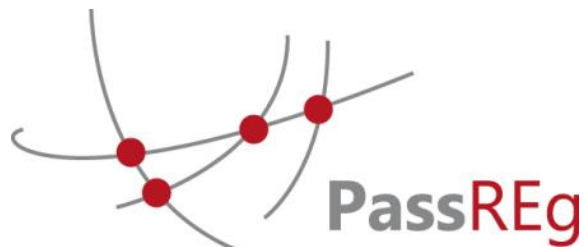




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IEE PassREg

PASSIVE HOUSE REGIONS WITH RENEWABLE ENERGY

Success Model

of Burgas Municipality

Contents by Burgas Municipality

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INTRODUCTION

Not accidentally the Municipality of Burgas has taken the key decision to accelerate the deployment of buildings with energy consumption close to zero and use of energy from renewable sources. The main reasons are environmental, energy, economic and social. Sector "Buildings" is responsible for more than 40% of total energy consumption and about half of the CO2 emissions that are not covered by the emissions trading scheme. It provides opportunities to dramatically reduce generated CO2 emissions at negative or low cost. Namely, sector "Buildings" has a huge untapped potential for cost-effective energy savings that contribute to overall sustainable development because it reduces dependence on imported energy, reduces negative impacts on the environment and climate change, reduces energy bills, creates jobs, encourages local development and provides an incentive for innovation in all construction and production technologies. Following the good example of successful regions in Europe, today the Municipality is committed to the "Energy Revolution" in buildings by applying the standard "passive house" and the use of renewable energy sources.

1 ENERGY AND BUILDING POLICY

National framework

Baseline

The State policy in the field of energy efficiency in the building sector is conducted by the Ministry of Economy and Energy, Ministry of Regional Development, the Ministry of investment planning and the Sustainable Energy Development Agency through consistent transposition of several European Directives: Directive 2002/91 / EU on Energy performance of buildings, then Directive 2010/31 / EU; Directive 2009/28 / EC on the Promotion of renewable energy; Directive 2006/32 / EC on energy end-use efficiency and energy services (new edition 2012 / 27 / EU); Directive 89/106 / European Community on harmonizing the laws, regulations and administrative provisions of the Member States relating to the construction products, replaced by Regulation (EU) № 305/2011 of the European Parliament and the Council of 9 March 2011 laying down harmonized conditions for the marketing of construction products and repealing Directive 89/106 / EEC, directives on the "New approach" and the standards of their scope, their technical norms, methods and principles of best European practices .

Applicable laws related to the implementation of policies and measures for energy efficiency

- Energy Efficiency Law (EEL)
- Energy Law (EL)
- Law on Renewable Energy (LRE)
- Law on Spatial Planning (LSP)
- Public Procurement Law (PPL)

Secondary legislative acts

- Ordinance on conducting energy efficiency audits and certification of buildings;

- Ordinance on the inspection of energy efficiency of heating systems with boilers and air conditioning systems;
- Ordinance on the indicators for energy consumption, the energy performance of industrial systems, arrangements for carrying out energy efficiency audits of industrial systems;
- Ordinance on the conditions and procedure for determining the amount of funds for contract with guaranteed results, leading to energy savings in buildings - state and / or municipal property, and the conditions for their payment;
- Ordinance on Technical passports of buildings (to LSP);
- Ordinance on energy efficiency, heat and energy saving in buildings under Art. 169, para. 4 in conjunction with Art. 169, para. 1 pt. 6 of LSP;

Bulgaria pursues a consistent policy to increase energy efficiency and utilization of the potential of energy savings, and by the approved in the 2011 Energy Strategy of Bulgaria until 2020, sets ambitious objectives for this -reducing 50% of the energy intensity of gross domestic product by 2020, which is to improve energy efficiency by approximately 25%. Another measure that the Bulgarian government has taken to increase energy efficiency is the implementation of National action plans on energy efficiency from 2008 to 2016, which are developed in accordance with the regulations of Directive 2006/32 / EU on end-use energy consumption and energy services. These plans define the national target for energy savings by 2016 in the amount of not less than 9% of the average end-use energy consumption for the period 2001-2005 or 7291 GWh.

National programs and strategies

- Energy Strategy

The Energy Strategy of Bulgaria 2020 was adopted by the Parliament on 01.06.2011. The Energy strategy is a fundamental document for the national energy policy, which is approved by the Council of Ministers and adopted by the Parliament. The National Strategy is updated every five years.

The Strategy of the Republic of Bulgaria to 2020 reflects the political vision of the Government of European Development of Bulgaria, consistent with current EU framework for energy policy and global trends in energy technology.

Sustainable energy development is the pivotal center of energy policy and its achievement is linked to long-term targets until 2020 :

- 20 percent reduction in greenhouse gas emissions compared to 1990 .;
- 20 percent share of renewable energy in the total energy mix and 10 percent share of renewable energy in transport;
- Improve energy efficiency by 20%.

- National action plans for energy efficiency

National action plans are developed based on the national strategy under Art. 7 of the EEL and include:

1. analysis and evaluation of past national action plan;

2. national target for energy savings, including intermediate national indicative target for energy savings;
 3. individual targets for energy savings, including individual intermediate targets for energy savings;
 4. planned implementation activities and measures to improve energy efficiency;
 5. obligations of public and local authorities in the implementation of the proposed measures;
 6. time schedules;
 7. sources of funding, and a list of financial mechanisms and schemes to promote energy efficiency in buildings;
 8. indicators for reporting on the results and other necessary data.
- Concept of National Plan for increase in the number of buildings with energy consumption near to zero

According to Art. 4a, item 3 of the EEL contains:

1. national definition and technical indicators for buildings with close to zero energy consumption, which reflects national conditions;
2. the period of implementation of the plan;
3. national targets for increase in the number of buildings with near zero energy consumption depending on the classification of buildings according to the ordinance of art. 15, paragraph 3;
4. policies and mechanisms, including financial, to encourage the construction of such buildings.

The Energy performance of buildings is determined in accordance with Ordinance № RD 16-1058

• ORDINANCE № RD 16-1058 OF 10 DECEMBER 2009 ON INDICATORS FOR ENERGY CONSUMPTION AND ENERGY PERFORMANCE OF BUILDINGS

In effect from 29.12.2009 issued by the Ministry of Economy, Energy and Tourism and the Ministry of Regional Development published in a National newspaper issue 103 on 29 December 2009.

Setting the parameters of energy consumption and energy performance of buildings is done at base values of the following climatic factors:

1. external computing temperature;
2. average temperature and relative humidity of the outside air - monthly;
3. intensity of full sunlight - hourly;
4. duration of the heating and cooling period;

For the purposes of determining their energy performance buildings are considered as integrated systems in which energy consumption is a result of the combined effect of the following main components:

1. building enclosing structures and elements;
2. systems for maintenance of the microclimate parameters;
3. internal heat sources;

4. residents;
5. weather

Energy performance of buildings is determined by a single methodology, which includes:

1. orientation, size and shape of the building;
2. characteristics of the building envelope, interior spaces and elements, including:
 - a) thermal and optical characteristics;
 - b) air permeability;
3. heating and domestic hot water needs;
4. cooling systems;
5. ventilation systems;
6. lighting systems;
7. passive solar systems and solar protection;
8. natural ventilation;
9. renewable energy sources systems (RES);
10. indoor and outdoor climate conditions.

When determining the energy performance requirements for moisture resistance and water resistance are taken into account.

Energy classes

Building belonging to the energy consumption class from A to G is defined by comparing the value of the integrated energy performance scale with annual energy consumption.

Scale energy classes are compiled on the basis of two values of the integrated energy performance: EP max, r and EP max, s, defined as primary energy or required energy as follows:

1 EP max, r - total specific energy consumption for heating, cooling, ventilation, hot water, light and appliances, calculated by the methods specified in the ordinance under Art. 169, para. 4 in conjunction with Art. 169, para. 1 pt. 6 of LSP. The values of the heat transfer characteristics of the building envelope components and the effectiveness of the elements and aggregates of heating, cooling, ventilation and hot water for domestic use are determined by the current regulations at the time of evaluation;

2 EP max, s - total specific energy consumption for heating, cooling, ventilation, hot water, lighting and appliances, calculated by the methods specified in the ordinance under Art. 169, para. 4 in conjunction with Art. 169, para. 1 pt. 6 of LSP. The values of the heat transfer characteristics of building envelope components and the effectiveness of the elements and aggregates of heating, cooling, ventilation and hot water for domestic use are determined by current regulations of the year of commissioning of the building.

S u c c e s s M o d e l

Upcoming new regulations and planning documents

- Development of a strategy for energy efficiency;
- National definition of "buildings with energy consumption close to zero"
- Preparation of the Third National Action Plan for Energy Efficiency (2014-2016);

- National Plan to increase the number of buildings with close to zero energy consumption;
- A new ordinance under Article 9, paragraph 2 of the EEL on eligible measures to increase energy efficiency, requirements for the methodologies for evaluation of the energy savings after the implementation of eligible measures, the form and procedure for the issuance of certificates for energy savings, and the terms and order for development and validation of methodologies;
- A new ordinance under Article 15, paragraph 5 of the requirements for the energy performance of technical building systems, incl. systems for heating, ventilation and cooling of buildings and systems for hot water and lighting.

The upcoming changes to the existing regulations and planning documents

- Expected changes in the Energy Efficiency Law related to transposition of the new Directive EE 2012/27 / EC;
- Update of the list of public authorities' buildings - now with an area over 500 sq. m (and after July 9, 2015 - over 250 sq. m), which will have individual targets for energy savings;
- Upcoming changes to existing regulations under the Energy Efficiency Law for energy audits and certification of buildings, inspection of the energy efficiency of heating systems with boilers;
- Upcoming changes to regulations under the LSP for:
 - Technical passports – where the energy passport is replaced by "certificate of energy performance characteristics";
 - for Energy efficiency, heat preservation and energy saving in buildings - setting minimum requirements for energy characteristics and determine the annual energy consumption for buildings with energy consumption close to zero.

Political will at the local level

Baseline

On February 10, 2009 in Brussels was signed the Covenant of Mayors - a statement of joint action in the field of energy efficiency.

Bourgas is among the first 160 cities that joined this European initiative, thereby declaring its intentions for energy efficiency in the municipality.

Success Model

Local authorities can influence and contribute to the improvement of energy efficiency, to carry out projects in the field of renewable energy and other activities related to saving energy.

Strategic decisions on urban development can reduce energy consumption in public buildings, can motivate people, production and service facilities placed at their sites for more efficient energy consumption.

Important role in meeting the objectives of sustainable energy is played by state and local authorities. The procurement of all contracts for construction, services or products should observe energy criteria (regarding efficiency, use of renewable energy and smart grids). Regional governments and municipalities are a major participant in the necessary change therefore their initiatives need to be further strengthened. Cities and urban areas that consume nearly 80% of the energy are both part of the problem and part of the solution for higher energy efficiency.

Close cooperation between the state, local authorities and businesses, supported by the adoption of the National Plan to increase the number of buildings with close to zero energy consumption, strengthening the definition of nZEB, with clearly defined values, revision of the inactive regulations and building standards is the formula for achieving the objectives 20-20-20.

Local climate and sustainable energy policy

Baseline

As a local authority, the Municipality of Burgas determines local sustainable energy policy, defines priorities in its development and creates conditions for the implementation of local energy initiatives as a:

- Consumer and service provider;
- A key factor in making local strategic decisions and the affirmation of energy efficiency standards;
- Motivator and a model for energy behavior;
- Beneficiary and executor of projects in the field of energy efficiency and alternative energy.

In 2011 were developed the Strategy for Sustainable Energy Development of the Burgas' Municipality 2011-2020 and Action Plan 2011 - 2013. The strategy was approved at a meeting of the Municipal Council of 13.09.2011. It sets targets and priorities that promote the implementation of energy efficiency measures and energy production from renewable energy sources, the usage of alternative energy sources and biofuels in transport.

As a priority in the strategic documents at the local level are set objectives and measures in the field of energy efficiency and municipal government works very actively and purposefully to achieve them. Information on upcoming events, discussions and round tables in the intelligent use of energy resources is sent regularly to the representatives of the City Council.

To implement its objectives, the Municipality is working with external experts in the field of energy efficiency, some of which are representatives of NGOs dealing with specific problems in the field of climate change.

This success model will be integrated in the Action Plan 2014-2016, and will be used to upgrade the municipal strategy for sustainable energy development as a key strategic document for sector buildings - public and private.

Success Model

The buildings in the municipality are the greatest consumer of energy and have the highest proportion of generated carbon emissions.

Therefore actively targeted actions in this sector would provide the best outcome and would accelerate the achievement of “savings targets” set in the Strategy for Sustainable Energy Development of the Municipality.

Accelerated introduction of the standard of ‘passive’ or buildings with energy consumption close to zero is a powerful tool for stats the indicators at local and regional level.

This success model will be integrated in the Action Plan 2014-2016, and will be used to upgrade the municipal strategy for sustainable energy development as a key strategic document for sector buildings - public and private.

Local policy instruments for energy efficiency in buildings

Baseline

Annual plans for energy efficiency under the Energy Efficiency Law

Strategy for Sustainable Energy Development of the Municipality 2011-2020

The development of the Strategy for Sustainable Energy Development (SSED) 2011 – 2020 of the Municipality is based on the following principles:

- Sustainable energy development at the local level is part of the overall concept of sustainable regional development and the concepts of "cities for better living" (livable cities).
- Sustainable energy planning is a continuous process that requires annual completion and updating of data analysis and periodic assessment of progress;
- Sustainable energy planning reflects the interests and concerns of all social groups and sectors of the economy presented in a community: local authorities, producers and representatives of the service sector, financial institutions, NGOs and others.
- The Strategy for sustainable energy development is a long-term document, integral part of which are short-term action plans, planned based on periodic analysis of the current situation, needs assessment and feasibility;
- successful implementation of the Strategy for sustainable energy development is a function of several key factors: long-term political commitment and responsibility, support from maximum number of stakeholders and ensuring adequate financial resources;

Action Plan 2011-2013 - reporting on the targets.

Success Model

In 2014 we will make an analysis of the implementation of the Action Plan 2011-2013 of Municipal Strategy for Sustainable Energy 2020.

Based on the data obtained from the analysis of the Action Plan, will be identified goals and measures for the next planning period namely 2014-2016. This model for the accelerated deployment of buildings with energy consumption close to zero and RES, along with the road map to it, will be the main focus in the next period. Moreover, they will be integrated into the long-term strategy for sustainable energy development of the municipality, which sets strategic objectives by 2020 in accordance with European directives.

2 ECONOMICS AND FINANCE

Economic levers

Baseline

Currently the Municipality does not have much economic leverage with which to promote techniques for low-energy building. The only functioning economic lever encourages buildings with Class A and B, which are exempt from building tax for a period of 7 to 10 years. This technique is applicable to relatively new buildings that are certified under the Energy Efficiency Law, but is not applicable to the renewal of private buildings in the public sector. There, the repairs are performed without the required control and feedback to the municipal administration is missing.

Success Model

New economic levers that can be borrowed from the leading regions and adapted to local economic conditions are:

- **Tax relief**

The preservation of this economic stimulus, in general sense, but with introduction of certain amendments would stimulate both businesses and homeowners. For this to happen, the tax relief should apply only to buildings with energy class A, and legislative changes should be made that undertake homeowners who intend to implement energy efficiency measures also to do surveys of their properties and to present their certificates for EE to the municipality. This would facilitate control and monitoring in the housing sector and will significantly improve the performance of buildings.

- **Eco Charter**

The consolidation of eco charter will bring number of benefits, including redundant coordination procedures, lower fees for municipal services, priority consideration to projects in the Expert Council for Territory. This incentive is aimed mainly at businesses and developers, as the purpose is to facilitate the preparation and approval of projects.

- **Public-private partnerships**

Burgas Municipality will participate with priority in public-private partnerships aimed at building or buildings with energy consumption close to zero.

- **Concession of municipal property**

Changes in the conditions for the concession of municipal properties will oblige the concessionaires to implement measures to accelerate penetration of buildings with energy consumption close to zero (they will build or co-finance such buildings, contribute through advertising and promotion of the concept of passive building, will sponsor regional construction exhibitions and campaigns aimed at accelerating the deployment of low-energy buildings in the Municipality.)

Regional Competition

As a natural continuation of the project in Burgas to create a tradition to celebrate the International passive house days with a conduction of a Regional Competition for low energy buildings combined with the exhibition of building materials and

components applied in the construction of passive buildings and renewable sources. This will be a good place to meet and exchange ideas for designers, builders, manufacturers and other interested parties.

- **Municipal revolving fund**

The creation of a revolving fund for the construction and renovation of buildings (municipal at the beginning and private later) to co-finance projects that are consistent with the concept of passive buildings. The idea is that the fund be established with 100% municipal funds, to be revolving in energy costs savings on low-energy buildings.

Forms of funding

Baseline

An important element of the implementation of any strategy or program is the financial security of the planned measures. In determining the financial framework of the success model of the Municipality are considered the possibilities to provide own funds from the municipal budget, but due to limited financial resources this option is limited in scope. Attracting external resources according to the currently available financial planning tools - operational programs, international programs and initiatives, credit lines, and the development of new forms of investment partnerships, or combinations of two or more sources of funding will lead to results and the ensurance of their sustainability.

Main error in the implementation of the planned measures for improvement of energy efficiency is demand for 100% financing. This approach greatly limits the ability of municipalities and leads to lower than projected results.

Success Model

Own funds from the municipal budget

- Municipal revolving fund will initially serve to apply the standard "passive house" in municipal buildings, and later will support private initiatives.
- Capital expenditure of the municipality

Operational programs

- OP "Regions into growth" 2014-2020 - The main priority is to increase energy efficiency - a good opportunity for renovation of existing buildings in accordance with the concept of "passive house"

Sub-priority 1: "Energy efficiency into administrative and residential buildings

Investment priority: "Provision of support for energy efficiency and use of renewable energy in public infrastructure, including public buildings and housing"

Examples of eligible activities:

- Renovation of the common areas of multifamily buildings;
- Renovation of the administrative buildings of the central and municipal administration;
- Implementation of energy efficiency measures in residential buildings and office buildings of government and municipal administration;
- Implementation of installations / facilities for utilization of renewable energy sources to meet the energy needs of the administrative buildings of state and municipal administration

and housing, the subject of interventions that do not generate revenue (profits) of commercial activity for the beneficiary during operation facilities;

- Providing loans and guarantees for repayable investments for the introduction of energy efficiency measures and renewable energy sources in multi-family residential buildings and office buildings of government and municipal administration;
- energy efficiency audits of the abovementioned buildings;

Direct beneficiaries:

- "Housing" for sites within zones of influence in Integrated Plan for Urban Reconstruction and Development ;
- State institutions for projects within the zones of influence of public functions in Integrated Plan for Urban Reconstruction and Development ;
- 67 municipalities, one of which is the Municipality of Burgas for objects within the zone of influence of public functions in Integrated Plan for Urban Reconstruction and Development ;
- Financial instruments for objects within the zones of influence in Integrated Plan for Urban Reconstruction and Development ;

International programs and initiatives

- Programmes of the European Commission

Credit lines

Burgas is the fourth largest municipality in Bulgaria. With a high credit rating and relatively low percentage of loans relative to total municipal budget, the city has the opportunity to benefit from a large number of credit lines and financing schemes, co-financing projects aimed at low energy construction and purchase of equipment on leasing.

Public-private partnerships

-Kontsesiya Municipal land or buildings with contract terms for construction or renovation of buildings in compliance with the "passive house"

Under contract with guaranteed results (ESCO) - In the subject scope of contracts for energy efficiency services include activities that can be performed individually or unite in joint investment projects for energy savings. Such activities are: Replacement of envelope structures and elements, including windows, doors, etc. .; Thermal insulation of the building envelope structures and elements, including exterior walls, roofs and floors; Repair, upgrade or replacement of substations / boiler incl. replacement of coolant, fuel facilities, including the use of renewable energy sources; Repair or replacement of the heat distribution network; Repair or replacement of heating installations; incl. when changing the coolant for internal heating; Installation of radiator thermostatic valves and control valves; Automation of consumption of heat and electricity. Combined heat and electricity

3 KEY ACTORS

Departments of regional and local administrations

B a s e l i n e

Black Sea Regional Agency for Energy Management

Association of the Bulgarian Black Sea municipalities

Municipal Administration

City Council

S u c c e s s M o d e l

- Establishment of Council of Experts for EE, or the inclusion of a separate expert who is able to advise and assess project proposals.
- Analyzing community structures and their functions identified several potential structural changes that contribute to the formation and implementation of policies on prevention of climate change and low energy construction.
- Establishment of a structural unit reports directly to the deputy mayor in charge of "European policy environment." Will be represented by experts from the "Ecology", "European policies and programs" - International partnerships and Infrastructure Projects Directorate Construction. Support will also have other units as Regional Information Center, Business Incubator and the Department Publicity and public relations.

Other stakeholders

Attracting regional and local energy agencies is necessary for the successful implementation of the concept of "passive house" in the municipality of Burgas. Their role is important to support local authorities and their staff on policy making and implementation and monitoring of municipal plans and programs.

Professional organizations - Chamber of Architects, Chamber of Engineers in Investment Design, Construction Chamber and others. similar organizations are key actors in the promotion of energy-saving construction of local and regional level. As these chambers cover designers and builders, they are one of the target groups for training in order to ensure a quality end product.

Attracting business will contribute to economic development and trade.

Civic associations such as the Union of the House Manager is the main road to the residential sector. Statistics show that it is in the housing sector buildings in the worst condition compared with the municipal and this is a prerequisite for the realization of energy savings and carbon emissions. Currently, the local government sector has at least useful moves in the direction of change. Close cooperation with this target group.

The educational institutions are the place where we will work with both children and with the leadership of these institutions. It is essential children to be familiar with the issues of climate change, for the harm that people inflict and the opportunities that gives low energy construction. In vocational schools train future architects, engineers and builders who will be professionally involved in the formation of policy in this area.

Banks and financial institutions are key players regarding the implementation and enforcement of policies on low energy construction. Their role is essential to ensuring the financial mechanisms and incentives aimed at investors and the private sector as the financial security of the project is one of the main barriers to the accelerated introduction of the concept of "passive house" in the municipality of Burgas.

Media support is undeniable factor in the successful implementation of policies. The media is an essential tool for information and promote development vision of the municipality. It is through media campaigns and public events much of society was introduced to the opportunities available to them through the application of the standard "passive house" possible funding schemes and support they receive from the specialists of the local administration and the LEAs .

4 CAPACITY FOR PLANNING, DESIGN AND CONSTRUCTION

Training of local authorities

Baseline

Currently, the municipal administration employs over 300 employees, divided into separate specialized units and directorates. Much of employees who work in the construction sector, environment and preparation and implementation of projects have passed common training on the topic of energy efficiency, but there is no specialist in-depth knowledge in the field of low energy buildings.

As a general principles of "passive buildings" are not well known in the region and do not apply in the design and construction of buildings. Expert Council at municipal administration, which evaluates investment projects only observe their legality under existing laws and regulations.

Specialized training for municipal employees have not been conducted.

Success Model

The role of municipalities in the entire process of planning and implementation of local policies in the energy sector itself require institutional capacity building at municipal level, take on responsibilities and coordinating the activity of the different local actors. The identification and training of specialized units or staff to carry out these activities on a daily basis with the relevant competence is a prerequisite for accelerated introduction of the concept of "passive house" in the municipality of Burgas.

The analysis of the institutional capacity of the Municipality for planning and implementing energy policies at local level leads to the following conclusions:

1. Although the planning and implementation of energy efficiency measures is introduced as a key element in all sectoral policies and capital investment in the municipality, there is no clear distinct and recognizable structural unit of the municipal administration, who assumes responsibility for coordination of the whole process of planning, implementation and monitoring of energy policies at local level. Available expert capacity in the directorates "Construction" and "Ecology" can become a good basis for the formation of a team of professionals with defined targets for the generation and analysis of information, planning, implementation and control of energy efficiency measures, the implementation of local energy efficiency plans and performance monitoring according to set targets. View of the different sectors their scope and activities which carry out municipality exclusive variety of target groups, targeted capital investments and services provided, this unit will play a

significant role in ensuring the integrity and consistency of local plans and actions in the field of energy efficiency .

2. Training needs of the different departments related to capital investments, preparation and implementation of projects and environmental protection emerges as the central to establish a strategic and integrated approach in the implementation of local policies in the field of energy efficiency.

By introducing an appropriate system of training of experts in the local administration will be overcome major deficiencies such as lack of reliable and timely information on the potential of renewable energy and energy consumption in the municipality, lack of knowledge about the concept of "passive house" and energy efficiency measures applicable locally, the existing legislation and the lack of ability to identify potential funding opportunities for low energy construction and renovation of existing buildings.

3. Administrative structure of the municipality gives the impression that there is a sufficiently clear link between budget management activities, property management and performance of the units, at least in terms of energy policy. Achieving the maximum efficiency of sustainable energy planning requires integration of efforts and capacities of the employees of all municipal departments and divisions related to this process by:

Providing training on energy planning for representatives of the following departments of municipal administration: Department "Budget and Finance" (Budget Division), Department "Economics and business activities" (Section "Economic activities"), Directorate "Zoning" (department "Building control, commissioning and illegal construction", department "planning and investment Planning"), Directorate "Construction" (section "Construction" and section "investment Control"), Directorate «Education and demographic Issues», Directorate "health, prevention and sports ", Directorate" environmental protection ", Directorate" European Integration "(Section" preparation of tender procedures, management and financial reporting of projects "and department" International partnerships and planning and preparation of projects "), Directorate" management of municipal property ";

Introduction and establishment of a system for the distribution of duties and responsibilities of the key figures and structural units in the municipal administration for planning, implementation and monitoring of local policies on energy efficiency.

The possible positioning of the different key figures and structural units in the implementation of long-term strategy for sustainable energy development of the Municipality in 2011 -2020 and action plans part of which is this model of success. is associated with clear distribution of responsibilities and obligations in municipal administration - Burgas regarding:

- Ensuring the long-term political responsibilities;
- Ensuring adequate financial resources;
- Establishment of support from stakeholders;
- Integration of "Model of Success" in everyday life;

- Ensuring good management during implementation;
- Monitoring of implementation.

Training of designers and builders

Baseline

Within the municipality were conducted training courses for the design of passive houses, but the number of designers who have been certified is relatively small (according to official data they are three people). The number of non-certified designers who have passed courses or have extensive knowledge in the design of low energy buildings can not be established with accuracy currently.

Generally the buildings within the municipality overcoated Energy class B, as required by the national regulations, or lower class (mostly old residential and public buildings). Buildings with energy class A or near-passive are single and are the exception rather than common practice.

Regarding training and knowledge of the construction specialists for the construction of passive houses, we can consider the issue in three main areas:

Professionals engaged in constructive activities - establishment reinforced concrete skeleton of the building, the roof and surrounding building elements.

Specialists to finishing the project - laying of warm steam and hydro; plasterers and painters; installers of windows.

Professionals responsible for the installation of systems - electrical, HVAC, plumbing, etc.

For all groups except the one that deals with the installations, we can say that there is no good theoretical knowledge and technical skills to implement the Passive House projects.

Success Model

Sufficient numbers of trained specialists in the design and construction of buildings with energy consumption close to zero on the principle of passive buildings with renewable energy sources is very necessary element for the accelerated implementation of this concept. In this connection it is necessary to take place the following trainings:

Training for designers

Training for planners and architects should contain the main techniques of construction of low energy buildings going into deeper detail in the planning of Passive buildings. Methods of calculation for technical parameters for the specialist software developed by "Passive House Institute", and the process of construction and monitoring of buildings. Besides theory and practice in training is better to take the approach "site visit", which will give a practical example of how should look different components, what are the most common mistakes in order to be careful and practical solutions for them. The latter is of significant importance, as control during construction shall be executed by the designer and his expertise would reduce risks to the successful implementation of the site to a minimum.

As the official controlling body of the construction process in these courses should be developed and modules for specialists on-site supervision during construction.

As indicators of the success of these trainings in the short term may be counted number of certificates issued, in the long term an increased number of successfully designed and executed buildings in accordance with the concept of "passive house".

Training for builders and developers

Training for builders and developers must be fully technically oriented. In training programs should be provided specific techniques used in the construction of passive houses. Special attention should be paid to the installation of insulation, insulation of thermal bridges and installation of facade windows, as applicable currently practices would compromised the implementation of a low-energy building. It is necessary to emphasize in the performance of conventional works as an example of masonry because their poor performance would adversely impact on the performance of air tightness of buildings. Practical trainings are required!

The information for the developers need to present the added value of the building - a good indoor climate, low power consumption, reasonable maintenance of the building and its installations operating factors that affect energy consumption. This would contribute to better advertising and increasing the demand for such buildings for rent or purchase housing, which in turn would encourage private investors and developers to design and construct buildings on the principle of passive houses with renewable energy sources.

It is important to be affected the opportunities for funding and co-funding and administrative incentives offered by the municipality for similar projects.

Indicators of the success of these trainings can be number of trained managers of construction companies, number of trained construction workers from different disciplines. Number of retrained workers and their level of employment. In the labor offices offer training courses for the unemployed, bringing them back to be competitive in the labor market.

Other measures for education and training

B a s e l i n e

Until now there are no trainings on passive buildings in schools. Only students from higher courses of Professional School of Civil Engineering and Architecture, attended the seminar for passive buildings held within the International Days of passive buildings in 2012.

S u c c e s s M o d e l

Besides the main participants in the planning process and construction of passive houses is necessary to provide training for users of the buildings and to create training programs aimed at familiarization with the principles of passive buildings and their benefits.

Trainings in scope and content must be consistent with the relevant groups targeted as follow:

Training programs for students and children

Children are a major motivator for change in a society, so that must implement in training courses kindergartens and schools. They should be light in the form of games with which the children gradually to realize the role of their own choice in the fight against climate change. It is also good to show the main differences between conventional construction and

construction of passive buildings for this purpose, the children can even develop models of both buildings.

Training programs for managers at final energy demand - directors of municipal buildings (schools, kindergartens)

Much of the municipal buildings are schools and kindergartens. Because the human factor plays an important role in the formation of final energy consumption, it is necessary to conduct training for managers of these buildings.

Training program for retailers and distributors of building materials, products and technologies for passive buildings

Develop a training program that shows what are the components in the construction, which have the highest result in the formation of the energy performance of the building. What variants of these products can be used. How to expand the market and the production of building components for passive buildings and opportunities for certification of the different product lines.

Training programs for NGO activists and media representatives

As the primary means of publicity and visualization of projects, programs and the implementation of best examples, the media and NGOs are important players in the implementation process of the passive house standard with renewable energy sources in the municipality of Burgas.

5 PUBLICITY AND PUBLIC SUPPORT

Communication Strategy

B a s e l i n e

Annually with its own funds the Municipality of Burgas organizes public campaigns related to the promotion of energy efficiency, energy saving and environmental protection, as weeks of ecology for the International Earth Day, Sustainable Energy Week and mobility within the European Mobility Week campaigns to promote the use of alternative forms of transport: cycling parades, cycling races application regarding car-free day, International Earth Day, environment Day and others. In the implementation of these public campaigns and initiatives the municipality successfully partnering with organizations and representatives of civil society, universities and educational institutions, business and the media.

The Communication Strategy includes the following measures:

- Organizing and conducting information campaigns based on the principle of social marketing
- Develop and implement effective information models for the promotion of European, national and local legislation in the field of sustainable energy.
- Promoting "green" investments
- Building partnerships to develop and implement a system of counseling services to small and medium businesses on energy efficiency
- Administrative stimulate industry and business to implement innovations and energy technologies.
- Establishment and operation of municipal information center energy management.

S u c c e s s M o d e l

Over the past two years in Burgas were organized public events within The International Passive House Days. In 2012 was organized a one day workshop within the framework of which were presented:

- "PassREg"
- The beacon project of the Municipality
- The basic principles of passive buildings and their capabilities
- Publications in regional media

At the end of 2012. round table was organized by the project. En Effect team presented to heads of units of local government the models of Brussels and Hanover, and a roadmap for accelerated implementation of low-energy buildings within the municipality.

In 2013. was organized outdoor exposure in front of the Municipality, the liveliest place in the city. The exhibition included eight posters that presented the project and aimed to inform the widest possible number of people for the activities and opportunities for each group – designers, developers and builders, representatives of local authorities, manufacturers of building components and products, financiers and citizens. Publications were made in the regional media.

The site of the Municipality published press reports relating to the project, as well as presentations and brochures.

Communication plan

- The efforts of the municipality in its role as a promoter of energy efficient behavior should be directed to ensure maximum engagement of consumers, SMEs and the public. Intelligent energy behavior is associated with awareness and changing everyday behavior and culture of all users (households, businesses, organization, etc.), which is associated with planning and implementing long-term and targeted communication strategy by the Municipality, with preserving on existing initiatives and the introduction of a system of local legislation and new initiatives to promote efficient use of energy by switching to renewable energy sources and the standard "passive house."
- Promoting of international days of passive houses as tradition in Burgas. By conducting annual forums, exhibitions, competitions and information campaigns in the days of passive buildings will be provided a good opportunity for meetings, discussions and active participation of all stakeholders in the process of accelerating the implementation of the concept of "Passive house."
- Initiatives with schools and other educational institutions - already have an idea of the construction school to organize a club where the students will be able to learn about the construction of low energy buildings, sustainable energy development, to participate in forums and discussions on these topics, to actively participate in information campaigns of a Municipality. This can become a good role model and to form more clubs within the municipality, and why not at the national level. To share information and practical ideas, to organize competitions in which to implement mini projects related with a passive buildings and renewable energy sources.

- Organization of press conferences to report on the progress of the city on its way to energy independence.
- Close cooperation with regional media-radio, television, press, information sites.
- Consultations for businesses and private investors

6 QUALITY CONTROL

Baseline

Before issuance of a building permit, all projects shall be agreed with the municipal energy efficiency expert and considered of the Expert Council, certifying compliance the regulatory requirements in the design. During construction, the responsibility for the proper implementation of energy efficiency measures is the designer engaged in an architectural supervision and independent construction supervision, who is obliged to observe in execution of projects to prevent significant deviations from approved projects

As a person liable under the Energy Efficiency Act, the municipality is required to produce annual reports on the measures, investments made and the results achieved. These reports are submitted to the Agency for Sustainable Energy Development. In addition, the Municipality of Burgas maintains a database of municipal buildings, which contains basic information about each building - when it was built, type of structure, when and what improvements have been made, what energy source is used, what is the monthly consumption of energy. This database is updated every three months.

The monitoring results are used in the preparation of strategic plans and programs. Based on the information received we define the priority projects for funding and implementation of energy-saving measures.

After the recent changes in the EE law in the construction of a new building, it gets the energy class after making an energy audit before introducing and operation. Thus verify if the measures planned in the project met the quality, if they are sufficient and if the project has achieved energy efficiency class.

Success Model

Regulatory changes should be made focused on increasing the minimum requirements for energy efficiency in buildings. Involving experts from energy agencies in the evaluation of proposals

It is necessary to monitor in addition to municipal buildings and housing and private sites. Housing sector remains in blackout regard to control of the implemented energy efficiency measures and therefore should be made legislative changes to strengthen controls in this area. Formation of the energy unit in the municipality would improve communication with the public and businesses and could contribute to an easier collecting of information for the preparation of analyzes and the search of effective schemes to promote and support the implementation of high energy standards as that of passive buildings.