the funds approved each year in this respect, for the blocks of flats which are not included in the national refurbishment program for a certain year. In case of thermal refurbishment works, the issuance of the related building permits is exempted from the payment of the quotas of 0.7% and 0.1% of the value of the execution works to the State</p>	

Country	Financial Measures	Legal or Regulatory Measures
	<p>Inspectorate in Constructions, as well as of the quota of 0.5% to the Constructor's Social House. The total amount allocated for this program to all the administrative-territorial units for 2009 is of RON 360,000,000.</p>	
<p>UK (England and Wales)</p>	<ul style="list-style-type: none"> • Landlords' Energy Saving Allowance (<i>i.e.</i> landlords who pay income tax can apply for relief for capital expenditure on: loft, cavity, solid wall and floor insulation, draught proofing, insulation of hot water systems; the allowable deduction is limited to a maximum of £1,500 per rented dwelling and is available for expenditure incurred until 2015). It originally only applied to landlords who pay income tax. However, from 8 July 2008, the allowance is also available to corporate landlords of residential property (who are within the charge to corporation tax). Landlords who are subject to corporation tax may also be entitled to claim enhanced capital allowances for the installation of certain types of energy efficient plant and machinery. • Green Landlord Scheme. The UK Government is planning to introduce it by reforming the existing Wear and Tear Allowance (WTA) and making it conditional on the energy efficiency level of a property. The UK Government is considering, among other things, whether the revised WTA should be extended to unfurnished properties and whether qualification for the revised WTA should be linked to energy performance certificate. • Reduced VAT rates for energy-saving materials (<i>i.e.</i> a reduced VAT rate of 5% for installation of certain energy-saving 	<ul style="list-style-type: none"> • Building regulations for the household sector to strengthen energy efficiency standards with the aim that all new homes are zero carbon by 2016. • A Code for Sustainable Homes is in place for sustainable design and construction of new homes, setting out sustainable building standards (including energy efficiency) against which new homes are rated (<i>i.e.</i> six levels based on a star rating, level six being equivalent to a zero carbon home. Such levels are based on certain design categories: energy and carbon dioxide emissions, water, materials, surface water run-off, waste, pollution, health and well-being, management, ecology - each one including a number of issues that have potential impact on the environment). The Code was introduced in April 2007. Although currently there is no obligation to carry-out a Code assessment, since 1 May 2008 all sellers of new homes must obtain a "sustainability certificate". The Code's principal objective is to encourage the building industry to construct new homes that use

Country	Financial Measures	Legal or Regulatory Measures
	<p>products and materials in residential properties, such as: insulation, draught stripping, hot water and central heating control applies to all households. Further reduced VAT rates apply to grant-funded installations of energy-saving materials in vulnerable households, including: central heating systems, heating appliances and factory-insulated hot water tanks). The reduced VAT rates only apply to energy-saving products and materials which are installed professionally. They do not apply to DIY installations.</p>	<p>energy, water and material resources more efficiently. It will be used to provide anyone buying a new home with better information about the environmental impact of their home and its potential running costs. It is intended to complement the system of energy performance certificates for new homes. Energy performance certificates and the energy components in a Code certificate are based on the same methodology, and so an assessor preparing a Code certificate will use the energy performance certificate calculation produced by an energy performance assessor for the Code energy assessment.</p> <ul style="list-style-type: none"> • The Energy Performance Certificates provide information on the energy efficiency of homes which is required for all homes to be sold or rented.
United States		
New Mexico	<ul style="list-style-type: none"> • In April 2007, Governor Bill Richardson signed SB 463 into law. This omnibus bill included a sustainable building tax credit to promote the construction of high performance, green design and construction. The credit applies to LEED¹⁹ 	

¹⁹ LEED is a green building certification standard, internationally renowned and based on the evaluation of a third party of the criteria used in designing the building project in order to improve the performance levels of energy use, water consumption, reducing carbon emissions, improving indoor air quality and sustainably use the resources. The LEED certification system was developed by the US Green Building Council and offers landlords and building operators precisely instructions on identifying and implementing green solutions during the designing,

Country	Financial Measures	Legal or Regulatory Measures
	<p>for New Construction, Silver and higher; LEED for Existing Buildings, Silver or higher; LEED for Core and Shell, Silver or higher; LEED for Commercial Interiors, Silver or higher; and LEED for Homes, Silver or higher. The credit increases are commensurate with the level of LEED certification achieved.</p>	
<p>New York</p>	<ul style="list-style-type: none"> • The New York State Green Building Tax Credit Program²⁰ provides for tax incentives to commercial developments that incorporate green strategies according to LEED. Provides for tax credits to owners and tenants of eligible buildings and tenant spaces that meet specified “green standards”. Such standards include, but are not limited to, increased energy efficiency, improved indoor air quality, and reduced environmental impact of large commercial and residential buildings in New York State. • The New York State Energy Research and Development Authority (NYSERDA) provides low interest loans (4% below market rate) through the New York Energy SmartSM Loan Fund²¹ for energy efficiency measures and building materials that meet LEED or other generally accepted green building standards. • The NYSERDA’s New Construction Program (NCP)²² provides technical assistance and financial incentives to design teams and building owners. NCP offers direct technical assistance incentives and capital 	

building, operating and maintaining stage in the lifecycle of a building. -

<http://www.usgbc.org/DisplayPage.aspx?CategoryID=19>

²⁰ New York State Green Building Tax Credit Legislation Overview - <http://www.dec.ny.gov/energy/1540.html>

²¹ <http://www.nyserda.org/loanfund/faqs.asp>.

²² http://www.nyserda.org/programs/New_Construction/faqs.asp

Country	Financial Measures	Legal or Regulatory Measures
	<p>cost incentives based on improved building energy efficiency performance. Incentives are also available for building commissioning services, green buildings. Under the NCP, NYSERDA provides computer modeling, design charrette coordination, assistance in obtaining LEED certification, New York State Green Buildings Tax Credit assistance²³, green materials recommendations, commissioning and life cycle costing analysis to building design teams to help make new and rehabilitated commercial, industrial, and institutional buildings green. Energy efficiency services to new building construction and renovations are offered under the NCP on a first come first served basis. Capital cost incentives are calculated using energy performance and technical assistance is provided on a cost-shared basis.</p>	
North Carolina	<ul style="list-style-type: none"> On August 2, 2007, the State of North Carolina enacted Senate Bill 581, which formally grants permission to cities and counties to encourage green building practices through the use of reduced permitting fees or partial rebates for construction projects that achieve LEED certification, certification from the Green Globes program standards adopted by the Green Building Initiative, or a certification or rating from another nationally recognized certification or rating system. 	
Pennsylvania	<ul style="list-style-type: none"> Four state funds, including the \$20 million Sustainable Energy Fund, provide grants, loans and “near-equity” investments in energy efficiency and renewable energy 	

²³ See – Tax Reduction Program for Green Buildings described on the previous page.

Country	Financial Measures	Legal or Regulatory Measures
	projects in Pennsylvania.	
Virginia	<ul style="list-style-type: none"> On March 4, 2008, Governor Kaine signed into law HB 239, amending and reenacting Section 58.1-3221.2 of the Code of Virginia to declare energy efficient buildings a separate class of taxation from other real property. The amended code provides for localities in the Commonwealth to levy equal or lesser taxes on energy efficient buildings, as defined in the code as meeting the performance standards of LEED, Energy Star, Green Globes or EarthCraft. 	

EXAMPLES OF INCENTIVES FOR PROMOTING GREEN BUILDING – AT A LOCAL LEVEL, IN MEMBER STATES OF THE EUROPEAN UNION AND THE UNITED STATES

Local Governments - Counties, Cities and Towns	Fiscal Measures	Legal or Regulatory Measures
New York City (New York) ²⁴	<ul style="list-style-type: none"> • One-year tax abatement for the construction of a “green roof” on a tax class one, two or four building²⁵. The amount of such tax abatement would be \$4.50 per square foot of green roof, limited to the lesser of \$100,000 or the building’s tax liability for the year in which the abatement is taken. • A four-year tax abatement for the construction of a solar electric generating system in connection with a class one, two or four building. The amount of such tax abatement is a percentage of eligible solar electric generating system expenditure in each year of the four-year compliance period. “Eligible solar electric generating system expenditures” include reasonable expenditures for materials, labor costs properly allocable to on-site preparation, assembly and original installation, architectural and engineering services, and designs and plans directly related to the construction or installation of the solar electric generating system. 	
Pittsburgh (Pennsylvania) ²⁶		On November 26, 2007, the Pittsburgh City Council approved an amendment to The Pittsburgh Code entitled “Sustainable Development Bonuses” . This amendment grants density bonuses of an additional 20%

²⁴ http://www.nyc.gov/html/dob/html/guides/green_roof_faq.shtml

²⁵ According to the New York Real Property Tax Law Section 1802.

²⁶ <http://www.usgbc.org/showfile.aspx?documentid=2021>

		<p>floor area ratio and an additional variance of 20% of the permitted height for all projects that earn LEED for New Construction or LEED for Core and Shell certification. The bonus is available in all nonresidential zoning districts.</p>
<p>San Diego (California)</p>		<p>In 2002, San Diego developed the Sustainable Building Expedite Program that uses LEED criteria and provides significant plan review and construction incentives. Such program was revised in November 2008. Commercial projects achieving LEED Gold certification benefit from expedited processes²⁷. Private sector buildings registered for LEED certification may be eligible to receive technical green building training, support and education.</p>
<p>San Francisco (California)²⁸</p>		<p>On September 28, 2006, the Director of the San Francisco Planning Department issued Director’s Bulletin 2006-02 giving priority permit review to all new and renovated buildings that achieve LEED Gold certification.</p>
<p>Seattle (Washington)²⁹</p>	<p>As of 2002, the city of Seattle encourages the private sector to incorporate LEED design standards into new and existing buildings by providing grants for qualifying projects.</p>	<p>On April 12, 2006, Mayor Nickels signed a zoning ordinance that gives a height or density bonus to commercial or residential projects that achieve at least LEED Silver certification and contribute to affordable housing.</p>

²⁷ <http://www.usgbc.org/showfile.aspx?documentid=2021>

²⁸ See above, note 27

²⁹ See above, note 27

<p>Washington (D.C.)³⁰</p>		<p>On December 5, 2006, D.C. Law 16-0234 was passed requiring an incentive program for private residential and commercial buildings. Incentives will include an expedited permit review and may also include grants. The mayor will also establish a Green Building Fund for technical assistance and monitoring of green buildings, education and incentive funding for private buildings.</p>
<p>Berlin³¹ (Germany)</p>	<p>The City of Berlin, in partnership with Berlin Energy Agency (BEA) has done pioneer work to develop and apply an excellent model to improve energy efficiency in buildings. The model called “Berlin Energy Saving Partnership” (ESP) offers efficient refurbishment of public and private buildings with the pivotal advantage to release building owner of any investment costs. Due to releasing building owners from expenses and delivering savings immediately, ESPs are very successful. An accredited Energy Service Company (ESCO), which is to be determined through tendering, finances and implements appropriate energy saving investments to achieve pre-defined energy and cost reductions. In their bids, ESCOs put together their investments targeted at delivering specified energy savings and respective CO₂ reductions.</p> <p>In their bids, ESCOs put together their investments targeted at delivering specified energy savings and respective CO₂ reductions.</p> <p>Berlin's ESPs are also implemented successfully at an international level. To date, BEA’s division “International Know-How Transfer” initiated more than 20 projects in Europe and worldwide (e.g. Bulgaria, Chile, Romania and Slovenia).</p> <p>As responsible company, partly owned by the Government, the Berlin Energy Agency organizes retrofits for large public and commercial buildings. To this objective, so-called Energy Performance Contracts (EPC) are set up between building owners and ESCOs. In average, ESCOs applying for retrofit tenders agree to realize annual savings in energy costs of 26%. To achieve this target, different hardware components such as automatic control engineering systems, heating control systems, lighting systems, ventilation and air conditioning systems can be installed. A further service is consultancy on consumer behavior. BEA also assists building owners and ESCOs to decide on terms of repayment</p>	

³⁰ See above, note 27

³¹ http://www.c40cities.org/bestpractices/buildings/berlin_efficiency.jsp

	to ESCOs. Average payback periods are 8 to 12 years.	
Freiburg ³² (Germany)	<p>Introduced in 1992, the “Low-energy Housing Construction” standard was incorporated into all lease and purchase contracts for state property and stated that no more than 65 kWh/m² of energy may be used for heating purposes in households.</p> <p>Following the amendments to the national legislation, the standard has subsequently been revised to ensure that Freiburg remains at the forefront of low-energy development in Germany. The latest – a two step revision towards a nearly Passive-House-Standard 2009/2011 – was adopted by the City Council in 2008. Starting 2011, all new housing buildings in Freiburg will be built to a high energy efficiency standard.</p> <p>The standard is not a construction sector ordinance, but a matter of civil law applying to public properties that are sold by the city to private investors. Since 2005, the standard has been also operated in new development plans.</p> <p>Freiburg’s energy efficient housing standard has lead to reductions of up to 80% in the average household energy consumption.</p>	
Barcelona ³³ (Spain)	Barcelona is the first European city to have a Solar Thermal Ordinance making it compulsory to use solar energy to supply 60% of the running hot water in all new buildings, renovated buildings, or buildings changing their use. It applies to both private and public buildings.	
Heidelberg ³⁴ (Germany)	<ul style="list-style-type: none"> • In 2001, the city decided to purchase 25% of the electricity supply from renewable sources. This 7 GWh of electricity is purchased at a fixed tariff and extra revenues are invested by the utility into new renewable energy projects, including biomass, solar and geothermal. • Energy efficiency is promoted by KLiBA, a not-for-profit consultancy set up by a network of municipalities and local banks, that offers free advice to all energy users that wish to obtain a building energy performance certificate. 	<ul style="list-style-type: none"> • The city uses civic forums to ensure community participation and aims to cut CO₂ emissions by 20% before 2015. • The 2004 Climate Protection Plan and the 2004 Energy Strategy lay down mandatory standards for buildings that far exceed national requirements. All the city’s targets are developed in consultation with local stakeholders through the “Heidelberg Climate

³² http://www.c40cities.org/bestpractices/buildings/freiburg_housing.jsp

³³ <http://www.project2degrees.org/Pages/BestPractices/Renewables/BarcelonaSolar.aspx>

³⁴ http://www.c40cities.org/bestpractices/buildings/heidelberg_buildings.jsp

		<p>Protection and Energy Circle”.</p> <ul style="list-style-type: none">• The Heidelberg Energy Saving Regulation aims to promote energy efficiency and renewable energy in new and retrofitted buildings and it addresses:<ul style="list-style-type: none">○ new solar thermal modules on rooftops○ other solar thermal installations amounting to nearly 5000m² that are used for public swimming pools.
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SURVEY – MEASURES FOR ENCOURAGING THE DEVELOPMENT OF ENERGY EFFICIENT BUILDINGS³⁵

In the process of applying this survey we looked for an opinion on the measures considered to be most relevant by the target groups that were directly involved in the implementation. Consequently, we focused our questions towards the public authorities and the developers. The architects' group was also included due to their capability of influencing the developers' plans to build green, and also because of their interaction with the public authorities during the development of the projects (for obtaining building permits and authorizations).

The survey was sent to 363 potential respondents, from which we have received 66 complete responses:

- 30 from public authorities
- 9 from developers
- 27 from architects

ANSWERS – DEVELOPERS AND ARCHITECTS³⁶

The objective of this survey was to identify information on the following issues:

1. The interest for green projects and the desire to launch projects in Romania in the near future
2. Essential decision factors for building green
3. Barriers/ challenges in developing green building projects
4. The most relevant local measures that could be created in order to encourage the development of energy efficient buildings at a local level

³⁵ In the questionnaire that was sent to the local public authorities the term “energy efficient building” was used – since at the moment there are mandatory requirements (see the “Legislative framework” chapter) and the terminology is easier to understand. Elaborating and implementing measures to encourage energy efficiency in buildings would be easier to accomplish when a clear reference standard exists (the energy performance level established according to the existing methodology). A green construction implies more than a high level of energy efficiency (see chapter “The Advantages of Green Buildings”) – but the measures for encouraging energy efficient constructions would automatically apply to green building projects.

³⁶ The answers were jointly analyzed, as the questions are very similar and the targeted objectives are the same.

Preoccupation for green projects

Developers: 44.4% of the respondents claimed to be/have been involved in green building projects in Romania or abroad. In addition, half of these (22%) claimed that they were involved in obtaining an international voluntary green building certificate.

88.9% of the total are planning to develop green building projects in Romania in the near future (1-2 years)

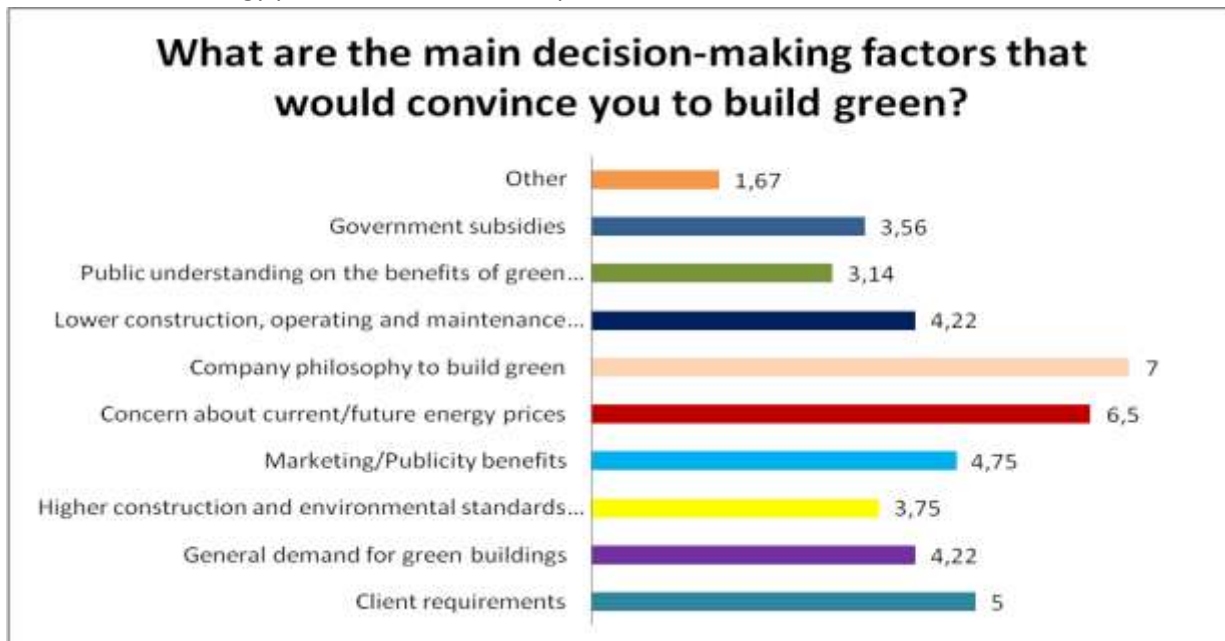
Architects: 55.6% stated that they were involved in green building projects in the past, half of which also said their projects applied for an international voluntary green building certificate. 88.9% of the responding architects are willing to incorporate green materials and technologies in their future projects.

Conclusion: There is both interest and expertise available in Romania to build green projects in the near future. Although the green building market is still at an early stage, successful examples are soon expected. The trend is clear: more and more architects and developers consider this option for their new project/investment.

Essential decision factors for building green

10 options were offered both to the developers and the architects. The respondents were asked to give grades to each of these option in the order of their importance.

From the **developers'** answers we can conclude that the biggest motivating factor in their decision to build green is the “Company’s philosophy to build green”, closely followed by “The concern about current/future energy prices” and “Client’s request”.



The **architects'** reasons were different. From their point of view, architects and developers would decide to build green due to “Higher construction and environmental standards”. The second and third highest scores were: “Client’s request” and “General demand for green buildings”.

One should also point out that the fourth place was taken – in both architects and developers cases - by the “Lower construction, operating and maintenance costs”, a clear sign that both sides are fully aware of the most important advantages of green building projects.

Barriers / challenges in developing green building projects

To the **developers'** viewpoint, the first three barriers were:

1. Higher perceived costs for green buildings
2. Higher actual costs for green buildings
3. Lack of public awareness of the advantages of building/renting a green building

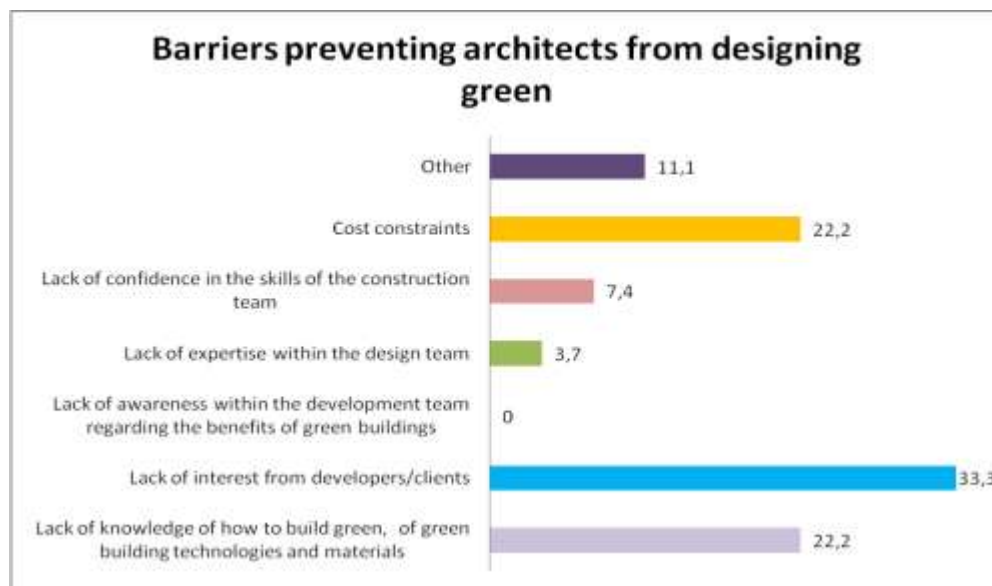
The **architects** identify the following as the most important barriers:

1. Higher actual costs for green buildings
2. Higher perceived costs for green buildings
3. Lack of expertise regarding green building technologies

The issue of costs is extremely important, being identified as a barrier by both groups. During a project, developers are “closer” to the actual financial data than the architects, and because of that, the feedback received from them, particularly from those who have already taken part in green building projects in the past, is more relevant.

To the following question: “From your own experience, what are the costs of a green building?” 44.4% of developers answered that the costs are greater by 1-10% than those incurred for a traditional building. A great number of architects, 40.7%, consider these costs to exceed by 11-20% those incurred for a traditional building, and 25.9% believe these costs to be over 21% higher. The architects over-estimate the real costs of a green buildings³⁷.

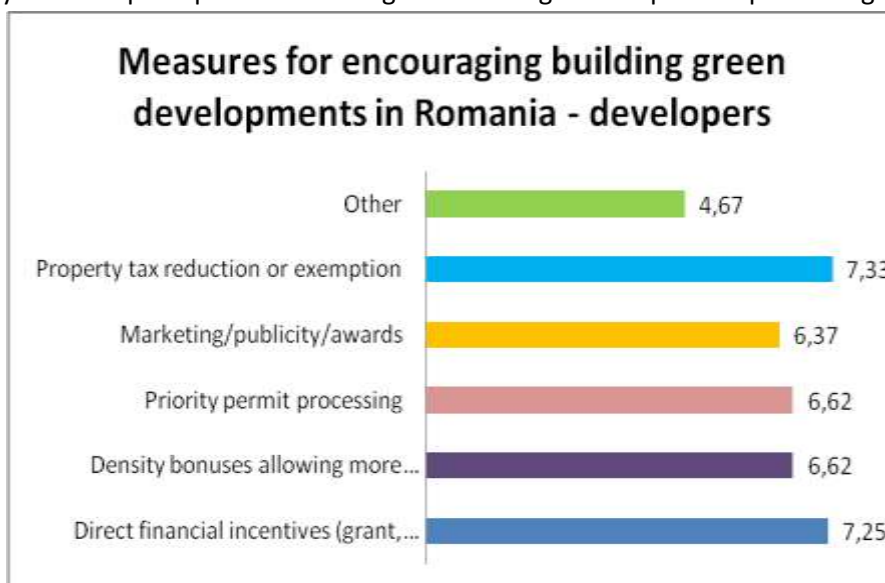
³⁷ Data provided by the US Green Building Council indicate that the additional costs for developing a LEED certified building is 0% – 4% of the costs of a similar building, in the same category, not intending to achieve a high energy efficiency or environmental standard.



Measures for encouraging the development of energy efficient buildings³⁸

In the **developers'** case, the three highest rated measures were the following:

1. Direct payment to the investors of a portion of the additional incurred costs (grant, rebate, reimbursement)
2. Property tax reduction, or exemption for a limited time period
3. Density bonuses per square meter for green buildings and expedited permitting.



³⁸ The presented options were the same for all target groups (developers, architects, public authorities).

The **architects** considered the following aspects as providing higher motivation for developers:

1. Direct payment to the investor of a portion of the additional costs involved (grant, rebate, reimbursement)
2. Property tax reduction
3. Expedited permitting

Both groups provided similar solutions, first of which being the financial bonuses. Given the fact that, at the moment, the market for energy efficient and environmentally responsible construction methods is still in its early stages, the additional construction costs may be higher sometimes. The initial investment is returned in time, due to the lower maintenance and operation costs over the life cycle of the building. Frequently, the developer and the final beneficiary are different. The developer has to bear the initial costs, while the beneficiary is the one interested in low operation costs. There are beneficiaries who are aware of the advantages of buying green buildings, and who are prepared to pay a premium price, although not all buyers are willing to do the same. One solution to break this vicious circle is the information and education of all the involved parties (developers, architects, final beneficiaries). At the same time, considering the advantages of green buildings to the society, the authorities should become more involved in eliminating the barriers currently slowing the market.

ANSWERS – PUBLIC AUTHORITIES³⁹

We sent surveys to 81 public institutions in 42 counties – to the Urbanism Department and Mayors Offices from City Halls, local Energy Management Agencies, and Chief Architect’s Offices. We have received 30 completed questionnaires.

Through this survey, we wanted to collect information regarding the following:

1. The level of implementation of the legislation regarding the evaluation of the energy performance of buildings
2. The existence of current incentives meant to encourage energy efficiency in buildings
3. The openness towards the implementation of a support strategy for energy efficient buildings
4. The most relevant and easy to implement measures by the local public authorities for encouraging the development of energy efficient buildings

The level of implementation of the legislation related to the evaluation of the energy performance of buildings

At the moment, the Law no 372/2005 is one of the main instruments in use for encouraging energy efficient buildings. Although the actual text of the law has its flaws⁴⁰ that affect its potential for stimulating energy efficiency in buildings, its application in the current form is of utmost importance. The law does not include incentives or concrete methods encouraging a higher energy efficiency performance of buildings. However, the energy performance certificates – mandatory for all new buildings and all public buildings since 2007, and for all existing buildings from the January 1st, 2010 – have a major impact on raising public awareness. While nowadays, the decision to buy/rent a building is usually made based on the initial selling/renting price, and the information related to maintenance costs is usually disregarded, the situation will definitely change in the future. The Energy Performance Certificate is the document that highlights the importance of energy efficiency in buildings.

³⁹ We would like to thank the Romanian Municipalities Association for supporting the distribution of the survey to the local public authorities.

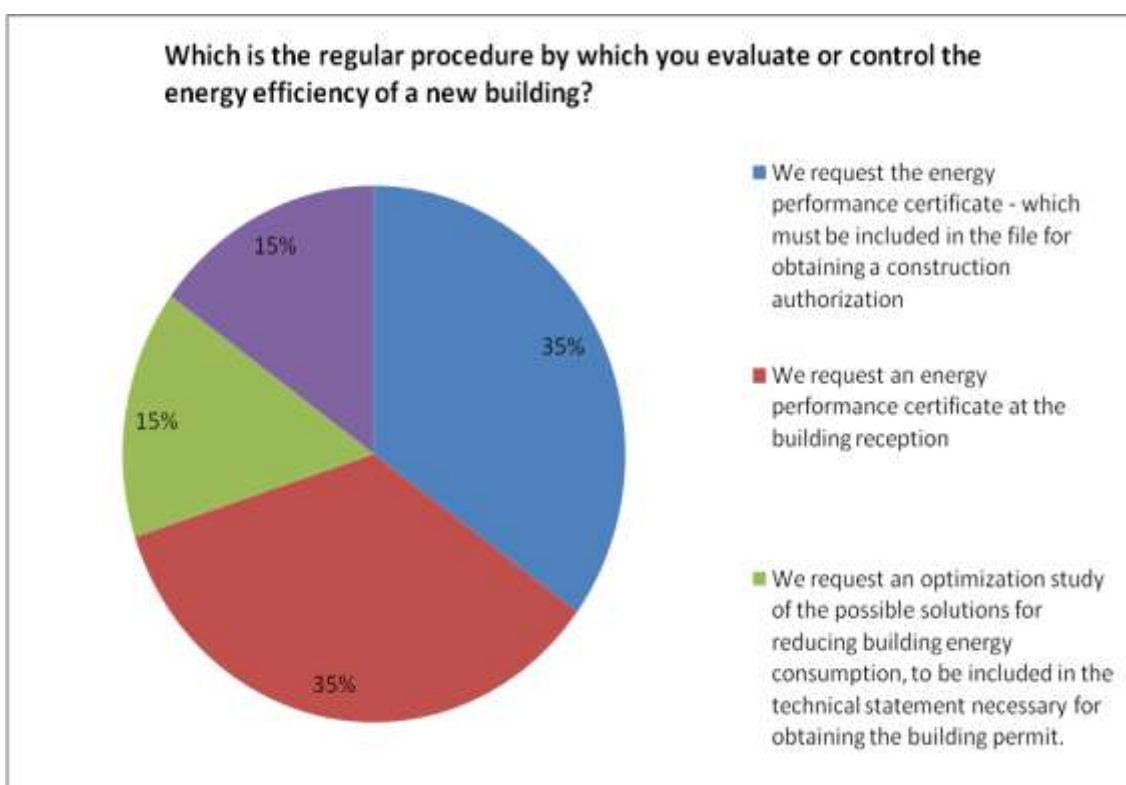
⁴⁰ Mainly connected to the lack of penalties for not implementing the law and the fuzziness regarding the exact responsibilities of the various groups involved in the implementation (local public authorities, buildings owners, energy auditors, attorneys)

„Think globally, act locally!”

When more and more citizens are interested and take into consideration the level of energy performance of the building in the process of buying/renting, more and more developers will be encouraged to develop buildings with a high degree of energy efficiency.

The public authorities play a key role in the implementation of the law. Requesting the Energy Performance Certificate by the public authorities⁴¹ at the reception of the construction would determine the developers to evaluate and pay more attention to this aspect in their projects.

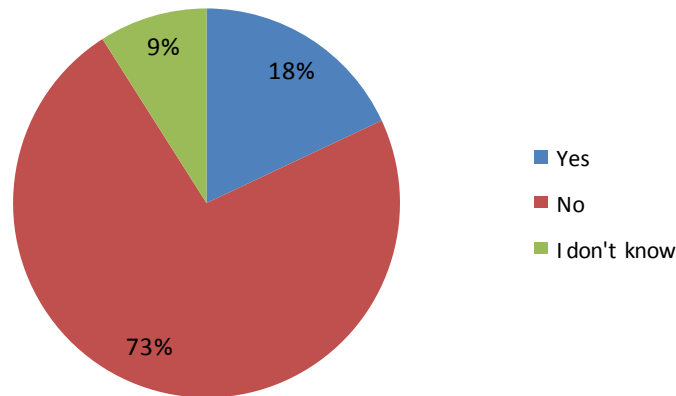
To the question: “**Which is the regular procedure by which you evaluate or control the energy efficiency of a new building?**”, only 35% of the respondents declared that they request the Energy Performance Certificate at the reception of the building, as stipulated by the law.



With regard to the **management of information related to the energy efficiency of buildings** – from the energy performance certificates – very few local public authorities collect this type of information.

⁴¹ According to the methodological norms of applying Law no 372/2005 (Chapter VI, article 2)

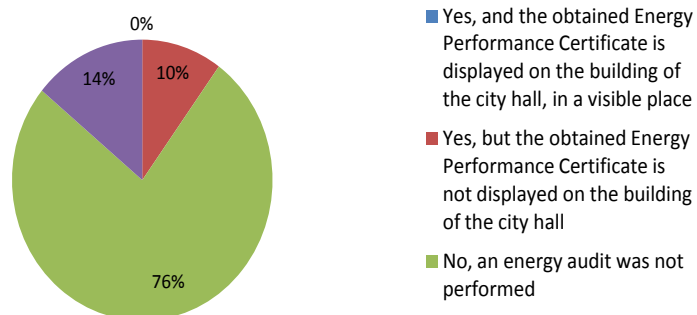
Does your organization have a special register for collecting the Energy Performance Certificates for new or renovated/modernized buildings. that allows a quantitative and qualitative evaluation



Although the Methodological Norms for applying the Law no. 327/2005 mention that the obligation for creating a register with the Energy Performance Certificates issued is assigned to the energy auditor, the management of this information by the local authorities is highly important. The Energy Performance Certificate provides information on the building's energy efficiency as well as on the CO₂ emissions. In the future, this information – as long as it is properly managed – can represent an essential starting point in the creation of local strategies to mitigate climate change, or of local energy efficiency plans.

As regards the **evaluation of the energy performance of public buildings**, mandatory as of January 1st 2007 according to Law no. 372/2005 – very few local public authorities actually obey the regulations. Displaying the energy performance certificate obtained for public buildings is a way of communicating with the citizens and raising their awareness of the above mentioned law (that becomes mandatory for all traded buildings starting 2010). Moreover, it offers an example of implementation and draws the attention to the importance of the energy performance level of a building.

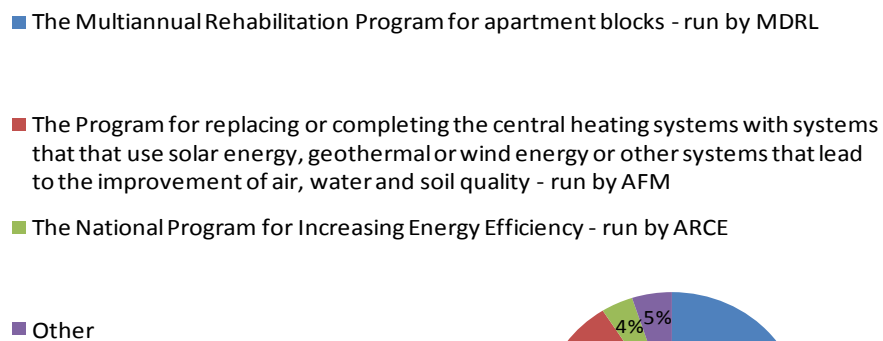
Has the energy audit for the City Hall been already performed?



The existence of current incentives meant to encourage the energy efficiency of buildings

Only 27.6% of the respondents declared that strategies or action plans for reducing energy consumption and/or CO₂ emissions have been created at a local level. Of these, very few referred to measures strictly addressed to the building sector. The existing measures refer either to the improvement of the illumination systems, or to the central heating modernization.

At the moment, most of the local efforts for increasing the energy performance of buildings are being implemented through national programs. Of these⁴², the best known is the Multiannual Program regarding the Thermal Rehabilitation of apartment blocks. 59.1% stated that there is specialized personnel inside their institution that can offer consultancy to those interested in these programs.



Of the existing programs dedicated to energy efficiency improvement and renewable energy resource use, which is the one most accessed through your organization ?

⁴² In Braşov, the building tax is reduced by 30% for 3 years for the modernization of buildings proved by the energy performance certificate, before and after the rehabilitation

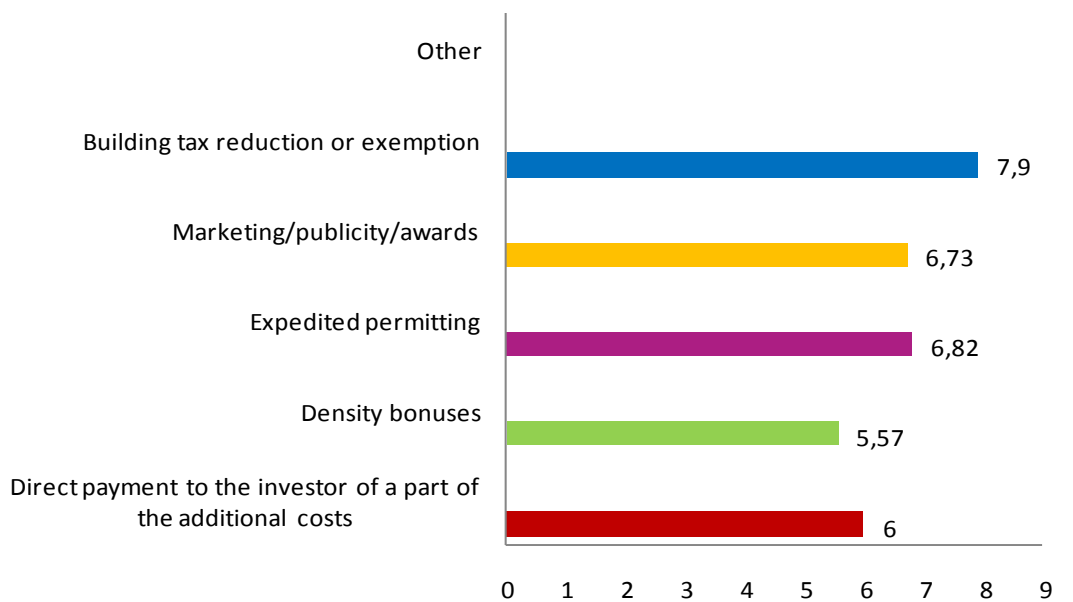
Openness towards the implementation of a support strategy for energy efficient buildings

100% of the respondents affirmed that the development of sustainable, energy efficient buildings would be beneficial for their city. Of these, 95.2% are interested in creating/implementing a local strategy for attracting investments in sustainable constructions and/or rewarding buildings that reach a high level of energy efficiency.

Measures that are the most relevant and easy to implement by local authorities, for encouraging the development of energy efficient buildings

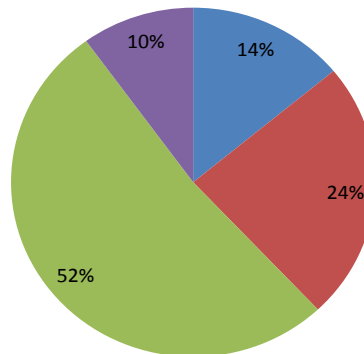
The options subject to voting were identical to those included in the questionnaires sent to the developers and architects. From the received responses, the measure “Reduction of property tax or exemption from payment” was identified as the easiest to implement. “Expedited permitting” and “Marketing, publicity benefits” were the next two measures identified as easy to implement.

Measures for encouraging the development of green buildings in Romania – Local public authorities



Another important aspect of the questionnaire was related to the obstacles/challenges for the development of green, sustainable constructions. The local public authorities identified as the main challenge “Developers’ lack of interest in building green”, followed by the lack of public awareness and the necessity for additional training for local public authorities representatives in order to implement and evaluate the adopted encouraging measures.

- Obtaining a consensus in the Local/Territorial Council
- The need for more training in the field of evaluating and selecting the best measures to attract "green building" investments
- Lack of developers interest to build, maybe at a higher cost, according additional criteria (energy efficiency, environment protection, sustainability)
- Other



Which would be, in your opinion, the main challenges in adopting and implementing a strategy for attracting investments in the sustainable buildings sector at a local level?

CONCLUSIONS OF THE SURVEY

There is interest for building green, as shown by the responses of the developers and architects that took part in our survey. Although the survey results cannot be extended to the entire Romanian building sector, we can state that on the short and medium term, the green building expansion trends are clear.

Furthermore, there is interest from local public authorities in implementing measures meant to encourage the development of energy efficient buildings. The new legal provisions, more and more ambitious, concerning the environment protection, the targets that need to be achieved – related to the use of energy produced from renewable resources, the energy efficiency level and the need to reduce greenhouse gas emissions, as well as the opportunity to stimulate the local economy – will determine more and more local public authorities to act fast in attracting investments in green buildings.

The identified barriers, most of them dealing with the lack of information and initial high costs, can be removed in time, once the green building construction market starts to develop. Information has to be disseminated to all the groups involved (developers, architects, construction companies, public authorities, construction materials suppliers, citizens). Appropriate training, in addition to knowledge sharing, is essential for both private sector representatives and the public authorities. If the private

sector can finance training through its own funds⁴³, considering its impact on the developers' competitiveness and motivation, in the case of public authorities, European funds can be easily accessed for increasing the administrative capacity, as well as for training.

From the most relevant measures that could be implemented at a local level for encouraging the development of energy efficient constructions, both groups identified:

1. Reduction of property tax or exemption for a limited period of time
2. Expedited permitting
3. Bonuses for establishing the technical parameters of the building

The second part of the report analyzes each of these measures and offers suggestions for the following steps that can be taken by the local public authorities for encouraging the development of green construction at a local level and attracting new investments.

LOCAL MEASURES THAT CAN BE APPLIED IN ROMANIA

At a local level, there are two action levels for promoting sustainable development:

- The **strategic** level:

Implementing action plans related to the sustainable development of the city – the public authorities commit to a set of duties related to sustainable development, create a local expertise center, create sustainable plans, monitor the achievement of the objectives and communicate the results.

- The **tactic** level
 - Using local fiscal measures for encouraging the development of sustainable projects
 - Using urban planning standards for reaching sustainability social objectives, having as main tools:
 - The density bonus, consisting mainly of derogations from the levels of POT (percentage of land occupation) and CUT (coefficient of land utilization) for energy efficient buildings (energy class A) and/or for certified sustainable buildings that accomplish local sustainability requirements – a common measure in the US, poorly utilized in the EU
 - Expedited permitting – acceleration of the authorization process for certified energy efficient and/or green buildings

⁴³ There are available European funds for the private sector representatives as well

„Think globally, act locally!”

- Green area factor – inclusion in the urban planning documentation of the green area factor (which implies adopting a methodology for its calculation and the inclusion of a minimum value for this indicator in urban planning documentations) – a common measure in countries like Germany or Sweden.

FISCAL INCENTIVES/FINANCIAL MEASURES

Introduction

Fiscal Instruments and Financial Measures are two of the most efficient ways for encouraging the reduction of energy use, having a direct effect on the reduction of carbon emissions as well. At a general level, one can distinguish among the following⁴⁴:

- Taxes on energy and/or carbon emissions
- Tax reduction or exemption
- Taxes/other additional expenses for the benefit of the citizens
- Subsidies, grants, credits with subsidized interest rates

Tools description

The taxes on energy and carbon emissions are usually efficient in the case of developed countries. These can take different shapes, depending on the rules used in setting the energy price at the national level. Additional taxes included in the energy price can have a positive impact in reducing carbon emissions in two ways: they either encourage a decrease in the energy consumption (if these are felt in the final price paid by the consumer), or they are reinvested by the public authorities in energy efficiency projects. In developing countries, where the energy price is usually subsidized by the state, the efficiency of such measures is reduced.

The tax reduction or exemption, such as deductions from income taxes in France or VAT exemptions for certain products in Germany are very effective, in some cases having better results in reducing energy consumption and GHG emissions than the imposition of new taxes. In order to be efficient, tax exemptions have to meet the following criteria:

- To be applied for technologies/advanced projects for which the initial acquisition costs represent a barrier
- The level of reduction/exemption has to be coordinated to previously established performance criteria
- To be high/attractive enough for the beneficiaries and to be applied for a time period long enough

Taxes/imposition of additional expenses for projects in the citizens' benefit – these are applied to energy operators and directed for investments in energy efficiency projects. In Brazil⁴⁵, for example, all

⁴⁴ “Assessment of policy instruments for reducing greenhouse gas emissions from buildings” – UNEP-Sustainable Building and Construction Initiative & Central European University, September 2007

⁴⁵ Idem.

energy distributors have to spend at least one percent from their income into energy efficiency increase projects, and a quarter of this sum has to be directed to energy efficiency projects for the final user.

Subsidies, grants, subsidized credits are the most used tools in raising energy efficiency in the building sector, especially in developing countries. They are very important for the introduction of new technologies and for giving low income citizens the possibility to invest in energy efficiency works. These could have very good results if combined with mandatory energy audits, awareness campaigns, training and demonstration projects.

Options for the Romanian market

For the Romanian local public authorities, the financial instruments the easiest to implement are the reductions in local taxes. The most relevant local taxes – for the building sector, for new projects – are the building tax and the land tax.

When creating the mechanism one should take into account to whom the facility is addressed and what impact it could have on the beneficiary, as well as the level of tax reduction/exemption duration as related to the building's performance.

Land tax reduction is less relevant for a developer who wants to build a green project. Reduction or building tax exemption for a certain time period is relevant especially to those developers who want to build large office buildings, commercial buildings or hotels or to smaller developers – who are also going to benefit from the construction after it is built and do not plan of an immediate sale. They would be motivated to build high energy efficient buildings⁴⁶ for tax reductions or exemptions.

Building tax reduction would be less relevant to residential project developers, who sell their projects once the construction is finalized. Transferring the benefit to the buyer would again have a small impact in the case of residential projects, as building tax for individuals is relatively small.

According to the Fiscal Code⁴⁷, local public authorities can grant tax exemptions as well as tax reductions.

Another fiscal instrument at hand for local public authorities is the reduction of the tax for obtaining the building permit. Its cost is significant and fully paid by the developer, with no regard to what it is going to happen with the construction after it is built (operation by the developer or sale). Therefore, significant reductions in the building permit tax is an incentive that would stimulate any developer to take into consideration the energy efficiency of the building.

⁴⁶ At least energy class A

⁴⁷ The law 343/2006 updated 2009 – Art. 285

Implementation

The first step would be the definition of the financial incentives (tax reduction and/or building permit tax reduction), as correlated with the project's performance level.

As a starting point, a package of financial incentives for energy class A buildings can be created, according to the energy performance certificate verified at the building's reception. In the case of the projects that prove higher performance than energy class A and/or use of renewable energy sources, the reductions/exemptions can be higher / granted for a longer period of time (in the case of tax exemptions).

Comments on the applicability of this tool in Romania

In the discussion group organized by the RoGBC together with Badea Clifford Chance, the following conclusions emerged.

Advantages:

- Financial incentives – the most relevant measures for developers/architects and final users
- Of the measures available at the local public authority level, the most attractive proved to be the building tax and the building permit tax reduction
- The building permit tax reduction can be made during the regularization and at the same time it can be verified whether the initial declared performance was actually achieved
- Tax reduction at local level (building tax) – greater impact on office and commercial buildings developers (the building has a higher value; the benefit is attractive for the building buyer/user, the taxes for legal persons being higher)

Disadvantages:

- The tax reduction at the local level has to be completed by VAT tax⁴⁸ reductions
- The impact of the building tax reduction on residential project developers is small (the property is soon transferred to individuals for whom the taxes are lower); different stimulating financial measures have to be created
- Another incentive that could have impact is the possibility for investors to immediately deduct the cost of equipment / solutions for producing energy from renewable sources – a measure that needs to be taken at a central level

⁴⁸ This type of reduction has to be fixed/established at a central level



Discussions during the workshop organized by the RoGBC and Badea Clifford Chance

DENSITY BONUS⁴⁹

Introduction

In the United States, the municipalities implemented height bonuses, floor/area ratio (POT and CUT) bonuses, lessening of landscaping requirements, and taking into account the green roof space as a green space in return for achieving certain levels of green building certification. These programs can be particularly attractive to developers and owners in cities and counties where the demand for residential spaces is high. Additional space allowances increase profits for developers and building owners and the reductions in transfer costs can translate into incentives for the buyer. Bonus density programs are valuable because developers are interested in increasing project floor space in order to enhance profitability. In order for these programs to be effective, density bonus must be associated with comprehensive green requirements and therefore preserve the exclusivity of the incentive.

⁴⁹ The American Institute of Architects (AIA): Local Leaders in Sustainability - Green Incentives, 2008

Tool description

A density bonus is an incentive-based instrument that allows developers to increase the maximum approved project space in exchange for helping the community achieve public policy goals. Increasing development density can result in greater developed area or in increases in the number of developed units. This tool works best in areas where growth pressures are strong and land availability is limited or when incentives for reaching the goals are more attractive than alternative development options.

Purpose

Environment Protection

A density bonus is commonly used to promote conservation or improvement of natural resources and open space. A community may allow a developer to build more units than it is generally permitted in an area in exchange for protecting green spaces or making environmental improvements such as landscaping or developing a natural “green corner” in a project area. This technique can be used to protect land on the property being developed or on a different property.

Low Income Housing

Density bonuses are often used to increase the supply of affordable housing for low income or senior households. Density bonus ordinances allow developers to increase the square footage or number of units allowed on a property if they agree to ensure lower rents or sales prices for a certain number of the units for low income or senior households. The additional cash flow from these bonus units offsets the reduced revenue from the affordable units.

Implementation

Density bonuses are typically tied to zoning ordinances or subdivision regulations. There are three basic steps for creating density bonuses:

1. **Define the purpose for providing density bonuses.** — Goals and objectives in the comprehensive plan should help define the purpose of a density bonus e.g. encourage developers to protect open space, agriculture, or historical structures, create a facility such as a green corner or public space, or offer affordable housing.
2. **Identify the area where the bonuses are allowed.** — Areas should be identified that meet program goals. If the purpose is to increase density near public transit for example, then developable land near transit corridors should be identified. If the purpose is to increase affordable housing throughout the city, then all areas in the city are appropriate. Identified areas should be mapped as part of the ordinance.

- 3. Develop specific policies for allowing bonuses.** — A written policy must complement every area identified on the map. The policies applicable to a certain area needs to specify the allowed density increases. If resources are to be protected, legal means, such as easements must be included. If amenities are to be created, such as trails, standards must be included for acceptable design, construction, and location. For affordable housing, criteria must designate the number or percentage of affordable units needed for bonus eligibility. Type of housing (single family, duplex, multi-family), income limits, sale price, or rent limits, should also be considered.

Administration

Developers interested in applying for a density bonus should meet with the appropriate municipal representative to determine if their proposal will qualify for the bonus program. The staff will review the site plan before approving the project to ensure that the granting of the bonus does not have an adverse effect on adjacent properties in the area and that utilities are available to serve the additional units.

Land set aside for environmental protection, buffers, green space or trails must have restrictions or easements recorded on the deed before construction begins, to make sure that they are not used in the future for different purposes.

Units created as part of an affordable housing initiative will need to be monitored or deed-restricted for the entire time they are part of the program to ensure affordability and compliance. The staff will monitor income eligibility and rent or sales price restrictions.

Penalties such as fines should be used to enforce compliance. One should consider the possibility for specialized non-profit organizations to manage the affordable housing stock instead of the City Hall staff.

Pro & Cons⁵⁰

Cost – financial and personnel – required to implement the tool

No direct cost to the community other than the staff or consultant time to set up the program and administer it. An additional staff person may be necessary if the community chooses to monitor an affordable housing program.

⁵⁰ Center for Land Use Education: Planning Implementation Tools: Density Bonus, 2005

Public Acceptance - The public's positive or negative perception of the tool

Generally, the public agrees that increasing density in one area while protecting a resource, adding an amenity or offering affordable housing is acceptable. It is important that the density bonuses are directly tied to the goals and objectives of a comprehensive plan and that the public is consulted in the project development process to increase project acceptance.

Political Acceptance – Politicians' willingness to implement the tool

Elected officials accept this tool if the local citizens see the value of the resource to be protected or the amenity to be added or if the ordinance helps the community to comply with requirements such as social and environmental protection.

Equity - Fairness to the stakeholders regarding costs and consequences

This tool is perceived as fair because the community meets a planning goal at a lower cost and a developer recovers any additional costs from added requirements through an increase in the number of units available for rent or sale.

Administration - Level of complexity to manage, maintain, enforce, and monitor the tool

It is necessary that a competent person reviews the site plans prior to construction and ensures that any preserved open space is legally protected and amenity construction and maintenance is assigned to the appropriate legal party. Additional staff may be needed if the community monitors an affordable housing program.

Scale - The geographic scale at which tool is best implemented

This tool is generally used at the municipal level, but it could be used at a larger scale if issues of tax base and service delivery can be solved.

Success models – The density bonus is a tool currently used in the USA. As this model is generalized, the stage of the individual successful models is already overtaken. The model is tested and replicable. Here are some cities that use this tool: Glendale and Sunnyvale (California), Bloomington (Indiana), Bloomington and Minneapolis (Minnesota), Portland City (Oregon), Nashville-Davidson (Tennessee), Arlington CDP (Virginia) and Seattle (Washington).

The density bonus seems to be less used in Europe than in the USA and is also less individualized and theorized. It is obvious that the implementation of certain urban planning requirements implies some sort of negotiation between the developer and the local authorities. This negotiation is very similar to the density bonus but in a less visible and transparent way.

Options available for the local market

The density bonus tool – described in detail above – can be also used in Romania in a relatively easy way.

Keeping things simple, the density bonus can consist of derogations from POT and CUT for energy efficient buildings (energy class A) and/or for the buildings labeled as sustainable in the LEED or BREEAM programs or buildings that satisfy sustainability requirements established locally.

Once the unique EU methodology for an integrated environmental performance is published, this methodology can be used to evaluate the result within the density bonus.

The POT and CUT indicators from the urban planning certificate synthetically determine the maximum possible density of a real estate development. The fact that they are currently used recommends them for the density bonus tool.

Please find below their definitions:

P.O.T. – Percentage of Land Occupation

The Percentage of Land Occupation expresses the ratio between the building footprint (SC) and the land surface (S) multiplied by 100 (e.g. POT=25%). Thus, P.O.T generates the maximum built surface related to the surface of the land (example: if the urban planning certificate indicates a 25% P.O.T, then it is permitted to build on a quarter of the property).

The Percentage of Land Occupation is determined by the (purpose) use of the area where the building is going to be constructed and according to the site location.

The Percentage of Land Occupation is complemented by the land-use coefficient (C.U.T), the regulation concerning the street alignment, and by the height regulation. These constitute mandatory values for obtaining a building permit, and must be taken into account by any land owner or architect.

C.U.T – Land-use Coefficient

The land-use coefficient expresses the ratio between the total built area of all floors (SD) and the land surface (S).

Comments regarding the applicability of the tool in Romania

During the workshop organized by the Romania Green Building Council and Badea Clifford Chance, the following comments emerged:

Advantages

- The tool uses indicators commonly used in the urban planning regulations, therefore being easily integrated in the activity of the local authorities.
- The applicability of the tool can be enhanced by the use of integrated solutions of public and alternative transportation means.
- The additional activities to be performed by the local administration could be covered better in the current period of economic and financial crisis.

Disadvantages

- The density bonus can be subject to corruption or traffic of influence.



- The applicability of the tool can be limited by the fact that the urban plans often provide the highest acceptable values for POT and CUT.
- Sometimes high CUT values can prove to be unattractive for developers – because of additional costs for parking spaces, different building regulations for buildings higher than 28m and so on.
- The applicability of the tool is better in for new real estate developments rather than existing constructions.

EXPEDITED PERMITTING⁵¹

Introduction

When developers are required to submit multiple permit applications and secure approvals from an array of agencies – each with its own schedule and set of organizational procedures – before the start of the construction process, the resulting delays can drive price increases in the sale / rent of new homes and apartments.

Outdated requirements in the local zoning code and other policies that make the development process needlessly complicated cause further delays and introduce uncertainty into the development process.

Expedited permitting and review policies address these obstacles by restructuring regulatory processes to emphasize efficiency, predictability, and cost savings for both the public and private sectors while still protecting the health, safety and welfare of the general public.

Tool description

The local authorities expedite the building permitting process in exchange for the developer’s commitment to reach sustainability targets for the project to be developed on a certain site.

Purpose

Expedited permitting offers the local public authorities the ability to increase tax revenue while supplying the developers with a valuable resource.

Implementation

The efforts of speeding up the building authorization process focus on correcting the administrative flaws that delay the real estate development process. These delays are often the result of a series of regulations that used to be well intended but that lead to a dysfunctional context that lengthens the authorization process.

The tool can require reorganization and/or increase of the number of involved personnel, as well as the necessity of a training regarding sustainable buildings and their rating systems.

⁵¹ The American Institute of Architects (AIA): Local Leaders in Sustainability - Green Incentives, 2008

Administration

The tool can generate a series of indirect costs for the local authorities (training, additional personnel) that will be compensated through the application of emergency taxes.

Local authorities can give up emergency taxes if the speeding of the building authorization process is granted only to buildings that satisfy important targets of the local policies: energy efficiency, low environmental impact, social targets or sustainable development targets and so on.

Pros and cons

Expedited permitting for obtaining the building authorization and the urban planning certificates can help green developers save substantial time and money. This tool may require the reorganization of the municipal staff or can generate a series of indirect costs. However, overall, such a program can result in great cost savings to both the municipality and the architects and developers involved in the project.

The real estate developers expressed their concern that many communities need to increase the number of the personnel involved in the building permitting in order for these programs to function at their full potential. In order for expedited permitting programs to be successful, staff should also have a good understanding of the green rating systems used within a city/county.

Successful models

There are European requirements regarding building expedited permitting, related to energy efficiency and renewable energies ⁸.

The most successful models that use this tool are from USA: Scottsdale (Arizona), Anaheim, Mission Viejo, Oakland, Riverside, Ventura, San Diego, San Francisco and Santa Cruz (California), Gainesville (Florida), Chicago (Illinois) and Seattle (Washington) ¹¹.

Available options for the local market

There is an international context, where expedited permitting is regarded as beneficial for the community, and a national context in which we have legal provisions that prevent slowing up this process.

Generally, expedited permitting is regarded as generating extra income for the local authorities, deriving from emergency taxes conditioned by the sustainable nature of the project, thus involving a series of conditions that the developer has to fulfill in order to benefit from this tool.

The whole system has to function in an honest and transparent environment. The terms under which a real estate development can benefit from expedited permitting, as well as the areas to which this tool applies must be gathered in a public document. These terms must be consistent with the strategies and measures included in an approved sustainable development plan of the municipality.

For instance, the authorization process is expedited if the developer commits to build an energy efficiency class A project in a central area of the city or if the developer uses green roofs in certain areas of the city (areas with marked slopes, with low height regime or limited by with other areas with an increased height building regime, etc.) or if a percentage of the energy consumption of the building is produced from renewable sources.

The commitment of the developer must be strengthened by the possibility to apply non-compliance penalties at the reception of the building. The local authorities must assure the developer of the expedited permitting provided that the developer presents the adequate documentation and the project fulfills the requirements of the transaction.

Comments related to the applicability of the tool in Romania

During the workshop organized by the Romania Green Building Council and Badea Clifford Chance, the following comments emerged:

Advantages:

- Helpful in Romania, as the legal deadlines for obtaining authorizations are often exceeded.
- The fast implementation of the project for the developer (fast authorization process) can bring financial benefits (the developer is able to finish and sell the project faster).



- Even the additional charge of emergency taxes by the local authorities for expedited permitting is viable and the taxes can be used for personnel training.
- The necessity to establish clear criteria for implementation (the sustainability features – e.g., the energy efficiency level – that the project needs to achieve in order to benefit from expedited permitting)

- Implementation solutions – the people that evaluate the projects must either work in parallel with the architects (this leads to shorter authorization times), or be eliminated from the process, the responsibility belonging only to the architect preparing the project.

Disadvantages:

- It can encourage corruption.
- The lack of special training of the staff that is checking a green project can create problems in implementation.
- The recent revocation of the provisions of the law 50/1991 that stipulated the unique bureaus that issued the papers needed for the authorization is a step back for implementing a measure that would speed up obtaining the authorization at a local level.

GREEN AREA FACTOR ⁵²

Introduction

One of the objectives of the usual urban planning indicators, in addition to ensuring minimum intimacy, view and natural lighting, is the preservation of an ecosystem in the community. Unfortunately, in Romania, there is an undesirable and uncontrollable phenomenon, the proliferation of “concrete fields”. This brings the community multiple disservices, including a lower quality of life, lower tourist interest in the area, overloading of the utilities or the creation of an unfavorable microclimate. The green area factor is an innovative indicator that directly addresses this issue.

Description of the tool

The green area factor, sometimes called Biotope Area Factor – BAF is a tool that can be used to measure the ecologically efficient surface in a real estate development. This area consists of the surface that contributes in a certain amount to the functioning of the ecosystem by ensuring a habitat and by means of rainwater drainage.

Green roofs and other surfaces covered in vegetation or water get a score based on how much they contribute to the proper functioning of the ecosystem. For instance, a concrete surface will get the score 0.0, a green roof will a 0.7 score, while a surface covered in vegetation will get the highest score, 1.0. The scores are multiplied by the corresponding surfaces and, finally, by adding these results, we obtain the surface of the ecological-efficient area. The surface of the ecological-efficient area is divided to the total surface of the development and the obtained result is the green area factor.

⁵² Database 'SURBAN - Good practice in urban development', sponsored by: European Commission, DG XI and Land of Berlin, 2009

Purpose – This instrument completes the urban planning requirements by ensuring the presence of ecological-efficient areas in the city. Following the minimum requirements for the green area factor ensures biodiversity, reduces the impact of rainwater on the sewage system, reduces the heat island effect and contributes to raising the quality of life in the community. The indicator helps urban planners control the destination of areas unoccupied by buildings, thus discouraging the uncontrolled proliferation of the “concrete fields” . The use of this instrument encourages the use of green roofs and green façades in the projects, that bring many favorable consequences such as: biodiversity, energy efficiency, creating a nice landscape, avoiding the heat island effect, etc.

A direct consequence of using the green area factor in a community is a larger biomass quantity available that is a valuable renewable energy source.

Implementation

Implementing this tool requires supplementing the usual urban planning requirements with minimum requirements for green area factor.

Urban plans in areas where these requirements are to be applied will be updated and urban planning certificates will include the minimum values allowed for any real estate development.

Developers are free to apply any types of measures to comply with the minimum requirements of this indicator.

Extensive use of this instrument generally requires additional staff, not only for the authorization of the construction phase, but for verification in the field of the compliance. Additional incurred costs may be compensated by the resulting economic consequences related to increasing the attractiveness of the area and increased quality of life in the community that adopted this system.

Administration

Unlike typical urban planning indicators, mainly influenced by the construction activities, the green area factor may be modified through landscape design that is more difficult to monitor. Thus, the instrument requires additional staff, especially for the field verification for compliance with the minimum allowed values.

Pro and cons

In adopting this instrument, a group of benefits related to the quality of life and attractiveness, including tourist attraction for the area, will be considered by taking into account the corresponding socio-economic consequences, against some increased personnel costs necessary for the implementation.

For developers, the tool appears as an additional requirement, possibly attracting additional costs, but an improved quality of the environment and the benefits associated to landscape design can stimulate demand; thus, the properties can be sold or leased faster and at better prices.

On medium and long term, the community will certainly benefit from visible advantages.

Successful models – The reunification of Germany had a contrasting effect in Berlin. East Berlin had a very good level of vegetation preservation, and took advantage of extended functional ecosystems, in contrast to West Berlin where, including issues amid the Soviet blockade, urban vegetation was severely compromised. The matter was taken seriously and it was decided to introduce an innovative urban planning indicator, the green area factor, as a means of preserving the eco-efficient areas of East Berlin and extending them into West Berlin. The application of the model proved viable in time, thus creating a successful model that was able to be replicated by many other municipalities, such as Malmö and Augustenborg in Sweden or Western Harbor in the U.S.

Options available for the local market

Major cities in Romania can replicate this model and can accelerate the learning curve by sharing experiences with local authorities in Berlin, Malmö and Augustenborg.

Smaller towns that – because of budgetary constraints – do not have this option, may organize working groups in the urban planning departments, developing their own methodology, verified by simulations and upgraded over time through practice, and could even become sources of know-how for the local authorities in other towns / cities.

The clear and simple methodology allows the initiation of pilot studies for changing the urban planning in a limited area, with a relatively low susceptibility to error. Depending on the success, the model can then be generalized and applied at a wider scale.

The areas motivated by tourism development are interested in promoting such an instrument, but also the municipalities that are concerned to increase the attractiveness of a defined area, especially where there is potential for new real estate development.

Comments on the applicability of this instrument in Romania

During the workshop organized by the Romania Green Building Council in collaboration with Badea Clifford Chance, the following comments emerged:

Advantages

- The green area factor is more flexible than the current rules that regulate the minimum percentage of green area within a developed real estate, under the legal definition of green areas as undisturbed land is limiting and rigid
- There is a need and opportunity for implementing the instrument in Romania
- The instrument could be applied to existing constructions, by coupling it with a tax instrument
- The additional volume of activity in the local administration could be better covered during the current economic and financial crisis.



Disadvantages

- There are additional factors that should be taken into account in defining requirements related to the urban green spaces and landscaping, or the effective area of the biotope estate development, to amend the current law or the use of green area factor, such as: targeting the land, sunlight levels, the destination of construction, efficient connectivity to other environmental areas, etc.

NEXT STEPS – HOW TO BUILD A LOCAL STRATEGY?

There is a number of fundamental steps⁵³ a municipality can take to initiate a sustainable community program, although there is no unique solution. Local authorities can provide leadership to organize the process through municipal channels; or, this can occur through community involvement. The approach can be top-down or bottom-up.

Ten basic steps to consider are outlined below. The purpose of these steps is equipping different territorial units with a set of measures that need to be taken in order to preserve the options for the future generations, to increase life quality and to ensure the health of people, of the economy and of the environment, for now, as well as for the future.

1. Establish a task group/committee/ study group/green team.

- Purpose: develop recommendations with regard to sustainable community development for consideration by elected officials.
- Group formation: include wide representation of various businesses, utilities, architecture, engineering, energy experts, waste management experts, farmers, local environmental NGOs, local administration representatives, local officials, local residents, community social agencies, schools, religious groups, universities, colleges, etc.
- Process: Assess the current situation – identify existing green initiatives; identify key areas and opportunities; identify gaps and barriers; develop a vision statement and key objectives; recommend actions based on the stated objectives.

2. Adopt a formal resolution regarding the commitment to become a sustainable community.

3. Adopt a set of guiding principles or framework for sustainability.

For instance, this guide presents the principles of The Natural Step as a sustainability framework.

4. Establish a permanent committee or specialized board to oversee the implementation of the sustainable community program and to further develop a strategic sustainable community plan.

Consider a committee of 12-15 members with terms and mandates in accordance to the implementation plan.

5. Establish a department, reconfigure existing departments, or appoint or hire a director of sustainable development.

⁵³ “The Natural Step” – a methodology that was adopted by numerous eco-municipalities in Europe and the US.

The purpose of this “office of sustainable development” is to implement the strategic sustainability plan, leverage investments wisely, and coordinate the program across departments. Include a staff representative from each department to be the green liaison or contact person.

6. Educate and train staff and officials across departments on sustainable development.

This is important for creating organizational capacity to lead by example and move towards sustainability. Education is also key to integrating sustainability effectively into the government culture.

7. Establish demonstrations.

Either transform various existing initiatives into examples of sustainability or initiate new projects that showcase sustainability principles. This provides staff with experience in sustainable planning, decision making and green practices, encourages leadership through showcasing progress and success, and ensures private and public sector local models and successes to encourage sustainability adoption.

8. Adopt Full Cost Accounting.

Full Cost Accounting, or “FCA”, is the analysis of all the costs, as well as the advantages, of all proposed alternatives, and the presentation of those findings to decision makers. In FCA, “cost” is not just the monetary cost of the organization making the decision. It also includes the social and environmental costs of all others affected by the decision. This process can be especially useful for government agencies that represent a variety of interests when deciding how to allocate public funds and/or other resources. Organizations that use FCA generally experience budget savings. Performing an FCA helps avoid “externalizing” a cost. In economics, an externality is a cost “side-effect”. In the context of local authorities decision making, a decision that may not create a direct cost for the decision maker or their department or program, can often create negative costs for somebody else’s department or program, and that will ultimately cost the community as a whole.

FCA would normally include:

- Front-end costs of engineering and site planning
- Direct and indirect daily operating costs:
 - Direct cost – costs of specific services, salaries, parts, interest on debt
 - Indirect cost – costs related to the support of the business related to acquisitions, administration, legal, fleet maintenance
- Back-end costs such as closing a facility at the end of its useful life, post-closure and monitoring expenses.

9. Measure, track, record, and report progress and results.

One can achieve what one can measure. Local public authorities can demonstrate leadership by assessing and continuously improving their contribution to a sustainable community development. Sustainability indicators are typically tied to the sustainable community goals and measure progress in meeting these goals. The process of creating indicators can bring together different community sectors.

10. Publicize.

Communicate the efforts and results to the staff, local officials, and to the private, public, and non-profit sectors.

CONCLUSIONS

The analysis of successful models, such as the sustainable development of New York, as an example of metropolis, and the sustainable development of Freiburg as an example of a small/ medium community, as well as the discussions held at the workshop the Romania Green Building Council organized with assistance from Badea Clifford Chance, emphasized the importance of an integrated approach.

Creating an expertise core at the local authorities' level is critical for success, because local determinations generally do not allow the non-discriminatory reproduction of foreign models:

- There may or may not exist reservations at the level of urban planning requirements, regarding the implementation of density bonuses;
- There may be specific ecological requirements for an area or community;
- There may be limitations or opportunities in infrastructure development;
- There may be local renewable energy resources (for example, geothermal sources in Oradea, aquifers that can store heat in Malmö, etc.);
- There are successful unique examples, sometimes only reflecting the motivation of a community to solve some specific problems (difficult traffic in New York, fossil fuels dependency in Malmö, etc.).

A clear commitment from the authorities regarding sustainable development and clear communication to the population, with clear points for implementation, thus generating a predictable framework, is a critical success factor that ensures the involvement of the public and of the local economic agents in the sustainable transformation of the community:

- Providing an urban and infrastructure framework can maximize the efficiency of some measures:
 - Connectivity to public transportation and creation of pedestrian areas and infrastructure for alternative means of transportation can maximize the developers' interest in density bonuses and can determine specific requirements related to the green area factor.
 - Generating proper infrastructure allows easier adoption of waste and water management.
- Local pilot projects at the level of public buildings allow the education by example of the public and the stimulation of businesses.

- There are local measures that can stimulate the economic environment and the public to adopt sustainable development principles, that are more efficient in the context of coherent policies, such as:
 - Green Public Procurement;
 - ESCO type contracts in the construction of public buildings;
 - Tax reductions for buildings and / or sustainable development;
 - Voluntary certification of public buildings;
 - Local leadership programs for sustainable development;
 - Education and information campaigns;
 - Green Loans offered by the local authorities to the public;
 - Technical support for sustainable construction projects;
 - Tax reductions for sustainable buildings, starting from the authorization process;
 - Compensations provided by the local authorities for supporting energy efficiency products and sustainable development;
 - Assistance with the lease of necessary equipment.

Strictly connected to the buildings sector, the first step in encouraging energy efficiency at the local level is the implementation of Law 372/2005 – requiring an energy performance certificate at the building reception and energy auditing of public buildings (with the display of the energy performance certificate). The next step would be to create a set of measures to encourage developers to obtain Class A energy performance in their projects. These measures should be introduced in the strategy for supporting energy efficiency or for mitigating climate change, and should, subsequently, be developed with more complex requirements.

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REFERENCES

1. World Commission on Environment and Development, Gro Harlem Brundtland, 1987
2. Roodman & Lenssen, 1995
3. Jones Lang Lasalle: Global Trends in Sustainable Real Estate, 2007
4. Jones Lang Lasalle: Perspectives on Sustainability, 2008
5. Norm Miller, Jay Spivey, Andy Florance: Does Green Pay Off? , 2008
6. Scott Muldavin: Quantifying “Green” Value: Assessing the Applicability of the CoStar Studies, 2008
7. Gary Pivo, Jeffrey D. Fisher: Investment Returns from Responsible Property Investments: Energy Efficient, Transit-oriented and Urban Regeneration Office Properties in the US from 1998-2008, 2008
8. Council of European Energy Regulators ASBL: Status Review of Renewable and Energy Efficiency Support Schemes in EU, Ref: C08-SDE-05-03, 10 December 2008
9. The National Association of Industrial and Office Properties (NAIOP), Yudelson Associates: Green Building Incentives That Work: A Look at How Local Governments Are Incentivizing Green Development
10. Sonja Koeppel, Diana Uerge-Vorsatz: CEU & United Nations Environment Programme (UNEP SBCI): Assessment of policy instruments for reducing greenhouse gas emissions from buildings, 2007
11. The American Institute of Architects (AIA): Local Leaders in Sustainability - Green Incentives, 2008
12. Center for Land Use Education: Planning Implementation Tools: Density Bonus, 2005
13. The City of Malmö: A sustainable city – ecological transformation in Malmö, 2008
14. Database 'SURBAN - Good practice in urban development', sponsored by: European Commission, DG XI and Land of Berlin, 2009
15. EuroACE: Working paper: current financial and fiscal incentive programmes for sustainable energy in buildings from across Europe
16. Juanita Brown, David Isaacs, World Café Community: The World Café, Shaping our futures through conversations that matter, 1994

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