

BUILD UP Skills Hungary

National Roadmap

- developing trainings in the building sector -

6th May 2013



Prepared

within the framework of BUILD UP SKILLS HUNGARY (BUSH Project)

Authors:

ÉMI Non-Profit Limited Liability Company for Quality Control and Innovation in Building
Budapest Chamber of Commerce and Industry
Hungarian Building Material Association
Association of Hungarian Building Engineers
National Labour Office

(Co-ordinator of the work package responsible for elaborating the Roadmap)

Contributor:

Sustainable Homes Private Inc.

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Further information

More details on BUILD UP Skills Hungary can be found at www.bush.hu

More details on BUILD UP Skills can be found at www.buildupskills.eu

More details on the IEE programme can be found at <http://ec.europa.eu/intelligentenergy>

Foreword and recommendations

The priority role of building sector cannot be omitted with regard to achieving European Union's and national objectives set for building energetics, energy performance as well as renewable energy. The EU Strategy for the sustainable competitiveness of the building sector and its enterprises¹ for construction industry adopted in 2012 formulates that the results of BUILD UP Skills initiative shall be evaluated and examined whether this initiative may be extended for other professions in the sector or for other qualification needs related to building processes or sustainable development.

With regard to the European and national objectives, the BUILD UP Skill Hungary project aims that measures proposed in the Roadmap are encouraged by professional support as widely as possible. For this purpose the support and recommendation of the building sector institutions, bodies involved in related trainings, professional organisations and ministries, as well as other key actors concerned have been requested; and also the acceptance of the objectives and measures that are formulated within the Roadmap, is requested by the creators of the Roadmap. The acceptance shall be made by a letter of endorsement on behalf of the parties concerned.

¹ EU Strategy for the sustainable competitiveness of the construction sector and its enterprises COM (2012) 433 final

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Executive summary

This Roadmap has been developed by the BUILD UP Skills Hungary (BUSH) project consortium, within the framework of BUILD UP Skills initiative, and with support of the Intelligent Energy Europe Programme. This document is the result of the 18-month-long common work and is the integral continuation of the *'Status Quo Report on Energy Efficiency and Use of Renewable Energies in Buildings: Opportunities and needs in the Hungarian Education System.'*² (further referred to as Status Quo Report) that was completed during the project, in October 2012; and is intended to draw up recommendations to solve the difficulties and deficiencies of the construction industry detailed in the document. The Status Quo Report provides detailed analysis and overview about the specialities of the Hungarian building segment, about the background of national policies, regulations; about the statistical information related to the housing segment and building energetics; about the status of the adult education and adult training; about deficiencies between the facts and demands, and also about challenges. To allow greater understanding of this Roadmap, prior studying of the Status Quo Report is considered important.

One of the objectives aimed by the BUSH project consortium has been to have a comprehensive view of national vocational and adult training and education related to the building industry in the light of the opinion of the institutions participating in the construction industry and education. It has also aimed to enable realisation of building energy objectives set for 2020 by elaborating the Roadmap to develop training of specialists currently working in the building industry that primarily have completed secondary education.

The Roadmap intends to promote efforts to find a solution for key policy challenges drawing up guidance, proposal package with involvement of professional organisations and sectorial ministries, thus encouraging governmental strategy formulation and legislation. A detailed outline of

² <http://www.bush.hu/hungarian-status-quo-report/>

steps that resulted in forming the Roadmap has been provided in the Introduction, the Chapter 1. During realisation of the project a great emphasis has been placed by the BUSH consortium to involve the widest circle of stakeholders - having the most significant relevancies related to the issue -, into the coordination process and finalisation of the document. A crucial role has been played by the national platform, members of which represented both the construction industry and also the education-training, by thus assisting drawing up the formal opinion. The Roadmap has been finalised as a result of 218 questionnaires, 30 in depth interviews, 3 professional roundtable discussions, one ministerial round table discussion, 2 conferences and several bilateral and also small group discussions.

Strategic framework of the Roadmap and the objectives of the EU's building energetics set by 2020 are defined by the following legal documents: Directive 2009/28/EC on the promotion of the use of energy from renewable sources (23 April 2009); Directive 2010/31/EU on the energy performance of buildings (19 May 2010); Directive 2012/27/EU on energy efficiency (25 October 2012). Special emphasis is placed on maintaining an appropriate training system and availability of trained specialists in the member states. Documents and legislation of national policies have been prepared along these principles that are reviewed in the Chapter 2 on strategic frameworks. In addition to the objectives of building energetics, the main national and EU documents related to vocational trainings and adult education have also been introduced. The new law on adult training has been submitted to the Parliament for final voting, and is expected to enter into force as of 1st September 2013. The law will transform the current practice of adult training that has been considered when forming the Roadmap.

Necessities and deficiencies in qualifications have been introduced in the Chapter 3. To assess the extent of compliance of necessary and expected qualification of specialists within the building industry with the supply side of training institutions, a questionnaire based primer data collection, executed earlier within the project was used to acquire a complete picture. Detailed findings have been presented in the Status Quo Report; and only the main results will be discussed here. During the gap-analysis the preparedness of specialists that belong to the BUSH project's target group, and needed for modernisation of building energetics, have been detected. As the result of the examination, the survey has identified significant deficiencies related to preparedness. Professions, like door and window installers, insulation installers, central heating and plumbing installers, bricklayers, HVAC technicians, roofers, may be subject to further investigation and improvement.

The main part of the Roadmap is the Action plan, i.e. Chapter 4 that has been finalised based on the views of professional organisations and consultations with the relevant ministries. The Action plan contains more than 30 measures in order to overcome challenges detailed in the Status Quo Report, considering the demands of the building industry (demand side) and that of the education and training (supply side). These challenges are: 1, structural and policy-related challenges; 2, challenges of human resources, issues necessitating a change in approach; 3, economic and financial obstacles; 4, challenges related to training and education. Recommendations related to the building industry are explained in two major sub-groups: in the field of **sectorial regulation of building industry** and **awareness-raising, need creation, stimulating demands in the building industry**. The Action plan details educational and training recommendations in the second part: **measures promoting and stimulating trainings**; and **recommended trainings**.

All trainings, recommended within the framework of the BUSH project shall be established – retaining the structure of professions – as non-school based trainings listed in the register of qualification programmes, on the basis of the National Qualification Register. Trainings shall be standardised, because currently it is possible to start trainings with different contents under similar names. Within the second pillar of Intelligent Energy Europe Programme’s framework, there is a possibility for developing, harmonising training materials; related to trainings, recommended by the first pillar of the Roadmap and accreditation of the programmes is also possible. Developing training programmes in the form of continuing trainings, enabling permanent, high-level, flexible professional preparation of specialists, having secondary school qualification, are considered necessary by the BUSH consortium. By thus enabling that skills and preparedness correspond to market and technological changes and also to continuously tightening requirements of building energetics. Further training measures are justified in following professions, specialities: building insulation installer, door-window installer, bricklayer, roofer, tinsmith, waterproofing installer, central heating and plumbing installer, gas equipment installer, air conditioning system installer, HVAC technician; and also following specialities in the area of utilising renewable energy sources: solar collector, photovoltaic, heat pump systems and biomass boilers.

1. Introduction

1.1. *The objective of the BUSH project and the Roadmap*

The BUILD UP Skills projects led by national consortia, are concurrently being implemented in 30 European countries within the framework of BUILD UP Skills initiative³ and support of Intelligent Energy Europe Programme⁴ (IEE) with the common aim of integrating the thematic area of energy efficiency and renewable energy at the level of basic skills into the continuous training system of skilled staff working in the building industry. This initiative enables elaboration of national action plans that aim to form comprehensive training and certification systems, or to support the existing ones.

The consortium of **BUILD UP Skills Hungary**⁵ (further referred to as BUSH), which started in November 2011 and closes in May 2013, is led by ÉMI Non-Profit Limited Liability Company for Quality Control and Innovation in Building; the high professional standard is ensured by the National Labour Office, Hungarian Building Material Association, Budapest Chamber of Commerce and Industry, as well as the Association of Hungarian Building Engineers, participating as partners. The professional realisation of the BUSH project is actively shaped and monitored by the platform formed by involvement of national professional organisations. The list of platform members is introduced in the Appendix 1.

The BUILD UP Skills initiative intends to attain the set objectives in two steps. In the first pillar an analysis about the situation of the building industry and related trainings is to be made by each national consortium on the basis of a pre-determined common topic. Further task of the

³ www.buildupskills.eu

⁴ <http://ec.europa.eu/cip/iee/>

⁵ www.bush.hu

consortia is to draw up national roadmaps to manage training deficiencies. By thus, the first pillar provides strategic frame for realisation of the second pillar that enables – considering the recommendations of the Roadmap – elaborating specific training programmes, developing teaching materials, accreditation of programmes or promoting trainings.

The BUSH project, including the **Roadmap** aims in particular the development of building industry trainings in order to enable the building industry to contribute to Hungary's 2020 national climate and energy policy objectives to the extent necessary to carry out the plan. The building industry may contribute to realisation of these goals by improving the energy performance, as well as establishing an increasing contribution of renewable energy sources to the energy supply of buildings.

In order to attain this goal, the task of the first pillar of the BUSH project is to have a comprehensive view about the building industry and related vocational and adult trainings based on the opinions of the participants involved. “*Status Quo Report on Energy Efficiency and Use of Renewable Energies in Buildings: Opportunities and needs in the Hungarian Education System*”⁶ was completed in October 2012. In this study, based on data collection performed through questionnaires and interviews, there were several obstacles and challenges formulated in the area of building industry and vocational training that hinder the availability of the adequate number of professionals, possessing relevant qualifications and competencies in the construction industry.

The second objective of the BUSH project's first pillar is to promote realisation of objectives derived from the 2020 climate and energy policy, by working out a Roadmap for developing training of qualified workers, mainly having secondary education and currently working in the building industry. The Roadmap – based on the findings of the Status Quo Report – aims to fulfil a role in promoting policy challenges concerning the entire building industry, by drawing up guidance as well as a package of proposals with the involvement and support of professional and state

⁶ <http://www.bush.hu/hungarian-status-quo-report/>

organisations interested in the building industry and also in vocational and adult training, thus encouraging governmental strategy formulation and legislation. The Roadmap has to be complied with interests of construction companies, of professional institutions, of those involved in the vocational and adult training in the building industry and also of the public and national economy. The results of projects that are taking place simultaneously in the member states and the completed roadmaps will be assessed by the European Commission.

The most essential part of the Roadmap is the Action plan that focuses on detecting barriers to the BUSH project objectives, and draws up objectives, and makes appropriate proposals in order to remove them. The Action plan covers:

- training measures taken to remove obstacles identified as qualification deficiency of qualified workers involved
- measures to encourage involvement of target groups affected by the recommended trainings to the sufficient extent
- supporting measures ensuring infrastructural conditions of proposed trainings
- building industry measures that promote increase of usage ratio of energy performance of buildings and renewable energy.

1.2. Applied methods

All the policies, EU directives and documents related to the regulation of training, serving as the framework for the Roadmap have been analysed in detail by the members of the consortium, emphasizing those parts that have significance in respect of the Action plan. The undertakings within the aims of 2020 climate and energy policy made by Hungary are stated in the national level policies. Within the national objectives, these documents are also intended to define contribution of the building sector.

The Status Quo Report⁷, completed in October 2012, and prepared in the framework of the BUSH project, serves as the basis for the Roadmap, and has attracted recognition of professional circles. Elaborating of this document and finalization of the Action plan has been made in more parallel steps.

1. Step – expert group consultation of consortium members. The tasks of BUSH consortium were to establish professional work, to elaborate and analyse questionnaires; to prepare and analyse interviews, to prepare the Status Quo Report; to prepare and conduct bilateral and round table discussions; to summarise recommendations of the Roadmap. Regular and continuous expert group consultations, debates were held among the consortium members, in order to be able to reflect the standpoint of the industry and the line ministries in the Roadmap
2. Step - questionnaire survey: two questionnaires, forming part of the Status Quo Report have been prepared in order to define needs and deficiencies of the education system and trainings. One of them has been prepared for the organisations and institutions involved in the education and training, the other one was prepared for the companies, associations being active in the building sector. The responders of the questionnaire were given the opportunity to make their views known about the existing difficulties and obstacles of the constructing industry and constructing vocational training. There were 218 meaningful replies received for the questionnaire
3. Step - preparing interviews: In order to resolve obstacles and challenges detailed in the Status Quo Report, 30 structured interviews were made with the professional organisations and institutions that proposed several suggestions to overcome the difficulties. These suggestions formed the primary outline of the measures provided by the Action plan section of the Roadmap and were later discussed within the framework of round table discussions and consultations.

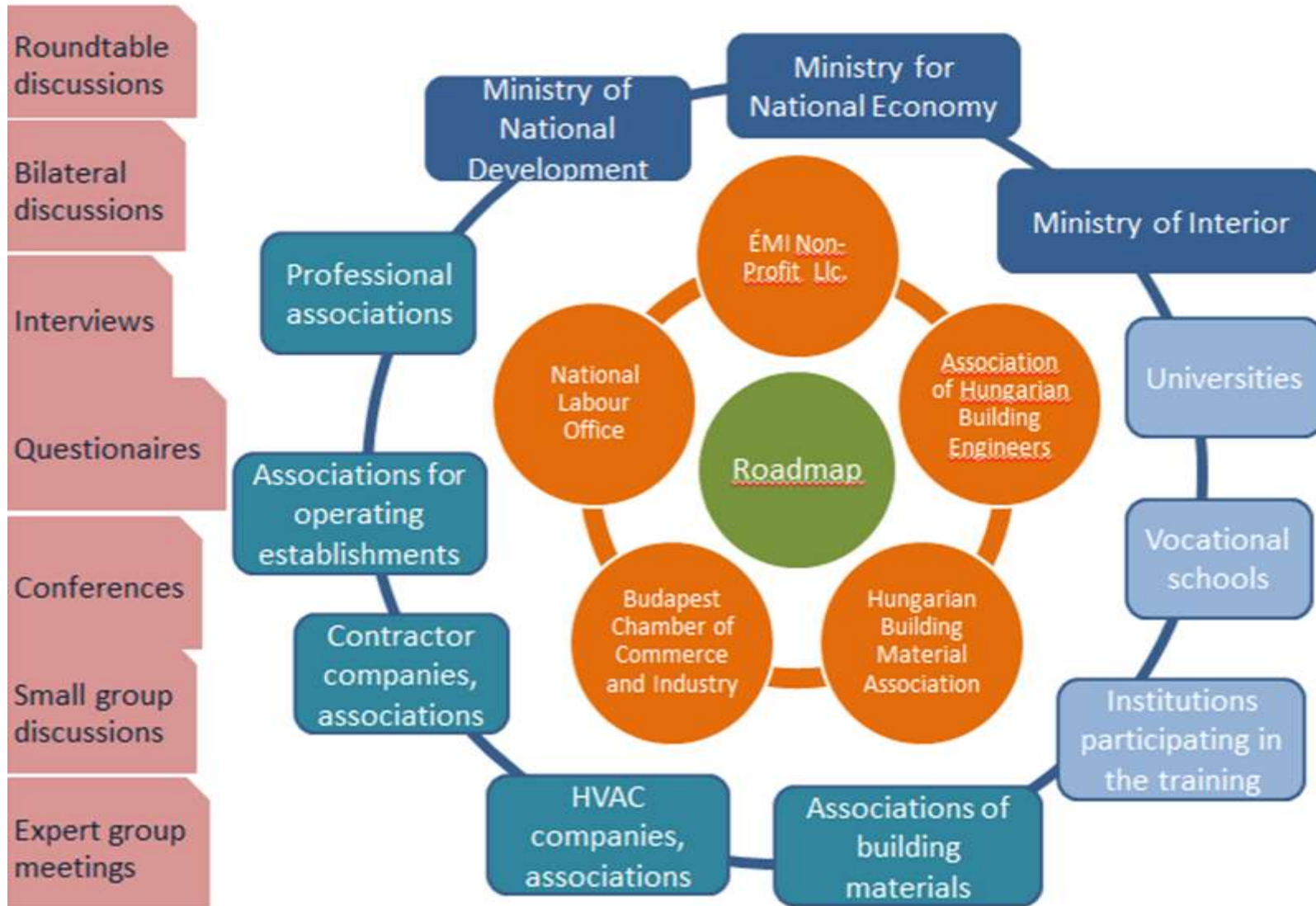
⁷ <http://www.bush.hu/hungarian-status-quo-report/>

4. Step - round table discussions: There were three professional and one ministerial round tables organized during the project. The members of the BUSH platform drafted their views in the course of the round table discussion concerning the obstacles and challenges and also stated their professional views on the action plan detailed in the Status Quo Report⁸. From the ministries side there were consultations held with the competent heads and experts of the Ministry of Interior, Ministry of National Development and Ministry for National Economy

5. Step - bilateral discussions: during the elaboration of the professional materials there were several bilateral and small group discussions held between the members of the BUSH consortium and the competent experts of the professional organisations and ministries

The Roadmap has been developed and finalised in order to ensure that measures proposed in the Roadmap are encouraged by professional support as widely as possible. The figure below summarizes the circle of stakeholders who participated in the work during the consultations, discussions.

⁸ <http://www.bush.hu/hungarian-status-quo-report/>



2. The strategic framework

2.1. *EU directives and strategies*

Directive 2009/28/EC on the promotion of the use of energy from renewable sources (23 April 2009)

For the purposes of the Roadmap special emphasize is to given to the fact that Article 14 of the Directive on the promotion of the use of energy from renewable sources specifies in terms of education and training: Member States, shall develop suitable information, awareness-raising, guidance or training programmes in order to inform citizens about using energy from renewable sources⁹. In addition it is specified by the document that certification schemes or equivalent qualification schemes shall become or shall be available for operators of these technologies. Furthermore it is stipulated in the Directive, that guidance shall be made available to all relevant actors, notably for planners and architects regarding the possibilities of using renewable energy sources.

Directive 2010/31/EU on the energy performance of buildings (19 May 2010)

The Directive declares, there is a significant potential for cost-effective energy savings in the buildings, however more precise measures shall be made in order to obtain the benefits. Thus this Directive is considered as progression compared to the earlier Directive 2002/91/EC introducing the energy performance certification system. As it is stated by the Directive, new minimum requirements, considering cost-optimal principles, shall be laid down regarding to the new and existing buildings that are subject to major renovation. The principle of cost-optimum means to achieve the cost-optimal balance between the necessary investments and the energy costs saved throughout the lifecycle of the

⁹ „installers of small-scale biomass boilers and stoves, solar photovoltaic and solar thermal systems, shallow geothermal systems and heat pump.” (2009/28/EC)

building. Only those energy investments, corresponding to or exceeding the cost-optimal level shall be aided according to the Directive. In case of new buildings and existing buildings that are subject to major renovation use of renewable energy sources shall be considered pursuant to the principle of first ensuring that energy needs for heating and cooling are reduced to cost-optimal levels.

The Directive emphasizes the significance of information campaigns with regard to encouraging the owners and tenants of the buildings. Furthermore the Directive refers to the dependent assessment of the entire heating and air-conditioning systems, and also indicates the necessity of qualification and eligibility requirements of installers and builders.

Directive 2012/27/EU on energy efficiency (25 October 2012)

Several legally binding measures have been specified for the member states by the latest Directive. It stipulates that member states shall establish a long-term strategy for promoting renovation of public and residential buildings that covers overviewing of the building stock, promoting cost-effective deep (complex) renovations, and an evidence-based estimation of expected energy savings. The Directive emphasizes, these energy audits can only be carried out by experts possessing the qualifications specified. The Directive - among its horizontal provisions, in accordance with the Directive on the energy performance of buildings - emphasizes availability of qualification, accreditation and certification schemes as well as associated training programmes; that shall be revised by the member states latest by 31st December 2014.

European Strategy for construction industry¹⁰

The document „Strategy for the sustainable competitiveness of the construction industry and its enterprises” was presented in the communication of the European Committee in July 2012. This strategy shall be taken into consideration during the national sectoral planning of

¹⁰ COM (2012) 433 final

constructing industry. Accordingly, first the Roadmap shall be in accordance with the EU's objectives, and on the other hand it is advisable to harmonise the national strategy on energy performance that is currently being prepared with the objectives of the Roadmap. The BUILD UP Skills project is part of the EU's strategy for construction industry.

2.2. National policies and legislation

New Széchenyi Plan - Green economy development programme

Green economy development programme is one of the seven break-out points of the New Széchenyi Plan (ÚSZT - NSzP) that the basic reference document of development policy determining economic vision of the country. This programme places particular emphasis on awareness-raising, beside energy efficiency, environmental sustainability and connecting innovation and employments. The ÚSZT - NSzP foresees establishing an economy increasingly based on renewable energy sources and changing the model founded on usage of fossil energy sources. From the point of view of building sector, energy efficiency, energy economy, energy rationalisation, as well as green energy and usage of renewable energy sources may be relevant tool within the toolkit of ÚSZT - NSzP Green economy development programme. The new green home building programme, the home renovation, the panel renovation programme and also the renewable public institutions programme of the programme's priorities and sub-programmes are connected directly, all the other sub-programmes are linked indirectly to the green building industry.

National Energy Strategy 2030

In year 2010 the **40 % of all energy consumed in Hungary was consumed in our buildings, out of which about 80% is consumed for heating and cooling** (heating, hot water usage and cooking) - stated by the document. Out of the approximately 4.3 million flats of residential building stock, **70 % does not comply with the up-to-date thermal engineering requirements**; this ratio is also similar in case of the public buildings.

Proposed measures until 2030 are stated in the National Energy Strategy and also perspectives for framework of the national energy and climate politics until 2050 are outlined. The number one objective of the strategy related to the buildings is improvement of energy efficiency, within this, building energetics is considered to be the key objective. Second main objective of the strategy - in accordance with the technical reasonableness – is increasing the ratio of production both renewable energy and also low CO₂ emission energy.

Main objectives:

- **30% decrease of heating energy requirement of building stock** by 2030,
- thus national **primer energy requirement might be reduced by more than 10 %**
- **111 PJ saving, as a result of building energy programmes**, out of the total 189 PJ primer energy saving possibility defined until 2030

The strategy from the view of economic approach aims to increase energy efficiency on the demand side, and it intends to rely for locally produced, mainly renewable energy sources on the supply side, in order to decrease energy dependence. The strategy also specifies, in order to achieve the objectives related to energy efficiency and renewable energy, appropriate modification of training of qualified workers, establishment of qualification systems and restructuring education are also essential.¹¹

It is also stated in the strategy that in terms of achieving effectiveness of the programmes, awareness-raising campaign is to be executed¹².

Relevant measures connecting to the objectives of the National Energy Strategy in the field of increasing energy efficiency are: the National Energy Efficiency Action Plan and also the National Energy Strategy for the Building Sector that is currently being worked out; and Hungary's Action Plan for Utilization of Renewable Energy, in the field of increasing the utilization of renewable energy.

¹¹ National Energy Strategy page 93. Chapter 7.2: Training and employment

¹² National Energy Strategy page 96. Chapter 7.3: Environmental protection and nature conservation

The National Energy Strategy stipulates that building energy programmes shall have priority, because they uniquely contribute to achievement of more essential objectives, such as achievement of EU's and national energetic objectives, rationalization of energy consumption, decrease of energy dependence, restriction of emission of harmful materials, improving air quality, awareness-raising of the public, and also boosting job creation and construction industry. There are three scenarios outlined until 2030 in the strategy for the household and tertiary sectors. The "Sitting and waiting (BAU)" scenario calculates with the fact, that there are no energy efficiency programmes, resulting in slight increase of total heat energy consumption. The "Reference" scenario calculates with 84 PJ, while the "Policy" scenario calculates with a 111 PJ energy-saving in building energetics. The strategy realistically calculates with the Policy scenario; however in examination of opportunities it looks further¹³. The more ambitious energy saving objectives of the "Green" scenario however can only be realised in case if necessary financial resources are available.

2nd National Energy Efficiency Action Plan of Hungary until 2016, with an Outlook until 2020

A **9% energy savings**, amounting up to **a yearly average of 57.4 PJ** is envisaged between 2008 and 2016 by the National Energy Efficiency Action Plan. In order to achieve this, according to estimation of the National Energy Efficiency Action Plan an investment totalling up to 1395.8 billion HUF is required, out of which revenues from sales of CO₂ quotas would amount to 617.4 billion HUF. In accordance with the target systems of the National Energy Strategy – i.e. energy savings can primarily be achieved by modernisation of energy systems of buildings –; elaboration of a National Energy Strategy for the Building Sector, as well as establishment of a database regarding building energetics and also of energy consumptions of public buildings are essential, confirmed by the Action Plan. The 'Our home' renovation programme is to be highlighted within the assets of the Action Plan, aiming for complex energy modernisation of residential buildings that have been built using traditional kinds of technology (insulation, replacing doors and windows, modernisation of heating system); operating a network of experts

¹³ National Energy Strategy page 80. Chapter 6.3: Heat energy

specialised in building energetics; and also developing an educational and training programme on energy efficiency based on a coherent green syllabus and curriculum to be performed in cooperation of the training institutions and locations of practice.

National Energy Strategy for the Building Sector

Actual status of the Hungarian building stock is aimed to be mapped by the National Energy Strategy for the Building Sector 2030 that is being prepared according to the National Energy Strategy. The objective of the document is to develop a coherent and sustained strategy until 2030 (with an outlook until 2050), for the energy-efficient modernisation of existing buildings, as well as developing and using a set of requirements for energy saving of new buildings in accordance with the Directive 2010/31/EU, also with principles of the Directive 2009/28/EC, as well as with target benchmarks and objectives of the National Reform Programme, the New Széchenyi Plan, the 2nd National Energy Efficiency Action Plan and the National Action Plan for Utilisation of Renewable Energy. Economic impact analysis, strategic environmental assessment is being prepared in addition to these surveys that define demand sources of programmes for energy modernisation, thus enabling its effectiveness. Furthermore a registry system of building energy data will be set with the aim to develop a dynamic database for building energetics. By thus energy reporting and monitoring system, providing information on energy consumption and energy status of governmental and municipal building stock of Hungary will be established. The strategy is expected to be finalized in the second half of 2013.

Action Plan for National Utilisation of Renewable Energy

The following aspect of the National Energy Strategy - energy dependency may be decreased and security of supply can be increased by using renewable energy sources to a greater extent – is highlighted by the Action Plan for National Utilisation of Renewable Energy. This plan, similarly to the National Energy Efficiency Action Plan, pronouncedly considers significant increase of employment due to developments related to energy efficiency and to renewable energy sources, thus providing basis for strengthening a green economic sector, and also for the green constructing sector within the construction industry. **Reaching the target of 14.65 % by 2020** that exceeds the minimum target (13%) **has been set** by the action plan – considering the significance of green economy-development for the national economy, and also its effects for

employment (creating at least 150-200 thousand jobs, including 70 thousand jobs within renewable energy sector). Intention of the Government is to increase current proportion of renewable energy generation used for heating of buildings (and used for cooling to a smaller extent) from 8.6 % to 18.9 %.

Government Regulation. No 176/2008. (VI. 30.) on certification of energy performance of buildings

Energy certificate has been made compulsory for the member states within the Directive 2002/91/EC EPBD by the EU. This directive has been formed in order to achieve the objectives set by EU SAVE programme, defined by the Council Directive 93/76/EEC of 13 September 1993 to limit carbon dioxide emissions by improving energy efficiency (SAVE). It aims to form a legal instrument that defines a specific action plan for exploitation of opportunities in the field of energy efficiency. The directive also emphasizes that certification programmes may be supported by different means of the member states.

As it is stipulated within the Government Regulation No 176/2008, as from 1st January 2009 it is compulsory to issue energy certificate for occupancy permission of the new estates and also for long term leases, exceeding a one year period. The regulation draws up legal requirements for issuing the energy certificate, detailing conditions governing the activity of measuring specialists, stipulates requirements for quality controls of these certificates, legal control of IT systems for these surveys, fees of the surveys, defined by the authorities and also the regulations related to follow-up monitoring. The certificate may cover recommendations for investments yielding in energy savings. In case if no recommendation is done, the certification body shall provide guidance for the owners regarding further information related to energetic modernisation of the residential property.

The national energetic and building regulation is appropriate, however controlling of compliance must be strictly and consistently performed in order to achieve the set objectives. To perform this, the appropriate tools are available, e.g. the national, electronic register of Energy Performance Certificate. In addition, sufficient time shall be allowed for preparation of energetic regulation (that thereafter definitely will be modified), incorporating also the time that may be required for continuing trainings.

2.3. Policies and legislation related to vocational and adult training

Legislation of vocational and adult training is formulated as recommendations at European level, while they are regulated by laws, regulations and government regulation. There are two norms at the European level influencing vocational and adult training: the recommendation associated with the process of Lifelong learning as well as recommendation related to the European Qualifications Framework. In both themes Hungary is committed to implementation.

1) Lifelong Learning Programme

Decision No 1720/2006/EC of the European Parliament and of the Council of 15 November 2006 establishing an action programme in the field of lifelong learning

General objective of the lifelong learning is to contribute to development of knowledge-based society. Its aim is to promote cooperation and mobility between the training systems of member states by supporting and supplementing measures in order to enable them to become a benchmark for the whole world.

Strategy of the Government of the Republic of Hungarian for lifelong learning (September 2005)

Within the strategy on lifelong learning, the Hungarian Government aims to improve the current education system in order to satisfy labour market requirements and also to promote forming of a new, competence-based learning culture at the same time. The culture of lifelong learning considers multiple objectives of the education sector: personal development, development of knowledge, implementation of economic, social and cultural objectives, and also takes into account the fact that priority of these targets change in the different life-cycles of the individuals. Enhancement of vocational and adult training appears in the strategy adapting to the demands of labour market and the individuals,

thus widening access of each age group and social group, in particular with regard to the disadvantaged and problem groups of labour market for learning.

2) The European Qualifications Framework

Recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework (EQF) for lifelong learning

By implementing transparency of competencies and qualifications, the EQF becomes the mean of promoting lifelong education. The sub-segments of both vocational and adult training are covered by this framework, and it also eases for EU individuals to share and have their qualifications recognised. The EQF facilitates mobility for workers and that they have their qualifications recognised out of their home country. Interoperability between work and training is facilitated during the whole lifecycle of individuals by this tool. The EQF is a tool, based on the learning outputs, not on length of the studies. The main characteristics of the reference level are: skills, competencies, knowledge.

The Government Regulation No. 2069./2008. (VI. 6.) on joining the European Qualifications Framework and forming the National Qualification Register; Government Regulation No. 1229/2012. (VII. 6.) on the tasks related to introduction of the National Qualification Register and on Amendment of the Government Regulation No. 1004/2011. (I. 14.) on forming and introducing of the National Qualification Register

Hungary has expressed its support regarding joining the European Qualifications Framework and agrees with its principles and structure; and has also stated its commitment to elaborate a compatible Hungarian Qualifications Framework. The Hungarian Qualifications Framework (HQF) covers all levels of education and training, enables to classify formal, non-formal and also informal knowledge and qualifications. Introduction of this system is expected in the 2nd half of 2013.

Vocational training act

The Law on vocational training No CLXXXVII./ 2011. shall apply to vocational training provided in the school system (vocational training), in case of vocational trainings performed out of the school system, it applies to the state-recognised qualifications (vocational training according to the National Qualification Register) to be obtained within the National Qualification Register, as well as to master training. Law on vocational training regulates conditions of continuing trainings in case of initial and also continuing vocational trainings, regardless whether or not it was carried out in the school system. However its provisions do not apply either to the higher educational programmes at level ISCED 5A and 6 or to government authorised, certified training of adults.

It is noted that a great emphasis is to be placed on career orientation in the construction industry. Renewal of career orientation is being in progress within the frame of Social Renewal Operational Programme¹⁴ 2.2.2. (TÁMOP 2.2.2.); the Hungarian Labour Office is responsible for carrying out these measures, and the Budapest Chamber of Commerce and Industry acts as its strategic partner.

Law on vocational training defines operation of departmental development and training committees established in order to develop vocational training and to enforce demands of the labour-market. These committees participate in harmonisation of demands of national economy and development of vocational training, based on labour-market information, employment and employability data and forecasts. The committees – considering needs of the economy and also the data of labour-market demands, as well as national, regional, metropolitan and departmental schooling, - shall make proposal for training needs of the capital and counties, including trainings within vocational training (area of vocational training) that are eligible or non-eligible for state budgetary contribution; and also for the envisaged number of qualifications that may be initiated (enrolment ratio).

¹⁴ Social Renewal Operational Programme

National Qualification Register

The National Qualification Register (NQR) contains the state-recognised qualifications. The NQR contains professional qualifications being part of the school system, non-school system, and qualification hierarchy, and also partial professional qualifications. Professional and examination requirements must be specified for the professional qualifications defined in the National Qualification Register that will be determined by the minister in charge for professional qualifications. Professional and examination requirements determines input competencies, school and professional grounding, required practice and also health and vocational requirements, the so called task profile of the qualification, special requirement modules related to the professional qualification, the qualification hierarchy or partial professional qualifications specified within the separate government decision, as well as the requirements of complex professional examination closing the training. The school training is conducted according to the standards of the skeleton curriculum of vocational training that shall be compulsorily applied. The skeleton curriculum comprises the appropriate professional subjects and content of their fields, corresponding with the professional requirement modules, and division of subjects by theoretical and practical trainings, as well as by years.

Description of qualifications of the National Qualification Register is specified by the Government regulation No. 150/2012. (VII. 6.) on the National Qualification Register and on Amendment of procedures of the National Qualification Register. Professional requirements related to the qualifications of the National Qualification Register are laid down in the Government regulation No. 217/2012. (VIII. 9.) (regulation for modules) on professional requirement modules of state-recognised qualifications. The 27/2012. (VIII. 27.) regulation of Ministry for National Economy on 'professional and examination requirements of professional qualifications' (SzVK regulation) establishes appropriate interface between these two government regulations.

The National Qualification Register is a well regulated system aiming to cover the totality of professions, representing the base and corpus of Hungarian vocational and adult training and it must be stable and definite. However its regularity and stability may cause disadvantages in case of trainings related to continuing trainings of those persons that had obtained NQR professional qualifications earlier. Trainings planned within the BUSH project need to manage diverse input competencies, professional backgrounds that make impossible organising of knowleges into modules, which is the smallest stand-alone unit of the NQR system. On the other hand it should be noted that knowleges related to energy

efficiency and renewable energy shall penetrate certain affected professions, therefore these knowledges are to be visualized in the skeleton curriculum and in the training materials. These qualifications directly related to the construction industry and building engineering are of basic requirements. Accordingly, the BUSH project does not primarily aim to affect the current system of National Qualification Register (this is a reasonable principle in order to preserve stability of NQR), but considers trainings that can be additional to the current and earlier professional trainings of NQR, harmonising with its content and terminology, but will not appear as NQR adult trainings.

Adult education act

According to Law on vocational training, further rules of non-school vocational training system are determined by the Law on adult education. Definition and institutional system of adult training is stipulated by the Act No. CI., 2001 on Adult education. Accreditation of the programmes and requirements of contracts related to the adult training as well as forms of state aids are discussed by the law. The state-aided training of unemployed and other target groups is regulated by the Law No. IV, 1991, on promotion of employment and provisions for the unemployed.

A new law on adult education is expected to enter into force as of 1st September 2013 that is currently being prepared. According to the concept of the draft law, trainings specified by the law will be classified into four training fields: 1. trainings of National Qualification Register, 2. other supported professional trainings, 3. general and supported language trainings, 4. other supported trainings. Registration of programmes will be established and expanded for the other supported professional trainings and general and supported language trainings, besides trainings of National Qualification Register. Registration of professional trainings would be managed by the Budapest Chamber of Commerce and Industry, registration of language trainings would be administrated by the National Labour Office. Accreditation of institutions will be ceased; adult trainings can only be carried out by authorised bodies as soon as this law enters into force. Authorization shall be for an unlimited period, but the training activity shall be checked every two years. Nevertheless it is important to note that legislative context of the adult training is in the process of formation, final and official statements cannot be drawn up.

The draft law on adult education submitted to the Parliament is consistent with the objectives of the BUSH project. The draft law is expected to be submitted for final vote in June 2013, and is expected to enter into force as of 1st September 2013. Out of the trainings regulated by the law, the BUSH project is affected by professional trainings and also by other trainings not belonging to the National Qualification Register. Vocational trainings – if they are not state-supported trainings – shall not be governed by the law. State-supported trainings can only be performed by authorized institutions, and these training programmes must have also been approved. Professional registry of programme requirements in respect of non-NQR trainings will be implemented by the law as of 1st September 2013. Programme requirements related to non-school based trainings listed in the register of qualification programmes will be indicated in this registry. The five member committee led by the Hungarian Chamber of Commerce and Industry shall take a decision on listings in the registry. The registry of programme requirement that have been accepted is publicly available. Requirements similar to professional and examination requirements laid down in the National Qualification Register shall apply to the context of the programme requirements. Decision of the committee will be done considering these principles, and it will only accept one single programme requirement in similar areas. In the event that a training institution wishes to provide state-supported trainings, it shall prepare its own training programme based on this publicly open programme requirement. In case of new trainings the programme requirement must have been first approved, according to the above mentioned.

3. Qualification needs and gaps

A primer data collection was executed within the project in order to assess the extent of compliance between the desired and expected¹⁵ qualification of specialists and the offer of training institutions within the building sector.

Mostly HVAC related specialists are employed by the questioned construction companies. Respondent companies employ central heating and plumbing installers (62% of companies), gas consuming equipment and piping network installers (52%), plumbing and water equipment mechanic (50%), HVAC technicians (39%), air conditioning system installers (25%), cooling and air conditioning mechanic (20%). Professionals of general construction, like carpenter, building frame installers, door and window installers, roofer, plasterer - represent less than 10% of the employees belonging to the sample companies.

The number of specialists, deemed necessary to perform building energy renovations was estimated by the study along two approaches: in what professions it is necessary to increase the number of specialists; and where it is justified to improve the preparedness of experts.

Those specialities are in the main focus of the project where - according to more respondents – there is a need to train more specialists and where improvement of specialists's preparedness is necessary. According to this, the following professions may be subject to further examinations and improvement: HVAC technician, central heating and plumbing installer, air conditioning system installer, building insulation installer and gas consuming equipment and piping network installer.

¹⁵ Non-representative sample 86% of the respondent companies have building engineering profile

Accordingly, we do not aim to investigate those professions, where only a few respondents have indicated the necessity of increasing the number of trained specialists and in addition, only a few of the respondents have encouraged the improvement of preparedness of these specialists. These are the following: plasterer, building frame installers, carpenter, roofer, concrete and reinforced concrete maker.

The respondents of the construction industry have indicated the importance of increasing the headcount most frequently in case of the building technicians (45% of the respondents), the central heating and plumbing installer (41% of the respondents), the building insulation installer (34% of the respondents). 24% of the companies participating in the survey think there is a necessity for training more bricklayers, although only 16% of them employ bricklayers. Based on the observations of the survey, this profession is the most frequent among the taught professions, thus the training institutions are ready to meet the quantitative demands for bricklayers. According to our assumptions, in case of these specialists the headcount of *good* bricklayers is low – only a greater understanding of the expectations related to the preparedness will enable us to investigate this matter.

In those professions that were indicated by only less than 10 %, presumably the number of available qualified specialists is sufficient on the labour-market (electricians, building frame installers, plumbers, roofers, chimney makers, plasterers, concrete and reinforced concrete makers).

Beyond investigation of quantitative demands for skilled specialists, it is also important, whether the preparedness of specialists enable them to execute complete building energetic renovations. The participants of the survey had the opportunity to mark those areas where the improvement of specialists is considered necessary. Bricklayers were indicated by 56% of the construction industry respondents – that is an outstanding rate. According to more than one third of the respondents, much remains to be done regarding the preparedness of building insulation installers, central heating and plumbing installers.

Preparedness of those professions that was indicated by less than 10% of the respondents is not considered to be much improved.

A more precise picture of the areas to be improved than the above mentioned ones, may be drawn up by completing a gap-analysis regarding the types of specialists. The point of the gap-analysis is that satisfaction related to preparedness of specialists is expressed corresponding to

importance of specific professions. The results of previous examinations are supported by the gap-analysis, the following professions have been mostly found to be improved: door and window installers, insulation installers, central heating and plumbing installers, bricklayers, HVAC technicians, roofers.)

The contact data and preparedness of those installers using renewable energy sources, having a major importance related to the project, have not been addressed by the primer data collection. The reason is that classification and place of these specialities in the National Qualification Register was not clear at the time of the examination.

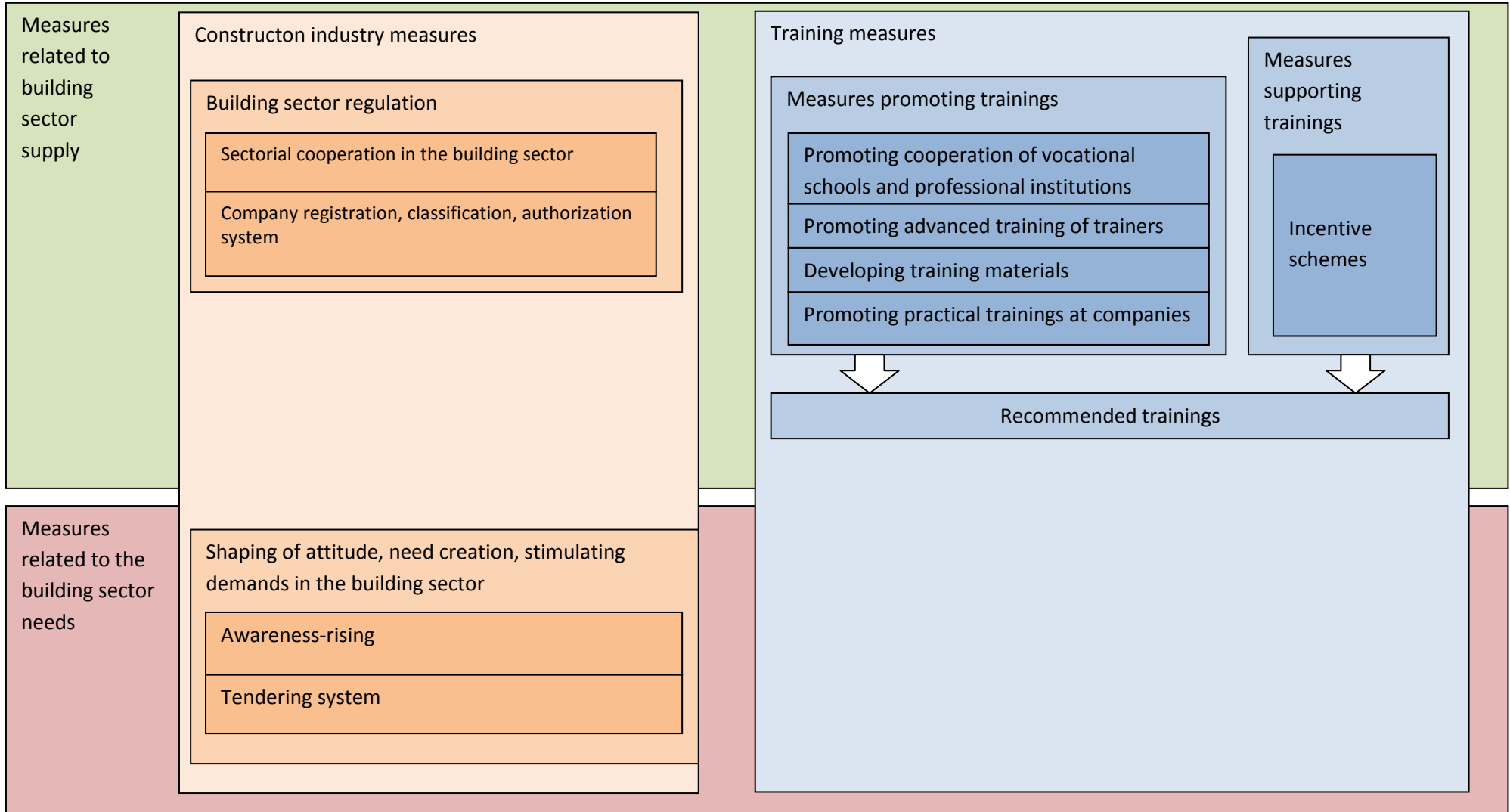
4. Action plan

The objectives and measures, and their classification have been drawn up in compliance with obstacles, highlighted by the questionnaire survey and also by the 30 interviews that have been prepared by the members of the BUSH consortium. These obstacles may be classified into the following groups¹, structural and policy-related challenges; 2, challenges of human resources, issues necessitating a change in approach; 3, economic and financial obstacles; 4, challenges related to training and education. In the light of these obstacles dividing the related measures introduced in the Action plan are considered appropriate. The objectives and measures are based on the findings of the surveys and interviews, they have been widely discussed by the members of the BUSH consortium and their final form have been agreed after three platform meetings with the consent of the BUSH platform and stakeholders.

In order to develop vocational training in the construction industry, the Action plan suggests initiating measures for both the building sector (demand side) and also for the educational, training sector (supply side). Recommendations related to the building sector are explained below in two major sub-groups: in the fields of **sectorial regulation of constructing industry, awareness-raising, need creation, stimulating demands in the constructing industry.**

The Action plan details educational and training recommendations in the second part: **measures promoting and stimulating trainings; and recommended trainings.**

System of measures set by the Action plan



4.1 Building sector measures

Under present conditions, the energy efficiency improvement and use of renewable energy sources in buildings may be primarily considered as take-off points. These take-off points enable the construction industry to contribute to the objectives undertaken until 2020, consuming the lowest costs and achieving the highest economic benefit. It is important to emphasize that energy use for heating represents the major potential for increasing energy efficiency.

4.1.1 Building sector regulation

4.1.1.1 Cooperation in the building sector

Currently control of the building sector and its connecting areas belong to more ministries. Building affairs belong to the Ministry of Interiors; energy belongs to the Ministry of National Development, whereas the Ministry of National Economy controls vocational and adult training, the National Vocational and Adult Training Council and also the National Qualifications Commission. It is necessary to realise standardised coordination related to building regulation, building material industry energy performance of buildings regulation, vocational and adult training, and regulations for the constructors and also related to national and EU funds granted to relevant professional areas.

Several professional organisations operate in the building sector and its connecting areas, having a wide scope of activity, consequently, competences and field relations are not clarified in all cases. It is important to clarify competencies of each professional organisation in the interest of establishing cooperation between them and with the state-governmental sphere. In case of the building sector and its connecting areas, after completing appropriate examinations, the competent professional organisations shall be appointed and shall be displayed in a transparent database.

In several cases, sectoral professional organisations consider communication with the decision makers as incomplete; the state-governmental bodies however feel the lack of professional opinions during the preparatory phase of decisions. In order to maintain smooth cooperation of the parties, maintaining regular and continuous communication within the existing and newly opened channels, is necessary. Professional organisations consider important to clearly express the propositions, recommendations, and also to draw up immediate and professionally justified opinions, if requested. Consideration of upcoming problems, propositions, recommendations by the governmental bodies and also appropriate preparation of requests for professional organisations, definition of realistic deadlines and consultation conditions are regarded as critical elements. Observing these principles have major importance as regards to operation of the Sectoral Dialogue Committee of the Building Sector.

Changes within regulatory environment of the building sector are considered too rapid by the professional organisations. In the event of a significant change of regulation, adequate time must be allowed for preparation, and appropriate information on the modified regulation shall be provided for the professional organisations and all those concerned by the governmental bodies. Professional organisations shall continuously monitor changes in the regulatory environment related to the relevant field and also to provide adequate information for the parties represented by them.

4.1.1.1. Cooperation in the building sector								
	Planning			Parties concerned		Realisation		Monitoring
	Problem	Objective	Measure	Key actors	Target groups	Timing	Source ¹⁶	
4.1.1.1.1.	Controlling of the building sector and the connecting areas is fragmented	Coordinated management of building sector	Assessment of options for coordinating the building sector and connecting areas	State-governmental bodies, professional organisations	State-governmental bodies	2 nd half of year 2013	-	Monitoring progress

¹⁶ The authors have recorded the optional sources of financial framework at the source references. In order to realise the set objective, the allocation of the indicated sources might only be done by the decision of the actual Finance Act and those, possessing dispositional authority.

4.1.1.1.2.			Establishing coordination between the building sector and connecting areas	State-governmental bodies	State-governmental bodies	1 st half of year 2014	-	Monitoring progress
4.1.1.1.3.	Not clear competencies and areal relations among the professional organisations	Clear competencies and areal relations	Assigning competent professional organisations related to each professional area	Professional organisations	Professional organisations	1 st half of year 2014	-	Monitoring progress
4.1.1.1.4.	Insufficient communication between professional and state-governmental bodies	Improvement of communication and cooperation	Using current and opening new channels	State-governmental bodies, professional organisations	State-governmental bodies, professional organisations	1 st half of year 2014	-	Monitoring progress
4.1.1.1.5.	Frequent changes of regulatory environment	Traceable, adequately applicable regulation	Appropriate information, monitoring of changes by professional organisations	State-governmental bodies, professional organisations	Professional organisations, parties represented by them	Continuously from 1 st half of year 2014	-	Monitoring progress

4.1.1.2 Company registration, qualification, certification mechanism

In principle, there are three administrative measures related to undertakings. The company registration is a simple registration or notification. Qualification refers to examining existence of certain conditions; however it is a voluntary qualification system. Certification, compared to the

previous ones, specifies a compulsory qualification system together with connecting access rights that are in each case defined and recognised by legal regulations. Current registration, qualification, certification mechanism is fragmented, complicated, and is not transparent, and first of all based on existing scope of duties of organisations. These systems shall be simplified and centralised, i.e. number of parallel, non-related systems has to be lessened. Competencies of professional organisations, that will have responsibility over the specific area, might be considered as guidance.

In certain justified areas, it is necessary to further maintain or define conditions of company registration, qualification, and also certification mechanism and also terms of obtaining compulsory qualification. Registry of qualification and certification related to all specialities shall be realised in a standardized and controlled system. Principle of cost reduction, instead of increasing costs, related to the changes and to administrative burdens of companies should be also considered. The aim is to manage certified companies with high priority with regard to the tenders; that first of all shall be based on the principle of voluntary qualification, and this can only be tied to state recognised certification only in duly justified cases.

Additionally, in case of company qualifications and tenders, priority shall be given to companies, whose employees participate in adult education recommended by the BUSH project; since definition, description of trainings that are considered necessary to attain building energetics objectives are listed among the objectives of the project. Moreover it is necessary to revise the system of compulsory trainings, and official education. Necessary information related to specialists possessing the relevant skill, should also be made available. Training institutions can assist by handing over the list of graduates to registering organisations, bodies.

4.1.1.2. Company registration, qualification, certification mechanism								
Planning				Parties concerned		Realisation		Monitoring
Problem	Objective	Measure	Key actors	Target groups	Timing	Source ¹⁶		

4.1.1.2.1.		Simple, transparent system	Investigating option for simplifying and reducing the number of these systems			2 nd half of year 2013	-	Monitoring progress
4.1.1.2.2.	Company registration, qualification, certification mechanism is fragmented	Retaining only the reasonable specifications in specific areas	Investigating reasonableness of company registration, qualification, certification mechanism by specialities incorporating review results, as defined by Government Decision No. 1589/2012. (XII. 17)	Organisations, state-governmental bodies, professional organisations active in company registration, qualification, certification mechanism	Undertakings	2 nd half of year 2013	-	Monitoring progress

4.1.2 Awareness-raising, creating needs, stimulating demands in the building sector

Due to general downturn in the building sector, level of market demand and orders in the building sector has dramatically dropped back. In these circumstances, improvement of energy performance of buildings and use of renewable energy sources may be considered as take-off points. As currently the non-appropriate approach of customers and also the limited resources are the main limitations, incentives are necessary to stimulate the building sector. Market demand for energy efficient modernisation of building can be established by appropriate awareness-raising and also by the suitable tendering system.

4.1.2.1 Awareness-rising

The majority of customers are not aware of the importance of energy efficiency improvement of buildings and usage of renewable energy sources, thus yielding not sufficient market demand for building renovation and use of renewable energy sources. Awareness-rising is

considered necessary in case of all parties concerned: customers, planners, contractors, qualified experts, authorities and operators. Awareness-rising, of course, has also an impact on tendering system, in field of providing information on tendering opportunities, and in the area of tendering consultancy.

A consultancy network works alongside the regional operational programmes, and a Registry of experts for energetic certification, records of chambers, and other classified directories are also existent. It is advisable to coordinate these currently active organisations, providing consultancy services in a form of non-profit, information consultancy network with a nation-wide competence¹⁷. It is necessary to provide independent, credible, tailor-made information and consultancy. In addition, professional and marketing support shall be provided for existing organisations and consultants. This can be realised with a low-budget internet site, collecting best practices and know-how.

Customers can be effectively and truthfully addressed on local public consultations and events, and local governments and civil organisations may undertake these initiatives. A nationwide, comprehensive media campaign is also considered important. Funding of a campaign like this could be perhaps addressed by governmental or EU tasks, particularly providing possibility to draw the potential tenderes' attention to the existing tenders within these frames.

4.1.2.1. Awareness-rising							
Planning			Parties concerned		Realisation		Monitoring
Problem	Objective	Measure	Key actors	Target groups	Timing	Source ¹⁶	

¹⁷ As quoted in the National Energy Strategy : „...on the basis of the existing national government and non-governmental networks (eHungary sites, Integrated community service spaces, library associations, etc.) – National Energy Strategy, p 98.

4.1.2.1.1.	Drop back of building sector orders	Increasing number of orders by awareness-rising	Professional and informative support for existing organisations and consultants	Professional organisations	Organisations and professionals providing information and consulting services.	2 nd half of year 2013 – 1 st half of year 2014	National and EU sources (dedicated tenders)	Monitoring progress
4.1.2.1.2.			Examine and harmonise operation of current informative and consulting networks	Organisations and professionals providing information and consulting services.	Organisations and professionals providing information and consulting services.	1 st half of year 2014 – 2 nd half of year 2014	National and EU sources (dedicated tenders)	Monitoring progress
4.1.2.1.3.			Awareness-rising by consultations with the public, events	Local governments, local civil organisations	Customers	1 st half of year 2015	National and EU sources (dedicated tenders for local governments and civil organisations)	Monitoring of number of events, preparing a follow-up survey.
4.1.2.1.4			Awareness-rising by media campaign	State-government bodies, EU	Customers	1 st half of year 2015	National and EU sources	Preparing a follow-up survey

4.1.2.2 Tendering system

Simplicity, clarity and transparency are of key importance regarding administration of residential and market stimulating tenders related to energy efficiency improvement of buildings. In accordance with the objectives of EU formal standards, professional aspects shall be thoroughly considered during assessment of the tenders and subsidy schemes. In order to increase the number of successful tenders announced for a wider circle, it is recommended to apply an IT solution aiming to perform formal verification of tenders, whether they correspond to the

requirements (an electronic tender submission for residential tenders has been in place since 2011). Efforts should be made to ensure that supports are continuously available, when invitations to tender are issued.

A special emphasize shall be given to that the tenderer cooperates with a contractor listed in the professional registry and possessing an appropriate company qualification, and also quality criteria shall appear in a more pronounced way in the system of evaluation criteria. In order to ensure cost efficiency, a more strict control of the budget shall be performed in case of high-value tenders, where the supplier or the constructor is selected during a public tendering procedure. In case of complex renovation tenders, improvement of the energy performance category has to be achieved, i.e. the intensity of subsidy shall be proportionate to the saving commitments and savings, which can be ensured. If the conditions are no longer fulfilled, the tendering project is no longer justified to be realised by using support. In case, if renovation consists of partial elements (e.g. replacing of doors and window in the previous year, and an additional insulation is done in the following year), the joint savings of realised and planned investments (that must compulsorily be implemented and declared) will be considered. Further important aspect is that sustainable consumption shall be supported in order to avoid rebound effect (in case of realising saving, the consumption increases). Reduction of environmental impact (carbon footprint, recycling) shall be incorporated within the complex criteria.

Complex building energetic renovations, deep-renovations shall be supported by the tenders; renewable energy sources are to be supported in case of upgraded (energy efficient) properties. It is also justified to support establishing buildings that exceeds energetic specifications. In order to specify necessary modernisation solution, preliminary energy auditing of buildings is inevitable; whereas technical justification has to be considered during evaluation of the proposals. Minimum requirements related to renewable energy have to be also formulated in the call for proposal process.

Costs of measuring the buildings, architectural and mechanical planning have to be transparently recorded, however in order to ensure the implementation; support of these elements is not recommended. In case of non-residential tenders it is recommended to sustain specific support of technical assistance.

Besides the tenders issued for energy efficient improvement of buildings, for building audits, architectural and mechanical planning, it is recommended to develop and operate state-supported schemes for building societies and home-loans aiming to finance developments related to energy efficiency and renewable energy. It is recommended to examine the way how the set of criteria enabling usage of renewable energy sources can more strongly be enforced for supporting of building societies and home-loans and other banking schemes. Supporting loan-schemes, necessary for the private funds is also recommended. Different ESCO (Energy Service COmpany) solutions also belong to this circle and they also should be promoted.

Reforming the tendering and subsidy system as recommended, has a specifically great importance related to preparation for the use of EU multiannual financial framework for the period 2014-2020. It may be advisable to regularly monitor the EU best practices for funding procedures and to examine how they can be applied in Hungary.

4.1.2.2. Tendering system								
Planning			Parties concerned			Realisation		Monitoring
	Problem	Objective	Measure	Key actors	Target groups	Timing	Source ¹⁶	
4.1.2.2.1.	Not appropriate energy performance of the building stock and drop back of building sector orders	More efficient energy consumption and increasing number of orders by tendering/call for proposal possibilities	Monitoring best practices and examining its applicability	Organisations planning, issuing and assessing tenders	Tenderers	2 nd half of year 2013	-	Monitoring progress
4.1.2.2.2.			Reshaping the evaluation criteria, optimising tender invitations	Organisations planning, issuing and assessing tenders	Tenderers	1 st half of year 2014	-	Monitoring progress
4.1.2.2.3.			Futher development of IT solution for formal verification, based on best practices	Organisations planning, issuing and assessing tenders	Tenderers	1 st half of year 2014	-	Monitoring ratio of registered tenderers and submitted tenders

4.1.2.2.4.		More efficient energy consumption and monitoring the number of orders, by supported finances, by ESCO financing	Examining options promoting energy efficiency and usage of renewable energy sources.	State-governmental bodies, commercial banks, ESCO financing	Customers	2 nd half of year 2013	-	Monitoring of total value of schemes corresponding to measures and its ratio to all similar products
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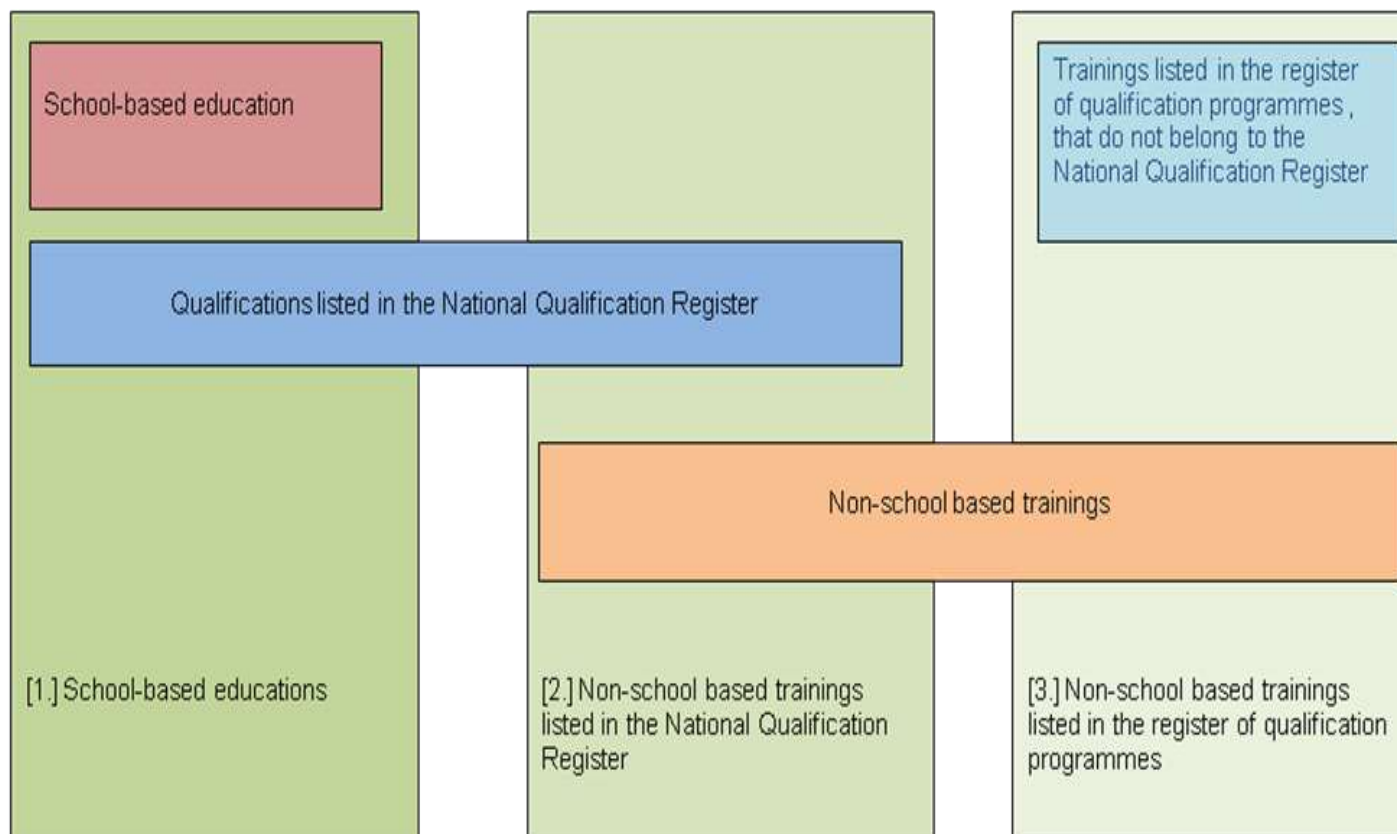
4.2 Educational measures

Hungarian vocational and adult training can be divided into school-based and non-school based education. The school-based trainings are considered as adult education, the non-school based ones are considered as adult trainings. Both are basically secondary-level trainings, however there is a difference in their principles and also government's role is dissimilar. Education within the school-based system is performed based on enrolment, and it is regulated by the public education act, and also by the adult education act. Obtaining the first qualification is free in case if this qualification is listed in the National Qualification Register. Within the non-school adult education system it is possible to train qualifications that are listed in the National Qualification Register, and qualifications that are subject to the adult education act and will be listed in the register of qualification programmes (but not in the National Qualification Register) that will be created by this law.

According to these principles total of three trainings are possible: 1. School-based educations (these are always indicated within the National Qualification Register), 2. Non-school based trainings that are listed in National Qualification Register; and 3. Non-school based trainings listed in the register of qualification programmes. (All the other trainings are market-based, not ruled by the law and are outside the interest of the BUSH project.) Scope of recommended measures are indicated in brackets after the heading of recommendations and also in the 'Scope' column of the tables.

It is important to highlight that mainly those trainings and their determining operational surrounding are focused by the BUSH project that can be adjusted to the objectives of the EU in a rapid and flexible way. These are mainly non-school based adult educations that are subject to the adult education act that is being currently changed and submitted for final voting for the Parliament. The changes recommended in the adult education act basically give response for some problems highlighted within the Status Quo Report of the BUSH project and also promote realising the standard and available trainings in the desired quality.

Simplified figure of Hungarian vocational and adult education and training system



4.2.1 Measures promoting training

4.2.1.1 Promoting cooperation of training institutions and professional organisations

The school-based education performed in the institutions of public education system, and this educational system is being supported and maintained by the government. The non-school based educations are organised by market-based demands and are held in institutions operating on the market. The state's involvement is optional, and provides control by certain legislative frameworks; accordingly the cooperation is not possible to enforce, but interests for cooperation shall be established within the market conditions.

4.2.1.1.1 Establishing partnership between the professional institutions of building sector and adult training institutions (regarding to non-school based trainings listed in the National Qualification Register and non-school based trainings listed in the register of qualification programmes)

In order to harmonise cooperation between the training institutions, the professional organisations of the building sector shall establish partnership with the professional organisations of adult training, first of all with the National Association of Accredited Institutions for Adult Education (AFIOE) and Association of Adult Educators (FSZ), to enable these organisations to intermediate between the professional organisations of the building sector and training institutions active in adult education.

4.2.1.1.2 Establishing partnership between professional organisations of building sector and Klebelsberg Institution Maintenance Centre and also maintenance associations (regarding to school-based educations)

If cooperation with the institutions performing school-based adult education is considered necessary, the cooperation may be established with the Klebelsberg Institution Maintenance Centre in case of state-maintained institutions, while it can be realised with the maintenance associations in case of non-state maintained institutes.

4.2.1.1.3 Establishing partnership between professional organisations of building sector and the Chamber (regarding to school based trainings and non-school based educations, listed in the National Qualification Register)

If mid-term changes related to the professional content of qualifications listed in the National Qualification Register will be considered necessary, this may be realised within the cooperation of the Chamber responsible for the educational and the professional organisations of the industry.

4.2.1.1.4 Establishing educational platform for the building sector (regarding to school based educations, non-school based trainings listed in the National Qualification Register and also non-school based trainings listed in the register of qualification programmes)

Both the professional institutions of the building sector and adult education may cooperate in collecting competences and elaborating the syllabus. It seems to be important to establish a building sector platform that operates with involvement of the professional institutions of the building sector, professional institutions of adult education and other related bodies and authorities. Maintaining organisations - in case of school-based educations; and the Chamber - in case of the qualifications listed in the National Qualification Register – shall also join this platform. Establishing national centres of observation, dealing with labour market and also with analysis of the sectorial education, has been drawn up as a specific measure by the EU Strategy for the sustainable competitiveness of the building sector and its enterprises. This document also mentions examining feasibility of establishing sectoral alliances aiming to improve skills, among vocational education and training institutions, companies and other interested parties.

4.2.1.1.5 Cooperation of educational institutions for adapting training programmes recommended by the BUSH project (regarding to non-school based trainings listed in the register of qualification programmes)

Trainings recommended by the BUSH project will be non-school based trainings listed in the register of qualification programmes. In order to penetrate and widely use these new educational programmes, the training institutions performing education activities recommended by the BUSH project shall cooperate by adapting those educational programmes listed in the register of qualification programmes that are suggested by the BUSH project.

4.2.1.1.6 Cooperation of educational institutions for optimal exploitation of educational infrastructure and technological resources (regarding to school based educations, non-school based trainings listed in the National Qualification register and also non-school based trainings listed in the register of qualification programmes)

In order to fully exploit expected competitive advantages related to school-based and also to non-school-based adult education, it is appropriate to realise cooperation between educational institutions in terms of using optimal exploitation of educational infrastructure and technological resources.

4.2.1.1.7 Developing a common informative interface on the Internet (related to non-school based trainings listed in the register of qualification programmes)

Based on the adult education act that has been submitted for final voting to the Parliament, the register of qualification programmes will be public, i.e. information on authorised, listed educational programmes will become available. However, training institutions shall be encouraged by the professional adult education institutions, to publish information on a common informative interface on the Internet, indicating at least actual starting of trainings recommended by the BUSH project, and their public details, that do not have commercially confidential nature. This

would also serve the interest of the education institutions. This solution may also promote transmission of information between the parties concerned, professional institutions of building sector and of adult training and also between the training institutions and potential participants of educations. A special attention must be given that this common informative interface on the Internet is open on equal terms to all educational institutions and to interested parties.

4.2.1.1. Promoting cooperation of vocational schools and professional institutions									
	Planning			Scope	Parties concerned		Realisation		Monitoring
	Problem	Objective	Measure		Key actors	Target groups	Timing	Source ¹⁶	
4.2.1.1.1.	Demands of professional institutions and companies are not expressed in the building sector trainings.	Demands of professional institutions and companies shall be focused in the building sector trainings.	Establishing partnership between the professional institutions of building sector and adult training institutions	2. 3.	Professional organisations of constructing industry	Adult training professional organisations	2 nd half of year 2013	-	Monitoring progress
4.2.1.1.2.	Demands of professional institutions and companies are not expressed in the building sector trainings.	Demands of professional institutions and companies shall be focused in the building sector trainings.	Establishing partnership between professional organisations of building sector and Klebelsberg Institution Maintenance Centre and also the maintenance associations	1.	Professional organisations of constructing industry	Klebelsberg Institution Maintenance Centre, maintenance associations	2 nd half of year 2013	-	Monitoring progress

4.2.1.1.3.	Demands of professional institutions and companies are not expressed in the building sector trainings.	Demands of professional institutions and companies shall be focused in the building sector trainings.	Establishing partnership between professional organisations of building sector and the Chamber	1. 2.	Professional organisations of constructing industry	Chamber	2 nd half of year 2013	-	Monitoring progress
4.2.1.1.4.	Demands of building sector and trainings of the building sector are not harmonised.	Demands of building sector and trainings of the building sector shall be continuously harmonised.	Establishing a training platform for building sector, operating with the involvement maintenance alliances, and existing professional institutions of adult training.	1. 2. 3.	Members of educational platform for building sector	-	1 st half of year 2014	Financial resources for the tender	Monitoring progress
4.2.1.1.5.	Professional content of accredited adult training is not standardized.	Standardized content of non-school based trainings listed in the register of qualification programmes shall be formed.	Cooperation of training institutions shall be established to adapt training programmes recommended by the BUSH project.	3.	Members of educational platform for building sector	Training institutions	2 nd half of year 2014 – 1 st half of year 2015	-	Monitoring progress

4.2.1.1.6.	Utilization of educational infrastructure is not optimal.	Utilization of educational infrastructure shall be optimised.	Cooperation of training institutions in order to achieve optimal exploitation of educational infrastructure and technological resources.	1. 2. 3.	Members of educational platform for building sector	Training institutions	Continuous from 1 st half of year 2014	-	Monitoring progress
4.2.1.1.7.	It is difficult to obtain information on trainings that will be started	Information on trainings that will be started, shall be easily accessible	Developing a common informative interface on the Internet	3.	Members of educational platform for building sector, Training institutions	Training institutions, Training participants	1 st half of year 2014	-	Monitoring progress

Scope: 1. School-based educations; 2. Non-school based trainings, listed in the National Qualification Register; 3. Non-school based trainings listed in the register of qualification programmes

4.2.1.2 Promoting continuing training of trainers

There is no permanent availability of trainers having most up-to-date knowledge related to the trainings recommended by the BUSH project and to the professions and specialities concerned. The practical training is carried out in two different ways in case of school-based adult educations, as well as of non-school based trainings, listed in the National Qualification Register, firstly, in apprentice workshops, secondly at companies, within the framework of vocational training contracts.

4.2.1.2.1 Transformation of continuing training system of pedagogues (related to non-school based trainings listed in the National Qualification Register)

The practical trainers working in the school-apprentice workshops are pedagogues, so they participate in continuing training of pedagogues. In case of continuing training of pedagogues we recommend that out of the 120 credits to be currently obtained in every seven years, 30 credits of trainings - in accordance with the specialities -, organised by the Chamber of Hungarian Architects and the Hungarian Chamber of Engineers, and shall be accepted.

4.2.1.2.2 Extension of the possibilities and obligations of master licensing exam (related to school-based education and the non-school based trainings listed in the National Qualification Register)

It is stipulated by the Law on Vocational training that as from 2015, each company that performs practical training of students within the framework of vocational training contracts, shall appoint at least one qualified person, whose scope of work includes practical training of students. These qualified persons shall have the master licensing exam specified by the Chamber. Obtaining these licences may be aided by tendering procedures. Whereas existence of master licensing exam in more professions, - thus in professions related to energy efficiency and renewable energy - should accordingly be encouraged; because qualified persons, performing practical training of students, are only required to take master licensing exam in case of those professions where it is possible.

4.2.1.2.3 Examining options of continuing training (related to non-school based trainings listed in the register of qualification programmes)

The requirements concerning the trainers for qualifications, listed in the National Qualification Register equal to those of working in public education. Qualified person having appropriate qualification stated by the programme specification and contracted with the training institution is entitled to perform trainings listed in the register of qualification programmes for non-school based trainings (and not in the National Qualification Register). This activity will be controlled by the competent authority. No stricter rules are expected, because non-school based

adult education is organised on a competitive basis, relevant legislation may only require concluding a contract between the training institution and the recipients. Professional and training administration issues, as well as related financing and tendering opportunities are necessary to be examined in relation to recommended continuing training.

4.2.1.2. Promoting continuing training of trainers									
Planning				Scope	Parties concerned		Realisation		Monitoring
	Problem	Objective	Measure		Key actors	Target groups	Timing	Source ¹⁶	
4.2.1.2.1.	Poor ability of practical expertise in continuing trainings of pedagogues.	Practical expertise of pedagogues shall be made available in continuing trainings.	Transformation of continuing training system of pedagogues	1. 2.	Legislative authority	Relevant trainers	1 st half of year 2014 - 1 st half of year 2016	Budgetary resources (EMMI)	Monitoring progress
4.2.1.2.2.	There are only a few professions, where there are trainers having master licensing exam at companies participating in practical trainings.	There should be more professions, where there are trainers having master licensing exam at companies participating in practical trainings.	Extension of the possibilities and obligations of master licensing exam	1. 2.	Chamber	Relevant trainers	1 st half of year 2014 - 1 st half of year 2016	Budgetary resources, EU resources (TÁMOP)	Monitoring progress
4.2.1.2.3.	Not appropriate continuing trainer-trainings for non-school based trainings listed in the register of qualification programmes	Organizing continuing trainer-trainings for non-school based trainings listed in the register of qualification programmes	Examining opportunities of continuing trainer- trainings	3.	Members of educational platform for building sector,	Relevant trainers	1 st half of year 2014	Possibly budgetary resources, training fees	Monitoring progress

Scope: 1. School-based educations; 2. Non-school based trainings, listed in the National Qualification Register; 3. Non-school based trainings listed in the register of qualification programmes

4.2.1.3 Development of syllabus (related to school-based education, non-school based trainings listed in the National Qualification Register and non-school based trainings listed in the register of qualification programmes)

Current syllabuses used within vocational and adult education and training do not cover in depth knowledge related to importance of energy saving and its tools, improvement of the energy performance of buildings, and also usage of renewable energy, neither it refers to system approach nor its principles. Information on new, up-to-date technologies, materials, new construction methods and its devices are also missing. Revising, updating of basic coursebooks may be necessary. Shorter and more practical syllabuses, relying on the current coursebooks may be developed, which supplement the basic curriculum and let the professionals familiarize themselves with the new up-to-date methods. These additional curriculums can be updated as technology changes. The recommended building sector platform might be capable to define by specialities the content of the basic coursebooks and also of supplementing curriculum, specifically, as specialities are fragmented; it is not possible to carry out development and publishing of the coursebooks, curriculums in a competitive way. Involving related professional organisations, building sector educational platform may be suitable for defining the content of the coursebooks and also supplementing curriculum by specialities, to make decisions related to methodology issues. Cooperation of production and distributor companies is necessary in order to ensure that descriptions of newest technologies and professional developments are incorporated in the training documents.

4.2.1.3. Developing training materials									
Planning				Scope	Parties concerned		Realisation		Monitoring
	Problem	Objective	Measure		Key actors	Target groups	Timing	Source ¹⁶	
4.2.1.3.	Syllabuses with inappropriate and not up-to-date professional approach	Developing syllabuses with appropriate and up-to-date professional approach	Developing up-to-date basic coursebooks and regular updating of curriculum	1. 2. 3.	Members of educational platform for building sector	Training participants	Continuous from 1 st half of year 2014	National and EU resources	Monitoring progress

Scope: 1. School-based educations; 2. Non-school based trainings, listed in the National Qualification Register; 3. Non-school based trainings listed in the register of qualification programmes

4.2.1.4 Promoting practical trainings at companies

Significant financial sources have been granted for technological development of apprentice workshop in the past years. Despite this, it is necessary to improve utilisation of training infrastructure and technological resources as well as their willingness to cooperate in practical trainings.

4.2.1.4.1 Drawing companies' attention for benefits of receiving students (related to school-based education and non-school based trainings listed in the National Qualification Register)

Based on appropriate checklists, the Chamber controls level of available infrastructure of companies carrying out practical training for students within the framework of vocational training contracts, concerning school-based adult education and non-school based qualifications listed in the National Qualification Register. Complying with and ensuring compliance with legislation is of particular importance. To purchase the infrastructure necessary to carry out trainings, there are normative resources available for companies, so receiving students would therefore be in the interest of the companies. Sustaining current system is very important; however it is necessary that professional institutions of building sector and the Chamber draw attention of companies to available resources and advantages of receiving students and also to enable cooperation between the businesses and training institutions, in order to exploit the training infrastructure and technological resources to the optimum extent.

4.2.1.4.2 Supporting adult training institutions in equipping own apprentice workshops (related to non-school based trainings listed in the register of qualification programmes)

Within the BUSH project it is recommended to support institutions participating in adult education by providing asset grants in order to equip their own apprentice workshop. Earlier funds were available in educational funds of the National Employment Fund, and several successful

tenders were submitted for. Professional organisations of building sector must draw attention of adult training institutions to this fact through with the help of the professional institutions of adult training, furthermore, additional funds have to be provided, if possible and necessary. Besides, companies' own technological equipment may be involved in relation to trainings.

4.2.1.4. Promoting practical trainings at companies									
Planning				Scope	Parties concerned		Realisation		Monitoring
	Problem	Objective	Measure		Key actors	Target groups	Timing	Source ¹⁶	
4.2.1.4.1.	Companies are not aware of benefits of accepting students.	Companies shall be aware of benefits of accepting students.	Drawing companies' attention to the benefits of receiving students.	1. 2.	State-government bodies, building sector professional organisations, Chambers	Enterprises	Continuous from 1 st half of year 2014	National Employment Fund	Monitoring opening of practical training capacities by specialities.
4.2.1.4.2.	Adult training institutions are not aware of the asset grants.	Adult training institutions shall be aware of the asset grants.	Drawing the attention of adult training institutions to possible asset grants.	3.	Institutions managing asset grants, building sector professional institutions, professional institutions of adult training		Continuous from 1 st half of year 2014	National Employment Fund	Monitoring opening of practical training capacities by specialities.

Scope: 1. School-based educations; 2. Non-school based trainings, listed in the National Qualification Register; 3. Non-school based trainings listed in the register of qualification programmes

4.2.2 Measures supporting trainings

Career orientation

Particular emphasis shall be given to career orientation also in the building sector. Renewal of career orientation system is being in progress within the frame of Social Renewal Operational Programme 2.2.2. (TÁMOP 2.2.2.); the Hungarian Labour Office is responsible for carrying out

the measures, and the Budapest Chamber of Commerce and Industry acts as its strategic partner. The project has set out the aim of establishing the system of „lifelong guidance” in Hungary.

This high priority project builds upon developments performed by the National Labour Office (and its predecessors) in the field of career orientation, lifelong guidance and service provisioning; aims to renew the toolkit and services of career orientation and also it shall make them available to the public, thus promoting decisions in the world of education and work. Effective career orientation system contributes to improve labour market opportunities of people, increasing adaptability to growth and approximating of the educational system to economic demands. The period of project realisation is: 1st June 2012 – 31st May 2015. Professionals, working in state, civil and also in competitive sector have been involved; the target group is the whole working population. The National Career Orientation Portal¹⁸. has been developed within the frame of the programme.

Scholarship of the vocational trainings

There are several scholarship programmes and supports helping and motivating students to take part in vocational training. Special emphasize shall be given to the training-scholarships and to study contracts that shall be maintained and further developed.

The aim of vocational school scholarship is to provide financial support for those young people who participate in vocational education that comply with the educational demands of the economy. This scholarship can be provided from the financial funds of educational fund of the Labour Market Fund for those students who continue full-time vocational education studies in public educational institution. The list of qualifications required by the economy, details qualifications by region that are difficult to ensure, and are also defined in a separate legislation.

¹⁸www.eletpalya.munka.hu

As the Law on Vocational Education and Training (No. CLXXXVII, 2011) stipulates, students of vocational schools have the opportunity to enter into study contract with an enterprise providing practical training, and during their practical trainings they are entitled to receive those allowances and benefits that are regulated by the legislation.

Supporting and employing young entrants

The First Job Guarantee Programme aims to improve employment possibilities of young people under the age of 25, by promoting obtaining their first job and also ensures obtaining necessary work experience. This programme allows replacement of retiring qualified experts, enabling transfer of extensive experience and professional expertise that were obtained by them during their active career. Workplace Safety Action Plan's programme element related to young people under the age of 25, is well backed up by supporting employment of career starters, ensuring trial opportunity of employment.

Realisation of the programme is not continuous due to the limited resource allocation; therefore further support is required to continuously maintain the programme.

Employers may be supported in the form of wage subsidies, by submitting application to the branches of the employment office, provided that the jobseeker has a school certificate not higher than basic school certificate, or they are entrants, or jobseekers under the age of 25.

4.2.2.1 Supporting measures (related to Non-school based trainings listed in the register of qualification programmes)

Workers are not or seldom enrolled for continuing training due to associated high costs and also lost work time generated by adult trainings. Also relation between development of human capital and efficiency, i.e. better-qualified employees may perform more efficient work – has not been recognised yet mainly by the SMEs. Due to this fact, considering the size of the company, differentiated supports for costs of continuing training shall be provided for the companies or for the employees. The cost of continuing training amounting to a few-hundred-thousand HUF,

and also lost work time shall also be compensated, as a small enterprise might manage this cost only with difficulties. In addition, awareness rising of enterprises and also workers, drawing their attention to the benefits of continuing training provided for their workers and associated supporting possibilities are also considered essential.

4.2.2.1. Supporting measures									
Planning				Scope	Parties concerned		Realisation		Monitoring
	Problem	Objective	Measure		Key actors	Target groups	Timing	Source ¹⁶	
4.2.2.1.	Enterprises and workers are not familiar with benefits of continuing trainings and available supports	Enterprises and workers shall be familiar with benefits of continuing trainings and available supports	Informing enterprises and workers about benefits of continuing trainings and available supports	3.	Professional institutions of building sector, chambers	Companies, workers	Continuous from 1st half of year 2015	National Employment Fund, EU funds (dedicated tenders)	Monitoring of number of workers regularly participating in continuing trainings

Scope: 1. School-based educations; 2. Non-school based trainings, listed in the National Qualification Register; 3. Non-school based trainings recorded in the registry of training programmes

4.2.3 Recommended trainings (related to non-school trainings recorded in the registry of training programmes)

Changes in the structure of building sector professions, shortcomings and disproportion of professional modules and also lack of definite chamber regulation for certain professions have resulted in significant problems.

Publishing the new National Qualification Register and also increasing role of Chambers enabled emergence of stabile professional and organisational bases that may be utilized in case of planned trainings. No further modification, reshaping of the National Qualification Register is aimed, however support shall be given to endeavours supporting a pyramid-shaped education within a given speciality, i.e. participants of trainings in case of simpler activities enter to labour market as soon as possible, e.g. for building engineering professions like piping -, system -,

then equipment installers. All trainings recommended within the BUSH project shall be developed as non-school based trainings listed in the registry of training programmes, based on the National Qualification Register and the structure of professions shall also be maintained. Trainings shall be standardized, as because currently it is possible to start trainings with different contents under similar names.

The concept of the new National Qualification Register is exactly to establish stable basis that enables organising appropriate adult education considering aspects of lifelong learning. In accordance with this concept the BUSH project aims developing and starting trainings that will be possibly listed in the registry of training programme, since these trainings can be managed in a rapid, effective and flexible way. It is important that trainings, while maintaining the professional content are shorter, thus are more inexpensive at the same time. In the survey prepared for the Status Quo Report of the BUSH project, the majority of respondents had indicated trainings of 30-60, or 60-120 hours as for preferred length.

Strategies and legislation for vocational and adult training and education have been detailed in a subsection earlier, mentioning that acceptance of the new adult education law is underway. There is no information yet regarding the exact content and wording of the law to be adopted, however its main objectives are known. The training programmes to be developed in the future shall consider the regulations and toolkit of the new adult education act that is expected to enter into force as of 1st September 2013.

Within the BUSH project all those building sector trainings are concerned that prepare for carrying out activities enabling Hungary to meet its committed objectives of climate and energy policy in association with the EU2020 strategy. Taking measures in the following professions, specialities is justified, based on the Status Quo Report, the questionnaire surveys, the personal interviews, the expert consultations and conferences related to the BUSH project:

- building insulation installer
- door-window installer
- bricklayer
- roofer

- tinsmith
- waterproofing installer
- central heating and plumbing installer
- gas equipment installer
- air conditioning system installer
- HVAC technician
- and also the following specialities in the area of utilising renewable energy sources: solar collector, PV, heat pump systems and biomass boilers

In case of specialities affected by the Directive 2009/28/EC on the promotion of use of energy from renewable sources (solar collector, PV, heat pump systems and biomass boilers) it is recommended to examine the possible introduction of these trainings as part of the certification system (required and recognised by law to work in a particular profession).

Following aspects shall be represented in every training: knowledge related to importance of energy saving and its means, modernisation of energy systems of buildings, use of renewable energy, benefits of environmentally friendly architecture and also importance of control technologies; as well as system approach related to energetics and also knowledge content, related to these principles. Appearance of knowledge contents and skills that enable execution and cooperation of specific professions, specialities during the realisation phase is also considered necessary. This fact is of particular interest in case of executing complex modernisation, implementation processes and also in case of modernisation elements that build on each other.

4.2.3. Recommended trainings									
Planning				Scope	Parties concerned		Realisation		Monitoring
Problem	Objective	Measure	Key actors		Target groups	Timing	Source		
4.2.3.1.	In some specialities continuing training of specialists is not available.	Continuing training, based on earlier ones, shall be available	Developing trainings for certain professions, specialities.	3.	Members of training platform for building sector, training institutions	Participants of education	1 st half of year 2014 – 1 st half of year 2015	BUSH project 2 nd pillar	Monitoring progress
4.2.3.2.			Examination of the need to introduce state recognised certification in certain professions	3	Members of training platform for building sector, training institutions, state participants	Participants of education	1 st half of year 2014	BUSH project 2 nd pillar	Monitoring progress

Scope: 1. School-based educations; 2. Non-school based trainings, listed in the National Qualification Register; 3. Non-school based trainings recorded in the registry of training programmes

4.3 Timing of measures of the Action plan (GANTT chart)

4.1. Building sector measures							
4.1.1. Building sector regulation							
4.1.1.1. Cooperation in the building sector							
4.1.1.1.1.	Examination of opportunities enabling coordination of building sector and connecting areas	2 nd HY 2013					
4.1.1.1.2.	Forming of cooperation between building sector and connecting areas		1 st HY 2014				
4.1.1.1.3.	Designation of competent professional authorities related to certain specialities		1 st HY 2014				
4.1.1.1.4.	Using existing and opening new channels		1 st HY 2014				
4.1.1.1.5.	Providing appropriate information and monitoring changes by professional institutions		1 st HY 2014	Continuous	Continuous	Continuous	Continuous
4.1.1.2. Company registration, qualification, certification mechanism							
4.1.1.2.1.	Examination of opportunities for simplification and reducing number of systems	2 nd HY 2013					
4.1.1.2.2.	Examining justification options for company registration, qualification, certification mechanism by specialities, incorporating the results of review required by Government Regulation No. 1589/2012. (XII. 17.)	2 nd HY 2013					
4.1.2. Awareness-raising, creating needs, stimulating demands in the building sector							
4.1.2.1. Awareness-rising							

4.1.2.1.1.	Providing professional and information support for existing organisations and consultants	2 nd HY 2013	1 st HY 2014				
4.1.2.1.2.	Reviewing and coordinating operation of existing information and consulting network		1 st HY 2014	2 nd HY 2014			
4.1.2.1.3.	Awareness-raising through public consultations and events				1 st HY 2015		
4.1.2.1.4.	Awareness-raising through media campaigns				1 st HY 2015		
4.1.2.2. Tendering system							
4.1.2.2.1.	Monitoring best practices and examining its suitability for use	2 nd HY 2013					
4.1.2.2.2.	Reshaping the evaluation criteria, optimising tender invitations		1 st HY 2014				
4.1.2.2.3.	Further development of IT solution for formal verification, based on best practices		1 st HY 2014				
4.1.2.2.4.	Examining options promoting energy efficiency and usage of renewable energy sources.	2 nd HY 2013					
4.2. Training measures							
4.2.1. Measures promoting trainings							
4.2.1.1. Promoting cooperation of training institutions and professional institutions							
4.2.1.1.1.	Establishing partnership between the professional institutions of building sector and adult training institutions	2 nd HY 2013					
4.2.1.1.2.	Establishing partnership between professional organisations of building sector and Klebelsberg Institution Maintenance Centre and also the maintenance associations	2 nd HY 2013					
4.2.1.1.3.	Establishing partnership between professional organisations of building	2 nd HY 2013					

	sector and the Chamber						
4.2.1.1.4.	Establishing a training platform for building sector, operating with the involvement maintenance alliances, and existing professional institutions of adult training.		1 st HY 2014				
4.2.1.1.5.	Cooperation of education institutions for adapting the training programmes recommended by the BUSH project			2 nd HY 2014	1 st HY 2015		
4.2.1.1.6.	Cooperation of educational institutions for optimal exploitation of educational infrastructure and technological resources		1 st HY 2014	Continuous	Continuous	Continuous	Continuous
4.2.1.1.7.	Developing a common informative interface on the Internet		1 st HY 2014				
4.2.1.2. Promoting advanced training of trainers							
4.2.1.2.1.	Transformation of continuing training system of pedagogues		1 st HY 2014	2 nd HY 2014	1 st HY 2015	2 nd HY 2015	1 st HY 2016
4.2.1.2.2.	Extension of the possibilities and obligations of master licensing exam		1 st HY 2014	2 nd HY 2014	1 st HY 2015	2 nd HY 2015	1 st HY 2016
4.2.1.2.3.	Extension of the possibilities of master licensing exam		1 st HY 2014				
4.2.1.3. Developing training materials							
4.2.1.3.	Developing up-to-date basic course books and regular updating of curriculums		1 st HY 2014	Continuous	Continuous	Continuous	Continuous
4.2.1.4. Promoting practical trainings at companies							
4.2.1.4.1.	Drawing companies' attention to the benefits of receiving students		1 st HY 2014	Continuous	Continuous	Continuous	Continuous
4.2.1.4.2.	Drawing the attention of adult training institutions to possible asset grants		1 st HY 2014	Continuous	Continuous	Continuous	Continuous
4.2.2. Measures supporting trainings							
4.2.2.1. Incentive schemes							

4.2.2.1.	Informing enterprises and workers about benefits of continuing trainings and available supports				1 st HY 2015	Continuous	Continuous
4.2.3. Recommended trainings							
4.2.3.1.	Developing trainings for certain professions, specialities		1 st HY 2014	2 nd HY 2014	1 st HY 2015		
4.2.3.2.	Examination of the need to introduce state recognised certification in certain professions		1 st HY 2014				

5. Monitoring

Realisation of objectives and measures of the Action plan shall be monitored yearly by the partner organisations of the BUSH consortium, and also by the organisations participating in the second pillar of the BUSH project

6. References

Status Quo Report on training capabilities and demands related to the Hungarian energy efficiency of buildings and usage of renewable energy. 2012 <http://www.bush.hu/helyzetelemzes/>

EU Documents

1. Decision No 1720/2006/EC of the European Parliament And Of The Council of 15 November 2006 establishing an action programme in the field of lifelong learning
2. Recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework (EQF) for lifelong learning
3. Directive 2009/28/EC on the promotion of the use of energy from renewable sources (23 April 2009)
4. Directive 2010/31/EU on the energy performance of buildings (19 May 2010)
5. Directive 2012/27/EU on energy efficiency (25 October 2012).
6. EU Strategy for the sustainable competitiveness of the construction industry and its enterprises COM (2012) 433

Documents of national policies

7. Strategy of the Government of Hungarian Republic on the lifelong learning (September 2005)
8. New Széchenyi Plan - Green economy development programme
9. National Energy strategy 2030
10. Action Plan for National Utilisation of Renewable Energy
11. 2nd National Energy Efficiency Action Plan of Hungary until 2016, with an outlook until 2020

12. National Strategy of Energy Performance of Buildings

Hungarian legislation

13. Government Regulation No. 2069./2008. (VI. 6.) on joining the European Qualifications Framework and formation of the National Qualification Register;
14. Government Regulation. No 176/2008. (VI. 30.) on the certification of the energy performance of buildings
15. Law on vocational training No CLXXXVII./ 2011.
16. Government regulation No. 150/2012. (VII. 6.) on the National Qualification Register and on the Amendment of the procedures of the National Qualification Register
17. Government Regulation No. 1229/2012. (VII. 6.) on the tasks related to the introduction of the National Qualification Register and on the Amendment of the Government Regulation No. 1004/2011. (I. 14.) on the formation and introduction of the National Qualification Register
18. Government regulation No. 217/2012. (VIII. 9.) (regulation for modules) on professional requirement modules of state-recognised qualifications
19. The 27/2012. (VIII. 27.) regulation of Ministry of National Economy on 'professional and examination requirements of professional qualifications' (SzVK regulation) establishes appropriate interface between these two government regulations.

1. Appendix: Platform members and organisations/institutions contributing to the development of the Action plan prepared in the framework of the BUSH project (The organisations listed below have contributed to forming the professional content of the Roadmap – among others – during the round table discussions)

Name of the organisation, institution
Arany János Technical College and Vocational School
Békéscsabai Central Vocational School and Student Dormitory
Budapest University of Technology and Economics, Faculty of Architecture, Department of Building Constructions, Budapest
Building Engineering and EE Cluster in South-Transdanubian region
Energiaklub Climate Policy Institute Applied Communications
The Hungarian Scientific Society of Energy Economics
The National Federation of Hungarian Contractors
Sustainable Home Plc.
Association of Cooling and Air-conditioning Companies
National Association of Housing Cooperatives and Condominiums
Hungarian Coordination Association for Building Engineering
Hungarian Heat Pump Association
Federation of Hungarian Real Estate Associations
Hungarian Passive House Association
Ministry of National Economy
Ministry of National Development
Simonyi Károly Technical and Vocational School
Századvég Economic Research Ltd.
Szeged Vocational and Primary School of Crafts and Services
Szent István University
Vörösmarty Mihály Vocational School