



BUILD2LC Project
**Boosting Low Carbon Innovative Building
Rehabilitation in European Regions**

Topic Report on:
New energy culture, citizen
involvement and energy poverty

The topic report is a communication action for the general public, to show the main conclusions and results of the events being held with stakeholders in relation with BUILD2LC topics.

Gloucester, 30th September 2017

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1 Foreword

Dr Harriet Thomson, Project Manager, European Energy Poverty Observatory (Manchester University)



The concepts of ‘fuel poverty’ and ‘energy poverty’ are not new, having been discussed by European Union policymakers since at least 2001. Despite this, policy responses have been fragmented and often inadequate, due mainly to the European Commission’s opposition to defining and measuring the issue. Since 2014, however, we have seen a fundamental shift in the Commission’s attitude to energy poverty, prompting changes to how the issue is viewed at the national level.

The Commission has recently funded a new flagship European Energy Poverty Observatory (EPOV)¹, led by Dr Harriet Thomson and Professor Stefan Bouzarovski, along with a broader pan-European consortium of partners and associates. Efforts are now focussed on incorporating new energy poverty requirements within European energy policy, as reflected by the recent Energy Union and Clean Energy policy proposals. The EPOV project is led by the University of Manchester, and aims to bring about transformational change in the availability of information about energy poverty in Europe, along with improved networking and knowledge transfer.

International events, such as the Build2LC seminar on ‘New energy culture, citizen involvement and energy poverty’, are an essential piece in the puzzle of addressing energy poverty, acting as a catalyst for the sharing of good practices, exploring common challenges, and developing new collaborations. I look forward to continued collaboration with the Build2LC team, and their future project outputs.

Mr Joaquín Villar, Lead Partner, Andalusian Energy Agency



One of the key elements in promoting the sustainable construction sector in Europe is the **awareness of society** (not only citizenship, but also the business sector) in the need to develop actions aimed at improving the use of resources and energy efficiency in its facilities and buildings. Citizens and neighbourhoods are the **main actors** in the action of change towards the rehabilitation, conservation and energetic improvement of buildings and cities.

¹ <http://www.mui.manchester.ac.uk/research/projects/euro-energy-poverty-observatory/>

Twitter: @EPOV_EU

In terms of business, the immediate benefits associated with this process are the reduction in energy use, which translates into positive effects for efficiency by releasing resources that can be used for other economic activities, reduce the investments related to energy supply, reduce production costs and, consequently, **improve competitiveness**. To do this, it is necessary to implement specific actions for each of the productive sectors, aimed at achieving a change of culture towards energy efficiency in companies, and to promote a specific fund offer to finance these investments with a longer return period, to meet the energy and emission targets set in the EU.

With regard to the residential buildings, taking into account the need to adapt Directive 2012/27/EU on energy efficiency, and considering the final energy consumption of buildings, as well as the aging of an important percentage of the buildings in Europe, it is necessary to act on its **comfort conditions, with criteria of energy efficiency**.

Likewise, the housing and rehabilitation policy must respond to the needs that derive from the population sector with fewer resources and at risk of social exclusion. Promoting social inclusion and **combating inequalities and poverty that affect these communities** necessarily involves betting on the physical, social, economic and environmental regeneration of their residence environment.

Therefore, placing the citizen at the centre of the demand, paying special attention to the vulnerable groups, becomes one of the **essential objectives of the BUILD2LC project** in which we will share cases of success with the other regions participating in the project to be implemented in our own region.



Mr. Mike Brain, CEO, Severn Wye Energy Agency

Severn Wye Energy Agency is delighted to be part of the Build2LC project: its multi-faceted approach brings local stakeholders together to build efficient and effective partnerships across sectors. In Gloucestershire, we are fortunate to have the support of the Clinical Commissioning Group which has enabled us to successfully link domestic retrofit, energy efficiency advice, with health.

Collaboration between public bodies has allowed the Warm & Well programme to grow from strength to strength. Alongside many other actions, Build2LC in the UK will support further development of referral mechanisms and awareness raising measures. This will not only increase the uptake of domestic retrofit and stimulate economic growth but will increase the engagement of citizens, particularly those with health conditions, and wider stakeholders in energy efficiency.

Severn Wye Energy Agency were pleased to host the inter-regional “new energy culture, citizen involvement and energy poverty” seminar in Gloucester and are looking forward to sharing experiences with partners during bi-lateral meetings.

2 Introduction to the topic: new energy culture, citizen involvement and energy poverty

The main objective of the BUILD2LC project is **to increase the energy rehabilitation of buildings enhancing the implementation and change of policies**. The project is focused on four different topics:

- New financial instruments
- Professionalization of the construction sector
- Activation of demand and combating energy poverty
- Innovation

BUILD2LC addresses the topic *activation of demand and combating energy poverty* focusing on: the development of policies, strategies and mechanisms to reduce energy poverty, engage citizens in energy efficiency behaviours and retrofit; and activate demand in the sector.

Across the seven regions involved in BUILD2LC project, the focus is almost exclusively on improving energy efficiency and reducing carbon emissions. However, some member states also have an emphasis on the links between energy poverty and health. Developing a connection and balancing the priorities, across both social and environmental aspects can have a number of benefits. Some decision-makers deprioritise environmental concerns during times of austerity in the face of imminent social and economic concerns: if the social and economic benefits of retrofit, particularly for vulnerable citizens, can be clearly proven then sceptical decision and policy makers are more likely to engage, thus actions will also have direct environmental benefits.

It is now clear that fuel poverty is recognised within the EU and the establishment of the European Energy Poverty Observatory (EPOV) in 2017, supports the need for energy poverty to be tackled across member states. Although awareness has been raised at an EU commission level, there is inconsistency across member states in terms of recognising fuel poverty, accurately identifying vulnerable consumers, and implementing measures that will not only support carbon reduction targets but are clearly focused on improving the social and economic circumstances of citizens. With almost 11% (an estimated 54 million people in 2012) of the EU's population unable to adequately heat their homes at an affordable cost², it is important to share good practice with a view to improving the quality of life and economic circumstances of vulnerable citizens.

² <https://ec.europa.eu/energy/en/news/energy-poverty-may-affect-nearly-11-eu-population>

With clearer definitions and a common understanding of: energy poverty; vulnerable consumers; and the intrinsic links between health, housing, the economy, and the environment, national and regional governments can create comprehensive delivery mechanisms which can have multi-faceted positive outcomes. In order to achieve this, strong partnership working is essential, for example, working across municipalities to support a not-for-profit organisation to provide advice, support, and retrofit.

As the seminar reveals, research has shown that energy poverty has an effect on the health of citizens with significant detrimental effects on those with respiratory and cardio-vascular conditions: children and the elderly are also at greater risk and excess winter deaths can be significant. However, many are unaware of the specific situations in their own nations and the ‘hidden’ energy poor. Alternatively, it can be a challenge to find reliable data at a national level and studies such as: *Rethinking the measurement of energy poverty in Europe: A critical analysis of indicators and data (Thomson et al, 2017)*³ critically assess current available statistical datasets and provide recommendations for development.

In order to present a reasoned case to health-related agencies that investing in energy efficiency domestic retrofit is economically and socially viable, evidence showing a negative impact of energy poverty on health will not suffice. This needs to be supported by data showing that retrofit can directly improve health conditions in order to secure investment. There is an emerging bank of evidence supporting this relationship including systematic reviews. William Baker, Citizen’s Advice, seminar presentation summarises a range of studies to support partners and stakeholders in endeavours to connect, or build on relationships, with health agencies.

However much decision-makers, partners and stakeholders are convinced that energy retrofit would provide direct benefits to residents as well as wider benefits, perhaps the greatest challenge is engaging citizens and activating the market. This can be particularly challenging when mechanisms have failed in the past as ‘trust’, in both people and the mechanism, is one of the key elements to successful engagement. Conversely, where projects have developed into programmes and have been able to learn from previous experience, engagement is more successful. A good example of this is the multi-apartment block retrofit programme in Lithuania.

In all projects, the links between the other key aspects of Build2LC are intertwined with activating demand and engaging citizens, for example:

- Successful *financial mechanisms* need to be in place to stimulate demand. If these can be tailored to support vulnerable consumers, there should be a positive impact on energy poverty.
- The *construction workers and installers implementing retrofit must be skilled* and understand the nature and needs of the customer. If this is not the case then errors can be made, such as installing cavity wall insulation but not accounting for

³ <http://journals.sagepub.com/doi/abs/10.1177/1420326X17699260>

moisture concerns. This will ultimately cause more problems and reduce trust in the systems. Furthermore, if demand has been activated, there needs to be a ready pool of skilled and trained workers to deliver, otherwise the project cannot succeed.

- All aspects of *innovation*, whether technological, financial, or the development of mechanisms, stimulate activity and engagement across sectors.

The *new energy culture, citizen involvement and energy poverty seminar* held in June 2017, explores all of these challenges. The seminar shares experiences, data, lessons learned, and good practice examples, to inform the practice of partners and stakeholders in their own nations.



3 Interregional Seminar in Gloucester, UK

The final BUILD2LC Interregional Seminar titled ‘*new energy culture, citizen involvement and energy poverty*’ was held in Gloucester on 13th - 14th June 2017 in accordance with the agenda shown in *Appendix 8.1*. The Seminar attracted 64 delegates and speakers including Build2LC partners and their stakeholders.



This section summarises the key outcomes of the seminar.

3.1 Summary of Session I - Welcome

Mike Brain, CEO, Severn Wye Energy Agency and **Joaquín Villar, Lead Partner, Andalusian Energy Agency** opened the seminar. They explained the value of the Build to Low Carbon project, as outlined in the Foreword and welcomed the delegates.

Mike Brain outlined the important role key stakeholders have to play in Build2LC in the UK, including Gloucestershire Clinical Commissioning Group who are match-funding the project and also Stroud District Council. Mr Brain also drew attention to the fact that the South-West of the UK has the second highest proportion of people in fuel poverty in England; therefore the work of Build to Low Carbon is vitally important in improving health outcomes.

Joaquín Villar summarised the Build to Low Carbon project and the four key themes for the purpose of delegates who were unfamiliar with the details of the project. Mr Villar introduced the theme of the next meeting in Sweden which focuses on innovation. The

importance of sharing good practice and supporting partners who have to implement good practices was stressed to all in attendance.

Mr Villar also explained how the Build2LC project and the event were also important in terms of supporting the pilot project at European level on Sustainable Construction.

3.2 Summary of Session II - Health and Energy Poverty in an EU context

Dr Harriet Thomson, Project Manager, European Energy Poverty Observatory, gave the keynote speech titled: *The health and well-being impacts of energy poverty across 32 countries*.



Dr Thomson explained that energy poverty is multifaceted and that the terms 'fuel poverty' and 'energy poverty' are interchangeable. The history of energy poverty was outlined showing that 2003 was the first time that domestic customers were first really recognised. It was only in 2009 that any legal requirement to tackle energy poverty was introduced: action really began in 2015.

In the UK, the definition of energy poverty has changed: countries such as, France and Slovakia also have definitions and other member states are developing legal definitions. There is no official definition across Europe as yet, although one has been proposed. This can pose a challenge, particularly as the relevant data is not always available. Therefore, other data needs to be used and it is tricky to benchmark using data that is inconsistent and collected at different times. The EU Survey on Income and Living Conditions (SILC) is quite commonly used. Three other common sources of data include:

- *Household Budget Survey (HBS)*
- *European Quality of Life Survey (EQLS)*
- *Eurobarometer*

Dr Thompson explained that her doctorate focused on measuring energy poverty across the EU. Three proxy indicators were used: the ability to afford to keep the home warm; whether the property had a leaking roof, damp, and/or rot in the home; and whether there were arrears on utility bills in the last 12 months.

The resulting data was used to create a ranked dataset showing which countries were most or least at risk. Areas shown to be at most risk included: Bulgaria, Cyprus, Latvia, Romania, Portugal, and Slovenia. However the reasons areas were at risk varied considerably. For example, in Southern Europe there has been challenging macroeconomic circumstances and prolonged fiscal austerity, or a high need for

cooling. Fiscal austerity is also an issue in Central and Eastern Europe in countries such as Bulgaria: this has had a big impact on housing stocks.

The EVALUATE project looks at the drivers causing urban energy poverty in four countries, including Poland. A wide range of data was used at a range of levels; initial findings showed that cooling is a serious issue. Some households are moving away from traditional fuels and using wood or even old books as a coping mechanism. The 'vulnerable' people may also vary and include short term residents; highly educated households in expensive housing; or working age families. Current measures to tackle energy poverty often focus on elderly, but more efforts should be made to tackle these additional groups. More information about the EVALUATE project and methodologies can be found at: <https://urban-energy.org/outputs/>

Dr Thompson continued, explaining that there are a range of health impacts resulting from energy poverty including increased likelihood of heart disease and strokes, and poorer well-being due to stress and social isolation. Recent research based on self-reported health issues shows that there is a big difference in self-reported health issues depending on levels of energy poverty, especially in Slovenia, the Netherlands, and Sweden. A similar pattern was found for mental health issues: researchers need to use a broader dataset to find out more.

Examples of issues in countries such as Slovenia and Sweden were provided. A photograph exhibition to demonstrate problems was created for a conference in Brussels and examples from Sweden were shown to delegates. Photographs highlighted that many people have emergency kits in anticipation of the frequent power cuts - 32 in one month for one village. It was stressed that it is not always the people you expect in fuel poverty.

Dr Thompson introduced the new European Energy Poverty Observatory (EPOV) and its key objectives, including improving transparency and disseminating information, and organising outreach work. Delegates were invited to join the mailing list: sign up on <https://goo.gl/SLFuVe>. Also follow EPOV on Twitter: @EPOV_EU

3.3 Summary of Session III - The impact of energy poverty on health and citizen involvement in the UK



Barry Wyatt, Strategic Head (Development Services), Stroud District Council delivered a presentation titled: *Causes of energy poverty and the impact of policy on citizen involvement.*

Mr Wyatt set Gloucestershire, UK, in context, explaining that it is made up of six district councils. The county experiences slightly higher population growth than the national average, particularly in the aged 65+ group. There is also a great range

of housing types. 10.6% of households in the UK are in energy poverty and this has been rising. Although Cotswold district has the highest percentage of homes in energy poverty (14.5%), Cheltenham district has the highest number within the county at 6013.

The causes of energy poverty were presented: data shows that homes in rural areas which are solid wall construction and off gas have the highest levels of energy poverty. Higher energy costs are also a key contributor in the UK; this can be due to the use of prepayment meters or being in debt to energy suppliers. The continuing rise in housing costs increases pressure on low income households. Also, if households have low numbers of income generators, such as single parent families, rates of energy poverty are higher. Changes to benefit schemes can indirectly cause energy poverty, for instance, the introduction of under-occupancy charges or reforms to disability benefits.

Mr Wyatt explained the impact of national policy on citizen involvement. Changes in building regulations including, Passivhaus and EPCs, increases uptake. Local authorities also have the opportunity to serve notices if a house is not up to standard which again should increase stakeholder and resident involvement. Mr Wyatt proposed that there should be more focus on improving existing stock; much of the current policy focuses on new build in the UK.

There are a range of other national policies, including the Energy Company Obligation (ECO). The first phase of ECO engaged particularly well in Wales and Scotland where there was more local funding to support greater engagement. However, there were some issues in terms of the quality of installations across the UK and this is something that is being addressed. The more recent, ECO2 and ECOt2 have greater focus on identifying those in energy poverty rather than just carbon saving. There is also an opportunity within ECOt2 for local authorities to establish their own criteria for selecting appropriate households. This can help to engage local stakeholders and, as the measure is more targeted and appropriate, citizens will engage more readily as there is likely to be greater trust.

The Green Deal mechanism was very poor and there are many lessons learnt. Where there have been mechanisms that have not gone well, these lessons should be considered when establishing new policy, otherwise engagement will be low. In the case of Green Deal, 'trust' was lost and the financial set-up meant that engagement was low.

Mr Wyatt explained that making the link between cost, health and housing is really important. These are the three legs of the stool and mechanisms should consider all three during mechanism development and determining methods of engagement.

More locally, there have been a range of schemes which have worked well. The WISE (Well Insulated Sustainable Energy) homes grants were excellent but the money ran out. Other schemes struggled because of budget pressures, rising interest rates, or people being sceptical if something is 'free'. However, Warm and Well has worked really well, making over £30 million of improvements. Warm & Well meets all the legs

of the stool; it works well because it is a trusted, independent brand, uses trusted installers and excellent partnerships.

Mr Wyatt offered key pieces of advice when establishing policy and mechanisms as well as engaging citizens. In terms of reducing the causes: a well-thought out and simple solution for funders and energy suppliers helps engagement of both stakeholder and citizens; successes should be celebrated by opening up homes to the wider community; and good sign posting is crucial. Clearly, filtering financial assistance for physical improvements is important, especially to those at most risk.

To maximise impact, Mr Wyatt suggested that stakeholders should be prepared for short term support programmes. Also, 'knowledge is power' and 'capacity is King': knowing where the need is, and having the capacity to engage with potential client groups, is crucial. Finally, by focusing on the link between cost, health and housing, not only allows policy makers and organisations to develop mechanisms that can have impact, but allows decision-makers to adopt a different approach to citizens and stakeholders depending on what is considered most important or influential to the person.

Mary Morgan, Lead Commissioner for Older People, NHS Gloucestershire Clinical Commissioning Group and Gloucestershire County Council, presents: *The impact of energy poverty on health and social care in the UK.*



Mrs Morgan suggested that, in health, we have ignored the fact that the environment people live in is important. If we ignore this, then we do so at our peril as there is a significant cost to people and the health service. We also need to consider that there are varying levels of multiple deprivation and tackling deprivation is just as important as putting money into hospitals.

Within Gloucestershire, the Cotswold district is seen as a rich and affluent area, but there is quite a lot of rural poverty and these people will have significant health concerns; the NHS has to be efficient and look to prevent, as well as react. Social isolation and frailty is a key concern, particularly in the Cotswold district, and it is important to engage with local communities and work in partnership: it is no one group's responsibility.

The National Institute for Health and Care Excellence (NICE) shows that there is a clear link between temperature and deaths. Although we usually consider Excess Winter Deaths, it is becoming increasingly evident that heatwaves are also becoming a concern as well as the cold during winter months. Data also shows that costs to the

National Health Service (NHS) can be reduced with investment in homes with Category 1⁴ hazards.

Mrs Morgan stressed the importance of having up-to-date data, both quantitative and qualitative, not only to demonstrate the problem but also to show the outcomes, including on health. This should be considered before any mechanism is implemented.

Gloucestershire has a higher proportion of Excess Winter Deaths than the UK average. Poor housing causes health issues, including poor mental health and respiratory issues. The aim, particularly for the elderly, is to keep people living at home for longer. The NHS has become highly specialised but that does not work when there are multiple issues: we need to look at things more holistically. Mrs Morgan also stressed that there will be an increase in the number of people with dementia and their needs will need to be met: it is important to give people what they want and need and not impose actions on people.

About 20 years ago health and social care were split and work is happening to readdress this by making more community connections, hence, the voluntary sector, integrated teams, housing, and positive risk taking, are important. Housing has not had the focus it needs to at a local level. The NHS like to 'make people dependent' but there is a move away from this now and helping people to be safer and healthier at home rather than in a care home is a greater priority. We are working hard to change the culture including the use of campaigns such as: 'My name is Pat. I am more than a condition'.

The link (<https://www.youtube.com/watch?v=I0TVbhHdg4A>) to 'Mrs Andrew's Story-What went wrong?' shows the impact of admitting someone to hospital when it is not needed. Another film (<https://www.youtube.com/watch?v=QvwwEPDA7Yg>) called 'Risking Happiness' is another way to engage professionals in the importance of letting individuals make decisions about their own needs. These are both effective ways to engage stakeholders.

The Better Care Fund (BCF) finances integrated services and has 6 key aims, for example, reducing the number of people going into care homes or reducing the number of people being readmitted to hospital within 91 days. The link between poor housing and health outcomes is a focus of the Gloucestershire BCF plan over the next two years. There is a partnership between the local authorities, county councils, and health, to develop a Joint Housing Action Plan. This includes supporting the Warm and Well Programme and providing Housing Information and Advice as well as Strategic Planning and Commissioning: the non-injurious falls pick up service is a good example of partnership working with the Fire Service.

⁴ If a hazard is a serious and immediate risk to a person's health and safety, this is known as a Category 1 hazard.

In terms of Warm and Well, the Clinical Commissioning Group is increasing financial support and the focus is now on improving data collection to directly demonstrate the positive impacts on health. There are also going to be greater links with Citizens Advice in order to increase referrals to the Warm and Well programme and make sure that people with respiratory issues are targeted.



William Baker, Head of Fuel Poverty, Citizens Advice, delivered a presentation titled: *Evidence: Providing the evidence that retrofit can have positive impacts on health.*

Mr Baker introduced Citizens Advice which offers free, impartial advice through over 330 offices across the UK. He continued, explaining that there is now plenty of evidence demonstrating the impact of poor energy efficiency on health. Mr Baker recommends reading the Marmot Review⁵ as a good starting point. Although there is evidence to show the impact energy poverty on health, there is less evidence to

show that making improvements improves health.

However, Mr Baker explained that if you are aiming to prove the link between retrofit and health, then systematic reviews are available. The Cochrane Review (2013)⁶ is an internationally recognised review and is important. This Thomson H *et al.* review did show that there was a positive impact of retrofit, particularly for those with respiratory problems. There were also benefits in terms of useable space and mental health. Milner & Wilkinson (2016)⁷, again showed a positive impact and very particularly for children with asthma.

Maidment CD *et al.* (2013)⁸ was a metaanalysis. This research showed that there was a small but significant impact on improving health, especially for people with existing illness and children.

More locally, the 'Warm Homes Oldham' evaluation (2016)⁹ is a very important study by Sheffield Hallam University. The project concluded that retrofit had a positive impact

⁵<http://www.instituteofhealthequity.org/resources-reports/fair-society-healthy-lives-the-marmot-review>

⁶<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD008657.pub2/abstract>

⁷

https://www.researchgate.net/publication/311432523_Accepted_Manuscript_Effects_of_home_energy_efficiency_and_heating_interventions_on_cold-related_health

⁸<http://www.sciencedirect.com/science/article/pii/S030142151301077X>

on health for 60% of people with physical health problems. A monetary value was also found using the Quality Adjusted Life Years with savings of £400,000-£793,000 following £250,000 investment.

The evaluation of the Welsh Government's Warm Homes NEST Scheme involved matching data with health records and a controlled assessment. The project also measured health in the winter before and after installation. The results showed clear statistical evidence of improvement but also showed the importance of planning good data collection methods before projects begin.

The former Department of Energy and Climate Change (DECC) commissioned University College London and London School of Tropical Medicine (2014) to create the Health Impacts of Domestic Energy Efficiency Measures (HIDEEM) model¹⁰ using Quality Adjusted Life Years (QALY) and Net Present Value (NPV). The government now use this method to assess impacts of programmes on health. For example, the health benefits from the Energy Company Obligation (ECO) are valued at £125 million and those for the new Private Rental Sector Regulations will be £400 million.

Mr Baker outlined the Citizens Advice Winter Resilience Project¹¹ and the planned evaluation processes. The project aims to provide a single point of contact for health and housing referrals for people living in cold homes; they also provide a tailored service. The project is quite local but has thought carefully, in advance, about how to evaluate the project. There are two methods of evaluation, one internal method and one external; co-ordinated by the Centre for Sustainable Energy (CSE).

A wide range of information is being collected for the Winter Resilience Project and Citizens Advice is keen to use validated tools for evaluation including the ONS well-being survey: the ONS well-being survey is less intrusive than other tools. EQ-5D-5L shows a physical health measure and is also being used.

Initial project results show that those accessing the service show a high number of visits to doctors, high anxiety and poor mental health before support is put in place. For more information about the project, Mr Baker can be contacted at: william.baker@citizensadvice.org.uk

⁹ <https://www4.shu.ac.uk/research/cresr/sites/shu.ac.uk/files/warm-homes-oldham-evaluation-final-report.pdf>

¹⁰ <http://www.ucl.ac.uk/energy-models/models/hideem>

¹¹ <https://blogs.citizensadvice.org.uk/blog/winter-resilience-programme-support-for-vulnerable-people-living-in-cold-homes/>



3.4 Summary of Session IV – How to successfully engage citizens



Gvidas Dargužas, CEO, VIPA delivered a presentation titled: *Engaging citizens and lessons learnt in Lithuania.*

Mr Dargužas introduced the Lithuanian context where emissions from households and transport combine to create the largest share of energy use; these sectors have the potential to achieve savings of 50%.

Household emissions are high because about 76% of the population lives in multi-apartment blocks which were built in the Soviet era: this equate to approximately 35,000 buildings. There was little attention to energy efficiency and the buildings are now old and are in poor condition: satisfaction with living conditions is also low.

Lithuania introduced a multi-apartment block retrofit programme in 2004 which introduced government grants for:

- Windows to be sealed or double glazed
- External and roof insulation
- Replacement doors

- Improved heating distribution

This was an expensive programme with low demand because citizens needed to take a loan; this was feared by citizens and some households were not eligible because their incomes were too low. As a result, this programme ended 2009.

However, in 2013 the programme was replaced with a subsidised loan at a fixed interest rate of 3% for 20 years with grace periods. There was no initial contribution or guarantees required. An investment plan was developed and measures were installed. Although an improvement on the 2004 programme, the 2013 programme was not completely successful; the municipalities who decided to participate were directly involved in the implementation so the project did not extend far enough. Also the buildings selected were the worst performing, and the appointed administrators borrowed on behalf of the apartment owners, so the loan became directly associated with the apartment not the owner.

Further changes were made: the ‘incentive’ for citizens to participate was given in the form of a ‘stick’ - if citizens did not engage then the usual statutory compensations on heating would be withdrawn which would represent up to 50% of the heating cost.

A number of lessons were learnt from the process. These include:

- A need for legal assurance.
- Although the Renovation Programme is quite successful among apartment owners, the state budget resources allocated to the program are limited.
- It is a ‘carrot and stick’ game: potential cuts to benefits were enforced if low income citizens did not engage.
- The establishment of a strong central competence (HESA) centre was helpful, as the renovation process can be very complex, requiring various tools and management.
- Working closely with municipalities and involving them in the housing renovation programs, including project selection and managing of municipal building renovation programs by professional administrators, is fundamental.

Mr Dargužas provided project examples illustrating the measures used and savings achieved. In Lithuania they now plan to organise quarterly renovation programmes which include the wider aspects of the municipality, such as street lighting.

Slavica Robic, Programme Director, Society for Sustainable Development Design (DOOR), presented on: *Engaging citizens in Energy Poverty in Croatia.*

DOOR has undertaken focused work to engage citizens and has helped to change policy in Croatia. Ms Robic explained that decision makers often grasp the concepts but they do not always have the evidence or a real understanding of the citizen’s experiences. When people say that decision makers



are not in touch with reality, it is often because they don't have access to the right information or an ability to 'see' the real situation: DOOR aim to present this information and real life experiences to decision makers.

To engage citizens, DOOR needed to collect evidence; volunteers were used to help collect the data. The first step to engaging citizens and stakeholders was to present the evidence collected. This included using the press, round tables, conferences, and so forth. As a result, there are more policies: they are not necessarily perfect but it is a start.

One challenge was getting people to be filmed but strong relationships (e.g. the daughter was a volunteer) helped to get one citizen in energy poverty to speak. Ms Robic showed two videos¹² to demonstrate how the projects worked and how volunteers were used.

Ms Robic stressed the importance of writing professional and well-pitched press releases and creating high quality videos containing examples to influence policymakers.

Ms Robic demonstrated the extent of energy poverty in Croatia. For example, those in energy poverty are using more than the national average amount of energy, despite the low income. This is due to factors including: high draughts, poor insulation, inefficient appliances and high mould levels. Bizarrely, happiness does not seem to be affected but physical health is. Examples of the reality of the situation for individuals were provided. Interestingly issues with administrative problems were raised; these can cause indirect issues to citizens. Ms Robic concluded by emphasising that engaging policy makers is not just about getting money, it's about education and raising awareness.



Hannah Gorf, Implementation Support Manager, Gloucestershire Clinical Commissioning Group, introduced *Social Prescribing* to delegates.

Ms Gorf began by explaining that health is not just about having a lack of disease or infirmity but about being socially, physically and mentally well. Therefore, it is important to move towards more preventative work rather than being reactionary.

Social Prescribing came about as although general practitioners¹³ (GPs) could cover psychological and physical

¹² <https://www.youtube.com/watch?v=mmXm8H0cMhE&feature=youtu.be> and <https://www.youtube.com/watch?v=gSVT4eNtvd8&feature=youtu.be&t=19>

¹³ General Practitioners (GPs) are 'local doctors' in the UK.

care, they could not support social care. In Gloucestershire, there are over 2500 voluntary and community groups which we are lucky to have. By linking with these organisations, social prescribing can help tackle the issues raised in the Marmot Review and support the focus on preventative care and a more holistic approach.

Social Prescribing involves GPs referring patients with potential social care issues to Social Prescribing Co-ordinators who will then refer patients to support agencies or programmes such as Warm and Well. A good example of this would be a patient presenting with respiratory problems which are exacerbated by living in a damp home. A referral to Warm & Well could reduce visits to the doctor and improve the health of the patient.

Referrals through Social Prescribing Co-ordinators can be made to community based services, including local authorities and voluntary and community groups. The Social Prescribing relationship is really important in gaining the trust of patients so they access grants and services.

A wide range of issues are faced within Gloucestershire and many of these problems interlink. It is hard for GPs to get to the bottom of a problem in 10 minutes and it is important to put the priorities and needs of the patient first. Social Prescribing Co-ordinators work consistently with the same GPs and know the areas really well, including the names of agencies and email addresses of specific contacts. The Social Prescribing Co-ordinators can also spend longer with the patient and visit it in their home conduct home visits.

Ms Gorf provided case study examples linking energy use and the choice residents make between 'heating or eating'. The review of Social Prescribing conducted by the University of the West of England showed a clear financial saving to the health service as a result of Social Prescribing: it was shown to be most effective if it was focused carefully on the specific location as relationships are essential for success.

Frances Crick, Implementation Energy Reduction and Sustainability Officer, Gloucestershire Cheltenham Borough Homes, delivered a presentation entitled: *Energy efficiency and fuel poverty in our properties*.

Cheltenham Borough Homes (CBH) is an arm's-length management organisations (ALMO) managing Cheltenham Borough Council's housing stock. As well as providing social housing, CBH want to engage citizens in strategies that can support residents in their homes and lives.



CBH has developed an Environmental Sustainability Strategy to improve energy efficiency to combat rising energy bills and energy poverty. It is in CBH's best interest to support tenants so that they can pay their rent, hence developing strategies, such as

this, not only support residents and the environment but help the organisation to receive payments from tenants.

A programme of solar PV installations was launched in 2013 and impacted 780 individual properties between 2013 and 2016. As a result, over 920 tenanted properties benefitted from between €115 and €230 savings per annum on their electricity costs. This programme was considered 'an easy win' but it would not work for all, especially if tenants can buy their home. Another programme implemented air source heat pumps in 8 out of 10 households on one street in Cheltenham, again making savings for residents. However, sometimes it is hard to engage residents, for example after bereavement or if people think it would damage the appearance of their homes. As a result, it is important to consider the best installations for each area; Ms Crick suggested that air source heat pumps are good for rural properties which are off grid.

Other examples of strategies include installing LED lighting in sheltered housing. Although there are fewer financial savings, improving the lighting levels improves the quality of life for these residents who often have visibility problems or dementia.

CBH are now focusing on poor performing homes according to their EPC rating. The organisation is currently assessing all stock and making sure that there is accurate and sufficient data to help efficiently targeting the right people, particularly when fewer government incentives are available.

In terms of engaging with people, CBH offer individual support and try to get people off prepayment meter. Offices are based in the areas of highest need and the organisation works hard to build relationships with tenants: when tenants do engage, good savings are made. CBH also look at their own offices so they practise what they preach. As well as providing housing and energy advice, CBH also offer benefits and financial advice to help the overall situation for tenants and improve their income overall. This wrap around support makes it easier for tenants to engage and engenders trust.

The session closed at 13:00 for lunch and networking.



3.5 Summary of Session V – Workshops: Strategies to manage fuel poverty and engage citizens

The afternoon session focussed on sharing good practice and promoting discussion. Delegates were given the opportunity to attend two, of three, workshops as shown below:

Workshop 1: Warm & Well – A programme for providing advice, support and retrofit to domestic residents and properties.

Workshop 2: Link to Energy – Establishment, training and co-ordination of an energy and installers network.

Workshop 3: Target 2050 – A project in Stroud District to reduce carbon emissions across domestic properties, businesses and community buildings. The project explores managing different types of buildings, providing support for those in fuel poverty, and engaging installers.

The following section provides a summary of each workshop.

Workshop 1: Warm & Well. This workshop was led by *Brain Canning and Sarah Dittmann, Severn Wye Energy Agency.*

Mr Canning and Ms Dittmann provided a background to the Warm and Well programme and how the advice line operates. They explained that Warm and Well started in 2001 as an insulation grant scheme. The 2017 Warm and Well programme is managed by Severn Wye Energy Agency on behalf of the seven local authorities in South Gloucestershire and Gloucestershire, and Gloucestershire County Council. Warm and Well offers energy efficiency advice to householders and also administers grant funding. Severn Wye has delivered on variety of schemes in Gloucestershire and South Gloucestershire since 2001. Through these schemes, over 65,000 measures have been installed in over 41,000 properties. Over £24m has been spent on energy efficiency measures in Gloucestershire and South Gloucestershire.

Local authorities have contributed £8.5m in grant funding with the majority of funding coming from fuel suppliers through either CERT or ECO, which contributed £10.44m. Through the installation of measures there has been considerable savings for clients. The total spend of £24m has achieved a total of £5m annual savings, and a total saving over the lifetime of the measures of £188.9m. Furthermore, carbon savings have been made, with 21,155.1 tonnes of CO₂ saved annually from measures installed and 796,675 tonnes of CO₂ saved over the lifetime of the measures.

The workshop leaders explained how the advice line worked and demonstrated the Warm and Well website¹⁴. The relationship to the Link to Energy installers network (workshop 2) was also outlined.

¹⁴ <http://www.warmandwell.co.uk/>

The delegates were asked to complete the following tasks:

- *In your groups, using your expertise, please pick out three mechanisms, from the ten provided, that you think would be the key priorities in the setting up and delivering a similar programme to Warm & Well.*
- *Once you've chosen three, please choose one and discuss the opportunities or barriers faced in order to put in place in your region/country.*

The mechanisms provided were:

- *National Government Support*
- *Local Government Support*
- *Funding the service*
- *Funding energy efficiency measures – financial instruments*
- *Accessing reliable installers*
- *Promoting the scheme*
- *Developing delivery partnerships*
- *Working with utilities/energy suppliers*
- *Targeting the right customer groups/demographics*
- *Recruiting trained staff*

The table below summarises the outcomes of discussions from different groups.

Priority mechanisms	Comments	Barriers
Reliable installers Local government support	Local/national government support is fundamental to success. Targeting is important for smaller projects but is less of an issue for more ambitious projects as all/most homes will be improved. It can be hard to get projects off the ground if there is a total absence of a service.	Drivers must be identified otherwise the project cannot go ahead. It is important to have a good understanding of existing housing stock. This can become quickly outdated so it's important to have a strategy to have accurate and dynamic information.
Funding the service	The 10 options blend in together, therefore, 10 became 3: funding service; promoting the scheme and targeting the right consumers groups. The priority was funding as if this is lacking, then the service would not happen.	Political will – short term government support versus long term goals was discussed as this is always difficult to manage. There is also a need a cross party consensus that energy poverty is an issue that we all agree on not partisan.

Priority mechanisms	Comments	Barriers
Funding of energy efficiency measures	Opportunities identified included: implementing legal obligations for suppliers; conducting partial renovations; the opportunity to use Government funding; impacts of new building standards; Opportunities for ESCO.	Barriers included: bureaucracy; difficult customer journeys, limited understanding of energy efficiency measures.
No specific option identified	In some countries, the mechanisms could work regionally but not nationally.	Problems with working commissions: Warm and Well fills the gaps but would need to be done very differently in some areas.
Similar scheme to Warm and Well in Slovenia	In Slovenia, there is no preferential treatment; however money becomes issue to promote the scheme. There is an energy efficiency network in Slovenia. Local government agencies could implement this on a local scale but lots of red tape for local installer network.	Bureaucracy for installers.



Workshop 2: Link to Energy. This workshop was led by *Neil Towler and Rachel Brain, Severn Wye Energy Agency.*

Mr Towler began with an overview of the Link to Energy database which allows members of the public to locate and contact installers and suppliers for energy efficiency products and services. The networks include installers for all energy efficient measures.

The network has been in operation since 2007 and has approximately 70 members. Around €1.15 million worth of work has been conducted via the use of the network and this has primarily come through the central heating fund work.

The key features of the network are:

- Local to the customer (via the use of the customer's postcode on the webpage).
- Accredited installers only (e.g. gas safe).
- Endorsed by local authorities.
- Installers get access to local grant funding.
- Money is re-invested in the local economy.
- There is no membership fee but a small commission goes to Severn Wye on successful referrals.
- Severn Wye is able to evaluate the cost and type of energy efficiency installations taking place and identify new technologies and identify any skills gap.

The network used to include a larger number of installers but experience has shown that a smaller, high quality network is preferred over a larger number of installers.

Mr Towler demonstrated how the Link to Energy website¹⁵ operated before responding to the following questions:

Q. Where did initial funding come from?

A. The project was initially sourced through the Target 2050 local authority funding from Stroud District Council.

Q. How would people in fuel poverty get to know about what grants they could get and find an installer?

A. The majority of customers using the Link to Energy website come through the Warm & Well programme.

Q. How do you manage the customer/installer relationship?

A. Severn Wye connects the customer and the installer but is not responsible for the work. The contract is between customer and installer.

Q. How does the Link to Energy database connect up to the Warm & Well database?

A. This is ad hoc at the moment. Severn Wye has a new data system so this is something that the team will work on in the next year.

Q. What about quality?

A. Companies who do not complete work to a good standard can be removed from the list if there are complaints against them. Severn Wye is planning to develop greater quality assurance for installers as part of the Build2LC action plan.

Ms Brain explained that the aim of the website is to be clear and simple for the key target customer – those in fuel poverty. The network keeps installers up to date, providing the opportunity for information exchange; it keeps installers in touch with fuel poverty issues. The website and network are closely aligned to the professional services of the Warm & Well advice team and further developments to the network and website will follow.



Workshop 3: Target 2050. This workshop was led by *Maria Hickman, Stroud District Council.*

Stroud District Council have quite a history of working on energy efficiency measures. This began in 2001 with the WISE homes project and the council have been committed to improving energy performance and reducing energy poverty within the area.

Stroud District Council is unusual as it has its own social housing with 5000 homes. A number of measures have been implemented within these properties, including renewable measures and efficiency measures.

Project S2S was a project which installed ground source heat pumps in social housing and pumps were offered cheaply to the private sector. Project S2S stimulated the Target 2050 project which worked on domestic, businesses, and community projects.

Target 2050 began in 2007 and included €552,124 of local funding and €552,124 of central government funding. The aim was to have a positive impact on a social indicators, economic circumstances and housing.

The feasibility study run in 2007 and Severn Wye were appointed to take the project forward via a tender in 2008. The project ran over 3 years.

The features of Target 2050 included a target to reduce consumption by 60-80%. Households applied to become a case study home. The case studies were selected

based on the type of occupant and housing type: it was important to ensure there was a range.

Ms Hickman outlined the results of the homes, community and business themes of the project. Highlights included:

- 102 homes installed one or more insulation, heating or microgeneration measures.
- 53 exemplar homes were established as case studies.
- An open homes event was established.
- 120 businesses signed up to Target 2050.
- €109,940 of savings was made by businesses in the first year.
- 35 measures were installed in community buildings saving 28 tonnes of CO₂ annually.
- Community engagement increased.

More finance was won during the course of the project to increase the number of exemplar homes. One of the most positive outcomes was the open homes event which was developed via a community group, Transition Towns, who still run the work and have branched out to cover rainwater harvesting and food. Within the business sector, aides were appointed within businesses to train other employee, expanding the number of people involved.

Ms Hickman shared the main learnings from the project. Most importantly, it is important to realise that people do not want to, and will not, do a whole house renovation.

The following questions were raised:

Q. Were there project targets?

A. Yes, there were short term carbon targets.

Q. What is the difference between an energy audit and an EPC?

A. The audit is far more detailed than an EPC.

Q. Why were municipal buildings excluded?

A. The project only had funding for domestic buildings so public buildings were excluded. People were told about loan options but they wanted grants. However, a loan scheme was introduced as part of Countdown to Low Carbon homes, but banks did not want to get involved at the time when it was in a difficult time financially. The Green Investment Bank is re-emerging after the failure of Green Deal.

The only obligation in any UK business is the ECO. The only obligation for local authorities is LA Flex, so local authorities can target priority individuals and tap into funding.

Q. What will happen with the changes to regulations regarding renting properties with and EPC F or G rating? (Note: In the UK, properties will not be allowed to be let from April 2018 if they have an EPC rating of F or G).

A. *Because there is a shortage of homes in Stroud it is crucial the council work with landlords rather than having an adversarial approach. The support available is being promoted to landlords and one delegate mentioned that there are a number of low interest loans to help to make improvements.*

Q. Have you done ground and air source heat pumps?

A. *Yes, we did both. Most of the work for T2050 came from organic learning from previous projects. There was a lot of hand holding to help the householders to use the equipment and this involved multiple visits.*



3.6 Summary of Session VI – Application to local areas

The final session of the day was attended by the project partners and visiting stakeholders. The aim of the session was to share case study examples and consider how these could be applied within Build2LC partner countries.



Inmaculada Guerrero Alés, Technical Staff, Andalusian Federation of Municipalities and Provinces (FAMP), delivered a presentation titled: *Combating energy poverty in Andalusia*

Ms Guerrero Alés explained the role of FAMP and stressed the importance of creating networks. Andalusia has a population similar to that of Portugal. In Andalusia, energy poverty is

recognised as an issue. There are two ways to tackle the problem: preventative action or reactive action.

The sharp rise in the cost of electricity or gas is a significant cause of energy poverty in the area. The rise is far more than in other countries and is amongst the highest in the EU. Other causes of energy poverty include a lack of consciousness and knowledge as well as inefficient building stock.

Some of the resulting issues in Andalusia include an inability to pay bills; a high number of excess winter deaths; and an inability to keep homes cool in summer (30%) as well as warm in winter (11.1%).

Only 43% of housing stock is EPC rated A-C with 45% of housing classified at an E rating: this is a concern.

In Spain, the 'Bono Social' was implemented to offer financial support to vulnerable households by reducing bills by 25%. Residents can apply if they meet specific criteria such as, having more than three children, or all adults being unemployed. There are issues with the Bono Social as vulnerable consumers are not well-defined and it can include second homes. Also, the measures does not account for varying levels of earnings. The discount is also clearly not sufficient enough for the most vulnerable households.

Agreements have also been made with two energy companies, Endesa and Iberdrola, to support vulnerable consumers. If a vulnerable consumer is in arrears paying their bills or their supply is about to be cut, the resident can approach the municipal social services. The municipal social services will write a report about the customer and situation and inform the energy company about the issue, putting a stop to severing the energy supply. The municipality will then pay the arrears to the company. The scheme is wide reaching with 100 municipalities involved.

FAMP plays key role in supporting this mechanism, including raising awareness. The organisation supports the government in creating an action plan and also providing advice as well as raising the awareness of energy poverty to the energy companies.

FAMP also support and facilitate collaborative activity. For example, FAMP work with CLANER to promote renewable energy sources and energy efficiency measures within municipalities. Furthermore, the organisation has Continuing Training Plans for the public sector to ensure the issue is prominent in people's minds and that knowledge is secure.

Ms Guerrero Alés finished by stressing that energy poverty brings about inequality as well as poverty.

Anneli Kamb, Energy and Climate Advisor, Region Jämtland Härjedalen, delivered a presentation titled: *Energy wise housing co-operatives, Sweden.*

Housing co-operatives in Sweden have tenant ownership and the association is owned by the members. 23% of all housing within the country is within housing co-operatives.

The Energy wise project operated across two regions within Sweden and the aim was to reduce energy use through knowledge and energy reviews. This involved the use of energy and climate advisors to help to reduce energy use by adopting the ethos 'measuring is knowing'.

The project ran for 15 months, beginning in January 2014 and was funded by the Swedish Energy Agency. The goal was to engage with at least 20 co-operatives and create an action plan including at least one profitable action.

Energy wise involved energy audits, checklists, and action plan creation, over a period of time. There was sharing between housing co-operatives at events and this proved very positive.

The energy advisor visits were highly successful and helped residents to see their building differently as the process adopted a hands on approach. The visits provided residents with an in depth understanding.

Membership meetings took place within existing co-operative meetings (e.g. AGM) or during an evening meal which provoked a lot of discussion. Surveys were conducted to understand attitudes and take forward suggestions from residents.

One challenge was the time it took for each stage of the project, including housing co-operative recruitment. In total, almost 1500 apartments were included across 27 co-operatives.

Some of the key measures implemented were: loft insulation; adjustments to heating systems; and hot water saving installations.



Katarina Kafadar, Eco Fund Councillor, Eco Fund, delivered a presentation titled: *Eco Fund, Slovenian environmental public fund and energy poverty measures.*

Eco fund is a public fund which is 100% state owned and is focused on the domestic sector. Eco Fund employs 40 people to meet the specific fund objectives.

Eco Fund offers grants, soft loans, energy advice, and awareness raising activities. There are 65 independent advisors spread across the country and they offer a range of advice.

A number of grants are available, including JP 41SUB-OB15 which focuses on domestic homeowners: they do not have to be in energy poverty. The grant is likely to be modified to include tenants. Another example is AERO, which is a free energy and water package: AERO also covers electricity. Examples of support include reflective heat strips for radiators or seals for windows and doors.

AERO targets those in energy poverty and was initiated via the social work centre where the household applies using a form. A letter is sent to arrange a visit and then a visit is conducted and an audit completed.

The results included €11,829 of savings from water and energy across 154 homes. However, data collection could be improved as the reported figures are more of an estimate.

Further actions in 2017 include raising awareness of support mechanisms through links with the Red Cross. The target audience also needs to be broadened and more funding needs to be sourced to turn the mechanism from a project into a programme. There are also plans to replace inefficient appliances and develop softer measures surrounding education. Ms Kafadar explained that there is a need for well-planned measures so that results can be better evaluated locally and nationally.

Ms Kafadar provided comprehensive advice about establishing structural support mechanisms. Examples of advice offered included:

- Ensure there is a measurable definition of energy poverty at a national level.
- Improve statistical data collection and monitoring of relevant indicators on energy poverty.
- Provide up to 100% financing for energy poor households.
- Improve existing programmes that address energy poverty (to improve informing the target group and offer free help on completing the application forms).
- Replace inefficient appliances and appliances (freezers, refrigerators, electric boilers)
- Provide soft measures in the form of energy advice, awareness and education.
- Raise the awareness of energy poverty amongst social actors.
- The key is cooperation among relevant stakeholders and the public institutions.
- Programmes and measures have to be long-term and continuous in order to have a greater impact, enable full evaluation, and develop and embed improvements.
- Ensure there are EU and national funds to finance measures
- Potential funding could come from the energy suppliers law-obligated schemes for providing energy savings.

The session concluded with **small group discussions** to share the learnings from the seminar. The key points raised were:

1. Energy poverty is more widespread than anticipated. For example, Swedish partners had not realised the extent of energy poverty in Sweden and its impact on health until hearing Harriet Thomson's presentation. Whilst Sweden has a social system citizens can access if they cannot pay for their home enabling residents to

receive a grant for rent or to pay their mortgage, there is clearly more to discuss with regard to support for energy poverty. The Swedish partners suggested having a pilot to explore this option, providing a grant for bills and also for measures. The Eco Fund presentation, Slovenia, was an interesting proposition which could also be explored.

2. National definitions for energy poverty are needed to cater for different circumstances. In Croatia, citizens can be poor and own the house so that can be a problem. If Croatia were to use the UK definition, then a large percentage (about 50% could be fuel poor). Also if the same definition was used for food then many people would be in poverty from this aspect too. Polish delegates noted differences between Eastern and Western Europe. In Eastern Europe, the majority of household income is spent on food and bills; there is little disposable income. Therefore measures and definitions must be appropriate, if not by country then by region. In many regions, there is more of an environmental focus, alongside the awareness of supporting people in energy poverty.

3. Providing evidence before and after retrofit is important. Delegates were pleased to see evidence of this with blocks of flats and other buildings before retrofit took place. It is helpful to clearly see the evidence of improvement.

4. Switching from soft measures to deep retrofit is a challenge. Funds need to be available to support deep domestic retrofit. Some delegates commented on the reluctance of some residents to agree to installations, for example one resident refused the installation of an air source heat pump. It was suggested that using installations in public buildings can help to raise awareness for the community. Creating show homes and case study homes such as the Open Homes event for Target 2050 also help.

5. The use of volunteers has potential. Some delegates liked the idea of using volunteers, as they have done in Croatia. However, there was uncertainty about how this practically works. For example, are volunteers paid? Operating volunteer schemes through an NGO may be more successful and residents are more likely to trust non-governmental workers. It was noted that for some of programmes, there are unpaid volunteers who are supported by a paid position within a voluntary sector organisation.

Consistency is a challenge with volunteers. However, in some regions of Sweden there is the understanding that the government will support volunteers. It was apparent that the circumstance differed significantly between countries and regions. It was noted that there is an emphasis on volunteers in the UK at the moment due to financial challenges but an investment is still required, it is not free.

4 Site Visit – SGS Berkeley Green

During the interregional seminar in Gloucester, visitors from Build2LC partners attended a Site Visit to the new Gloucestershire Science and Technology Park¹⁶, Berkeley Green.



George Ridd, Site Director at SGS Berkeley Green, provided a comprehensive explanation of the development of the site and the background and purpose of the project. He also provided a tour of the facility showing GREEN, the UTC, and the growth of business activity on site. Mr Ridd explained how the site, opening in September 2017, is of particular relevance to the Build2LC project as the site comprises of:

- **SGS Berkeley Green University Technical College (UTC)** - An educational facility for 14-18 year olds which meets the requirements of the national curriculum but there will be an additional focus on developing student's skills in one of five specialisms: engineering; advanced manufacturing; digital technologies; cyber security; or applied science (sport).
- **GREEN** – A €5.5 million skills centre which will provide full or part-time vocational courses in advanced engineering and digital technologies for post-16 learners including apprenticeships, adult re-training, professional accreditations, and degree level learning. Business courses are also available to support employers, such as, NVQ in Supply Chain Management or Level 3 Award in Leadership and Management.
- **Business Units** – Businesses such as WE-Link¹⁷ and Schneider¹⁸ will also have units on site. This not only provides a hub for shared practice, but the

¹⁶ <http://www.sgscol.ac.uk/index.aspx>

¹⁷ <http://www.welink-group.com/>

¹⁸ <http://www.schneider-electric.co.uk/en/>

businesses will also be closely linked to the educational work at GREEN and the UTC. Businesses will advise on course content, provide apprenticeship opportunities, and showcase innovative practice to learners.

The park has been developed in response to a skills shortage in the region: hence the site is specifically catering for this demand. Construction skills are also in short supply: these are already taught at other SGS facility but the scale can be increased with the movement of some courses to the Berkeley Green site.

The development of SGS Berkeley Green was an EU Structural Investment Fund priority under Thematic Objective 4 in the Gloucestershire EU Structural Investment Fund Strategy 2014-2020. Over €33 million of funding has been secured for the development of the site with over €5 million coming from structural funds. As the site has been identified as a significant need for the county, the project has been well-supported by the Local Enterprise Partnership, local politicians and employers.

The project is also of interest due to the history of the site. The area surrounding the new facility is nuclear power facility which is currently being decommissioned. The GREEN facility is located within the former research laboratories used by the power station. After extensive renovation, GREEN is ready for the first cohort of students; at least one floor of the facility will also be used by businesses who will work within the same building as the post-16 learners. The UTC has been built as an extension to the GREEN building and is joined by an atrium.

Dave Evans, Schneider, outlined how Schneider were tackling the rapid rate of growth in the demand for energy alongside the need to adopt sustainable solutions. He introduced Schneider's innovative battery storage work and explained how collaboration with Berkeley Green will be of benefit to both the organisation and the learners.



5 Good practices

The key innovative aspect of BUILD2LC is its multidisciplinary approach, that counting on different complementary expertise at local (Gloucestershire County UK, and Gorenjska SI), regional (Andalusia ES, Rzeszow PL, Croatia and Jämtland Region, SE) and national (Lithuania and Croatia) level, will allow achieving the project goals.

The project achieves its objectives based on a complete learning process to facilitate an effective knowledge flow among regions, with a bottom-up approach methodology, counting on the regional stakeholder groups.

Regions and countries participating in the project identify Good Practices categorized in the four topics addressed by the project. For the BUILD2LC project purposes we consider the definition for Good Practice according Interreg Europe Programme:

Good practices is defined as an initiative (e.g. project, project, process, technique) undertaken in one of the programme's priority axes which has proved to be successful in a region and which is of potential interest to other regions. Proved successful is where the good practice has already provided tangible and measurable results in achieving a specific objective. Although the Interreg Europe programme primarily refers to good practices, valuable learning also derives from bad practices where lessons learnt can be taken into consideration in the exchange of experience process.

There is no limit on the number of good practices to be collected among the consortium members. As a requisite, a total minimum number of 70 shall be collected, an average of 10 for every region.

Hereinafter we present the compilation of Good Practices for the topic: ***New energy culture, citizen involvement and energy poverty***. A Good Practice can potentially match several topics at the same time. **42 Good Practices** in topic the have been collected among all the partners.

GOOD PRACTICES IN THE TOPIC 'ACTIVATION OF DEMAND AND COMBATING ENERGY POVERTY'	
ANDALUSIA	
A1	Collaborating partner companies in the management of the Incentives Programme for Sustainable Construction in Andalusia
A2	100% online simplified procedure for the request and justification of grants from the Incentives Programme for Sustainable Construction in Andalusia
A3	A system of verification and monitoring of the Incentives Programme for Sustainable Construction in Andalusia
A4	Participative and open governance of the Sustainable Construction Programme in Andalusia
A5	Closed Catalog of energy improvement measures for the Incentives Programme for Sustainable Construction in Andalusia
LITHUANIA	
L1	Carrot-and-Stick Game in Multi-Apartment Building Modernization
L2	Technical Support and Promotion in Multi-Apartment Building Modernization (BETA Agency)
L3	Quality in Multi-Apartment Building Modernization
L4	Municipalities involvement in Multi-Apartment Building Modernization
L5	Standardization and Simplification in Multi-Apartment Building Modernization
L6	Standardization and Simplification in Public Buildings Modernization
L7	Complex projects
L8	Innovation in Financial Instruments
L9	Legal Framework Harmonisation
GLOUCESTERSHIRE	
G1	Warm & Well – Energy Efficiency Advice and Installation Scheme
G2	Energy Company Obligation (ECO)
G3	ACHIEVE – Actions in low income Households to Improve Energy efficiency through Visits and Energy diagnosis
G4	Cynefin
G5	Target 2050
G6	European Sustainable Energy Award for Prisons (E-SEAP)
G7	Save@Work
G8	Link to Energy
G10	Your Green Future (YGF)
G11	Countdown to Low Carbon Homes
G12	Young Energy People
PODKARPACKIE	
P1	Expansion of energy infrastructure at the Higher School of Law and Public Administration using renewable sources of energy
P2	Comprehensive use of renewable energy sources in the Community Center Association "Emmaus-Rzeszów"
P4	Podkarpackie Low-Energy Consumption Technologies Transfer Centre's Passive House
P5	Rehabilitation of buildings and removal of asbestos

GOOD PRACTICES IN THE TOPIC 'ACTIVATION OF DEMAND AND COMBATING ENERGY POVERTY'	
CROATIA	
C8	Rural electrification project
C12	Through Knowledge to a Warm home
JÄMTLAND HÄRJEDALEN	
J6	Energy wise housing cooperatives
J7	Zerooil – with bio oil – a region without fossil heating oil
SLOVENIA	
S1	CHP Planina – Kranj
S2	Combating energy poverty
S4	Eco Fund, Slovenian Environmental Public Fund
S5	ENSVET - Energy Advices for Citizens
S7	Complete renovation of apartment buildings - System Dominum
S8	Community of Preddvor – Kindergarten Storžek
REST OF EUROPE	
O6	Energy efficiency refurbishment in a multi-dwelling residential building in Sofia

GOOD PRACTICE FICHE **Region: Andalusia**

Title of the good practice: A1. Collaborating partner companies in the management of the Incentives Programme for Sustainable Construction in Andalusia

Partner region: Andalusia

Location data: Andalusia

Topic of the practice: Thematic coverage

- Activation of demand and combating energy poverty
- Professionalization of the construction sector

Description of the practice:

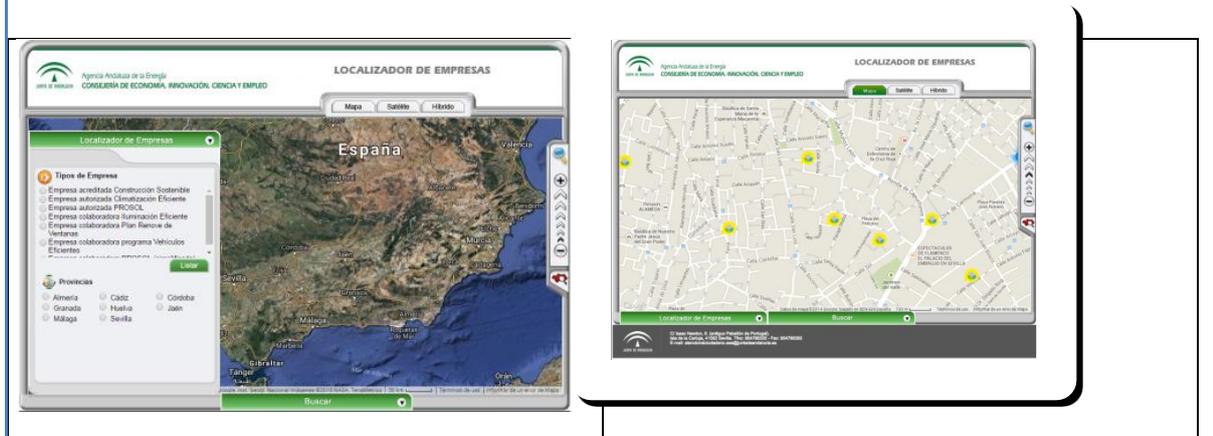
Public-private collaboration to facilitate the application to incentives by citizens and companies

*This GP is part of the **Sustainable Construction Programme in Andalusia – PICSA**. Managed by the Andalusian Energy Agency, financed under the ERDF and totally online, the aim of the programme was to facilitate the rehabilitation of existing buildings through energy saving and efficiency and renewable energy measures and to promote a culture based on the sustainable energy rehabilitation of buildings.*

The Incentives Programme for Sustainable Construction in Andalusia was fully developed with the collaboration of +8.300 private companies, “collaborating partner companies” liaising in integrative public-private collaboration with the Agency in the management and processing of incentives, which **facilitated the administrative procedures to request incentives by end users**. Most of the collaborating partner companies are SMEs, which contributes to generating economic activity in the weaker business environment. The Agency’s website included an **interactive online mapping tool showing the geographical location of the collaborating companies**, to ease the process to find a company freely.

--The Incentives Programme for Sustainable Construction in Andalusia fostered the collaboration between collaborating companies to enable the participation in big projects. Up to 22% of the collaborating companies stated that they usually make business with other collaborating companies belonging to the Programme.

--
The resources needed were basically databases, computer applications and management tools. No need of extra funding.



GOOD PRACTICE FICHE

Region: Andalusia



Strengths

- ✓ The end user is free to choose any collaborating company.
- ✓ The collaborating companies helped extraordinarily to disseminate the Programme, multiplying the capillarity of the information.
- ✓ The application process and administrative complexity burden is totally covered by the collaborating company, avoiding a headache to the citizens and, therefore, making easier and more successful the final application of funds.

Weaknesses

- × It is necessary to inform and train the collaborating companies about the incentives scheme and the application process.
- × End users, especially citizens and domestic users, lose perspective of the origin and aim of the grant funds and are not always informed about by the company.

Areas of improvement and lessons learned:

Improve the training of collaborating partner companies regarding the documentation requirements needed for justification purposes.

- Better training and information on the elements of the Programme management is needed, particularly those relating to justification tasks “ex post”.
- It is needed to reduce the payment periods to decrease the financial burden supported by the collaborating companies.
- High percentage lump sums on subsidies (some cases around 70% of the total investment sum) may introduce distortions on market mechanisms.

Performance indicators linked to the practice

Data come from the general performance of the Incentives Programme for Sustainable Construction in Andalusia.

- Number of households engaged in support programmes: 60.000. Benefited groups included 60.000 citizens, 600 neighbourhood communities and 2.500 companies, many of them SMEs.
- (kWh) Annual energy savings in households: **422 million kWh/year** (26.000 toe) primary energy saved or diversified through low-carbon energy sources.
- (%) Reduction of the use of fossil fuels in the building sector. No data available at the

GOOD PRACTICE FICHE

Region: Andalusia

moment.

Indicators of success linked to the practice:

- Management model relied basically on the collaborating companies: up to 90% of developed actions.
- 86.000 ton/year CO₂ avoided.
- +36.000 energy improvement actions have been carried out.
- Total investment outcome: 258 million Euro.
- Total energy economic saving: 320 million Euro.
- Increased activity (+93%) and incidence in the creation and / or maintenance of employment in the companies (+60%). **20.000 direct jobs** have been created and/or maintained.
- Better strategic competitive positioning towards the creation of value and improvement of business development (+74%).
- +8.300 collaborating partner companies, most of them SMEs. 1.600 for first time, fuelled by this incentives programme.
- 22% of the companies stated that they worked in collaboration with other participating companies in the Programme.
- 43% of the collaborating companies carry out other economic activities types of actions that are different to the total of 48 included in the Programme (not covered by the programme).
- **+7.000 households affected by, or in risk of suffering energy poverty** consequences, were targeted and benefited.

Regarding the collaborating companies:

- More than 70% indicate that the most positive elements of the Programme are its contribution to the development and/or maintenance of the companies of the sector, as well as the creation/maintenance of employment.
- 75% say that the Programme had an “excellent, very good or good” impact on their company.

Regarding the beneficiaries:

- Almost 85% say that the Programme has contributed to raising their awareness of the energy consumption of their households/buildings, and the need to adopt energy improvement measures.
- 97% have recommended or would recommend to other users the need to undertake improvement measures in their households and/or buildings and admit that the action implemented has affected in the degree of comfort or quality of life.
- 91% of beneficiaries value overall the Programme as very satisfactory.

Evidence of success.

Private companies are, likely the most benefited stakeholders of implementing energy efficiency investments. The collaborating companies helped extraordinarily to disseminate the Programme in their own interests, and were highly responsible of the fast depletion of the funds (only some days). Positive statements by the beneficiaries by surveys show that the public-partnership agreement works in the right way.

Also the vulnerable households suffering poverty fuel, as those supported by low income families were benefited from subsidies to tackle poor energy efficiency and, this way, increasing health conditions and thermal comfort.

The experience will be extended with the call for new collaborating partner companies to certify the impact and adequacy of the actions in the next Incentives Programme call.

GOOD PRACTICE FICHE

Region: Andalusia

Factors that might hamper the transfer:

The triangle of actors is formed by beneficiaries, collaborating companies and a donor entity, better if it is public or for non-profit organization. This organization, ideally an energy or development agency should exist in the receiving partner.

It is needed to inform the companies through informative meetings. Since the number of stakeholders might be high, competent clusters or private associations are needed as speakers of a lot of collaborating companies.

Time required to complete the BP **6 months**

Contact details to obtain further information on the practice

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Organization	Andalusian Energy Agency
Type of Organisation	Regional public government energy agency
Website	www.agenciaandaluzadelaenergia.es/know-the-agency

GOOD PRACTICE FICHE Region: Andalusia

Title of the good practice:	A2. 100% online simplified procedure for the request and justification of grants from the Incentives Programme for Sustainable Construction in Andalusia
Partner region:	Andalusia
Location data	Andalusia

Topic of the practice: Thematic coverage

- Activation of demand and combating energy poverty

Description of the practice:

100% online tool to apply for energy rehabilitation of buildings incentives.

*This GP is part of the **Sustainable Construction Programme in Andalusia – PICSA**. Managed by the Andalusian Energy Agency, financed under the ERDF and totally online, the aim of the programme was to facilitate the rehabilitation of existing buildings through energy saving and efficiency and renewable energy measures and to promote a culture based on the sustainable energy rehabilitation of buildings.*

The Autonomous Community of Andalusia is an extensive territory of 87.597 Km² that includes 8 provinces and 770 municipalities, being the most populated region in Spain with more than 8.4 million people. The journey by car from the most distant village to the Agency headquarters can take up to 4h30'. To avoid inequalities when applying for an incentive, the Agency established a 100% online procedure for the request, and justification, for the Incentives Programme for Sustainable Construction in Andalusia.

Even those beneficiaries that cannot access the high-speed band internet were not discouraged to apply, given that the Programme was fully developed with the collaboration of +8.300 private companies, “collaborating partner companies” liaising in integrative public-private collaboration with the Agency in the management and processing of incentives, which **facilitated the administrative procedures to request incentives by end users**.

The needed material resources are, obviously, hardware and software tools.



GOOD PRACTICE FICHE
Region: Andalusia
Strengths

- ✓ The 100% online procedure erases inequalities regarding the beneficiaries' residence.
- ✓ There is a simpler single self-explanatory application procedure with a high degree of usability and self.
- ✓ It facilitates access to the incentives, lowering documentary obligations and paper usage.
- ✓ The application process and administrative complexity burden is often totally covered by the collaborating company, avoiding a headache to the citizens and, therefore, making easier and more successful the final application of funds.

Weaknesses

- ✗ It is necessary to locate a nearby collaborating company when internet access is not available.
- ✗ Rural areas have normally low-speed internet access.
- ✗ Although there is a phone assistance service, untrained computer users as elderly people are potentially less successful to finish the application process.

Areas of improvement and lessons learned:

Just minutes after the application period was open, the system was overwhelmed with dense internet traffic from multiple sources, making the tool unavailable especially for beneficiaries from far places and rural areas or densely populated areas. This incidence might have been fueled by the high lump-sum proportion of public incentives (up to 90% in some cases).

Performance indicators linked to the practice

Data come from the general performance of the Incentives Programme for Sustainable Construction in Andalusia.

- Number of households engaged in support programmes: 60.000. Benefited groups included 60.000 citizens, 600 neighbourhood communities and 2.500 companies, many of them SMEs.
- (kWh) Annual energy savings in households: **422 million kWh/year** (26.000 toe) primary energy saved or diversified through low-carbon energy sources.
- (%) Reduction of the use of fossil fuels in the building sector. No data available at the moment.

Indicators of success linked to the practice:

- Management model relied basically on the collaborating companies: up to 90% of developed actions.
- 86.000 tons/year CO₂ avoided.
- +36.000 energy improvement actions have been carried out.
- Total investment outcome: 258 million Euro.
- Total energy economic saving: 320 million Euro.
- Increased activity (+93%) and incidence in the creation and / or maintenance of employment in the companies (+60%). **20.000 direct jobs** have been created and/or maintained.
- Better strategic competitive positioning towards the creation of value and improvement of business development (+74%).
- +8.300 collaborating partner companies, most of them SMEs. 1.600 for first time, fuelled by this incentives programme.
- 22% of the companies stated that they worked in collaboration with other participating companies in the Programme.
- 43% of the collaborating companies carry out other economic activities types of actions that are different to the total of 48 included in the Programme (not covered by the programme).
- **+7.000 households affected by, or in risk of suffering energy poverty** consequences, were targeted and benefited.

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GOOD PRACTICE FICHE
Region: Andalusia
Regarding the collaborating companies:

- More than 70% indicate that the most positive elements of the Programme are its contribution to the development and/or maintenance of the companies of the sector, as well as the creation/maintenance of employment.
- 75% say that the Programme had an “excellent, very good or good” impact on their company.

Regarding the beneficiaries:

- Almost 85% say that the Programme has contributed to raising their awareness of the energy consumption of their households/buildings, and the need to adopt energy improvement measures.
- 97% have recommended or would recommend to other users the need to undertake improvement measures in their households and/or buildings and admit that the action implemented has affected in the degree of comfort or quality of life.
- 91% of beneficiaries value overall the Programme as very satisfactory.
- 43% of the collaborating companies carry out other economic activities types of actions that are different to the total of 48 included in the Programme (not covered by the programme).
- +7.000 households affected by, or in risk of suffering energy poverty consequences, were targeted and benefited.

Evidence of success.

The incentives were allocated in a few hours. The online system was able to support the multiple application requests for several hundred million Euro investments.

The collaborating companies stated that the online tool was easy to manage and worked normally (except for those users that found internet access concerns).

Factors that might hamper the transfer:

The triangle of actors is formed by beneficiaries, collaborating companies and a donor entity, better if it is public or for non-profit organization. This organization, ideally an energy or development agency should exist in the receiving partner.

A correct server architecture, Operative System, and beta versions should be tested before.

Time required to complete the BP
6 months
Contact details to obtain further information on the practice

Contact name	Joaquín Villar
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Type of Organisation	Regional public government energy agency
Website	www.agenciaandaluzadelaenergia.es/know-the-agency

GOOD PRACTICE FICHE		Region: Andalusia
Title of the good practice:	A3. A system of verification and monitoring of the Incentives Programme for Sustainable Construction in Andalusia	
Partner region:	Andalusia	
Location data	Andalusia	
Topic of the practice: Thematic coverage <ul style="list-style-type: none"> • Activation of demand and combating energy poverty • Professionalization of the construction sector 		
Description of the practice: <p>Evaluation of the Incentives Programme for Sustainable Construction in Andalusia. The evaluation results of the Incentives Programme for Sustainable Construction in Andalusia provided valuable information about positive elements and, as well, areas of improvement.</p> <p><i>This GP is part of the Sustainable Construction Programme in Andalusia – PICSA. Managed by the Andalusian Energy Agency, financed under the ERDF and totally online, the aim of the programme was to facilitate the rehabilitation of existing buildings through energy saving and efficiency and renewable energy measures and to promote a culture based on the sustainable energy rehabilitation of buildings.</i></p> <p>The Incentives Programme for Sustainable Construction in Andalusia was fully developed with the collaboration of +.8.300 private companies, “collaborating partner companies” liaising in integrative public-private collaboration with the Agency in the management and processing of incentives, which facilitated the administrative procedures to request incentives by end users. The programme benefited 60.000 citizens, 600 neighbourhood communities and 2.500 companies, many of them SMEs.</p> <p>The Andalusian Energy Agency set a protocol to evaluate the collaborating companies’ performance as well as the satisfaction of the beneficiaries with the purpose of getting the positive elements together with potential areas of improvement for the next programme call.</p> <p>The Agency made an ex-ante evaluation of the Programme and compared these preliminary results with the opinion of both collaborating companies and beneficiaries.</p> <p>The resources needed were surveys based on own online tools and telephone interviews.</p> <p>Positive elements:</p> <p>Regarding the collaborating companies:</p> <ul style="list-style-type: none"> ✓ More than 70% indicate that the most positive elements of the Programme are its contribution to the development and/or maintenance of the companies of the sector, as well as the creation/maintenance of employment. ✓ 75% say that the Programme had an “excellent, very good or good” impact on their company. <p>Regarding the beneficiaries:</p> <ul style="list-style-type: none"> ✓ Almost 85% say that the Programme has contributed to raising their awareness of the energy consumption of their households/buildings, and the need to adopt energy improvement measures. ✓ 97% have recommended or would recommend to other users the need to undertake improvement measures in their households and/or buildings and admit that the action implemented has affected in the degree of comfort or quality of life. 		

GOOD PRACTICE FICHE

Region: Andalusia

91% of beneficiaries value overall the Programme as very satisfactory.

Areas of improvement and lessons learned:

- × Improve the training of collaborating partner companies regarding the documentation requirements needed for justification purposes.
- × Better training and information on the elements of the Programme management is needed, particularly those relating to justification tasks “ex post”.
- × Conduct a pre- and post- analysis of the energy impact of the action performed.
- × Facilitate additional funding.

Performance indicators linked to the practice

Data come from the general performance of the Incentives Programme for Sustainable Construction in Andalusia.

- Number of households engaged in support programmes: 60.000. Benefited groups included 60.000 citizens, 600 neighbourhood communities and 2.500 companies, many of them SMEs.
- (kWh) Annual energy savings in households: **422 million kWh/year** (26.000 toe) primary energy saved or diversified through low-carbon energy sources.
- (%) Reduction of the use of fossil fuels in the building sector. No data available at the moment.

Indicators of success linked to the practice:

- Management model relied basically on the collaborating companies: up to 90% of developed actions.
- 86.000 tons/year CO₂ avoided.
- +36.000 energy improvement actions have been carried out.
- Total investment outcome: 258 million Euro.
- Total energy economic saving: 320 million Euro.
- Increased activity (+93%) and incidence in the creation and / or maintenance of employment in the companies (+60%). **20.000 direct jobs** have been created and/or maintained.
- Better strategic competitive positioning towards the creation of value and improvement of business development (+74%).
- +8.300 collaborating partner companies, most of them SMEs. 1.600 for first time, fuelled by this incentives programme.
- 22% of the companies stated that they worked in collaboration with other participating companies in the Programme.
- 43% of the collaborating companies carry out other economic activities types of actions that are different to the total of 48 included in the Programme (not covered by the programme).
- **+7.000 households affected by, or in risk of suffering energy poverty** consequences, were targeted and benefited.

Evidence of success.

The data collected helped to give shape to next Programme calls, both on the factors that stay and the implementation of improvement areas:



GOOD PRACTICE FICHE
Region: Andalusia

Facilitates access to incentives, fewer documentary obligations.
New classification of actions, clearer and more complete.

Better energy culture

New technical conditions of energy saving and satisfying needs.
Possibility of opting for more sustainable, energetic and environmental solutions.

More guarantees

Clear delimiting of conditions, and audits, projects as eligible costs.
New collaborating partner companies that certify the impact and adequacy of the actions.

Also it was detected the need to establish new categories as proposals for energy improvement, e.g. smart solutions for energy management, energy management in the digital home, towards nearly zero energy buildings, e-vehicles of public interest, etc.

Factors that might hamper the transfer:

The triangle of actors is formed by beneficiaries, collaborating companies and a donor entity, better if it is public or for non-profit organization. This organization, ideally an energy or development agency should exist in the receiving partner.

Getting replies to a survey is always hard. We suggest “carrot measures” as to link the achievement of the final approbation of the grant to answer correctly the questionnaire.

Time required to complete the BP
One month
Contact details to obtain further information on the practice
Contact name Joaquín Villar

e-mail joaquin.villar@juntadeandalucia.es

Organization Andalusian Energy Agency

Type of Organisation Regional public government energy agency

Website www.agenciaandaluzadelaenergia.es/know-the-agency

GOOD PRACTICE FICHE		Region: Andalusia
Title of the good practice:	A4. Participative and open governance of the Sustainable Construction Programme in Andalusia	
Partner region:	Andalusia	
Location data	Andalusia	
<p>Topic of the practice: Thematic coverage</p> <ul style="list-style-type: none"> • Activation of demand and combating energy poverty • Professionalization of the construction sector 		
<p>Description of the practice:</p> <p>The Sustainable Construction Programme in Andalusia (PICSA) seeks through energy saving and renewable energy to promote the energy refurbishment of buildings, rehabilitate urban areas, improve the competitiveness of companies of the construction sector, create skilled employment and reduce energy poverty.</p> <p>The Programme consists of three main actions:</p> <ul style="list-style-type: none"> ▪ An incentive scheme funded with €116 million and 48 eligible actions to facilitate the energy refurbishment of existing buildings, mobilizing €258 million of total investment outcome. ▪ Implementation of a financing line, specifically through revolving funds for companies. ▪ Creation of the “Sustainable Construction Round Table” involving more than 70 experts from different disciplines. ▪ <p>The Sustainable Construction Round Table - establishing an expert network.</p> <p>The Sustainable Construction Round Table brings together more than 70 experts (stakeholders) from different disciplines: private companies and professionals gathered in clusters and professional associations, economic and social agents, technological institutions, universities and civil organisations (mainly consumer and environmental). They work together and pool their knowledge about key industry issues including its competitiveness, supply and demand, renewable energy, innovation, employment and legislation. This way the public authorities, headed by the Andalusian Energy Agency as Secretary entity, open the elaboration process to the public even before getting public the Plan itself to be submitted to public scrutiny with the objective to elaborate a Development Plan for the Sustainable Construction and Rehabilitation of Andalusia, Horizon 2020, for the creation and consolidation of a new model in the construction sector based on these themes.</p> <p>The work has been coordinated by the Andalusian Energy Agency, which had also a participatory virtual platform where interested parties could submit their contributions. This is a forum for expert discussion, based on the need to split construction from speculation, and take sustainability as a catalyst for economic recovery and job creation. It is necessary to highlight that a high consensus was reached among all participants.</p> <p>The stakeholders were not only important, but essential to set the Programme on a transparent and participatory basis. From the very beginning of the Programme design process, they were invited to</p>		
		

GOOD PRACTICE FICHE

Region: Andalusia

participate trying to maximize the benefits of an **open governance process**. This was the way to enable and involve any interested relevant stakeholder to add to the creation of the Plan. To maximize resources, the original round table were split into six different groups according to the six categories in the Programme: competitiveness, demand and investments activation, urban and buildings rehabilitation, innovation and technological development, legislation development against speculation and employment.

The tasks followed the following schedule:

- February 2014: Beginning of the preparatory tasks for the implementation of the Programme.
- March 2014: the Andalusian Regional Government publishes the Decree-law 1/2014, which regulates the Programme for the Promotion of Sustainable Construction in Andalusia.
- April 2014: first call for incentive schemes launched.
- July 2014: Sustainable Construction Round Table constituted.
- September 2014: first call for incentive schemes closes.
- January 2015: the Development Plan of Sustainable Construction is approved, elaborated in the framework of the the Sustainable Construction Round Table, with a **very high consensus** of all the participating experts.
- February 2015: the Plan gets public and submitted to public scrutiny.
- February 2015: second call for incentives launched with new funds (€74 million) as well as the financing line based on revolving funds.

Performance indicators linked to the practice

Data come from the general performance of the Incentives Programme for Sustainable Construction in Andalusia.

- Number of households engaged in support programmes: 60.000. Benefited groups included 60.000 citizens, 600 neighbourhood communities and 2.500 companies, many of them SMEs.
- (kWh) Annual energy savings in households: **422 million kWh/year** (26.000 toe) primary energy saved or diversified through low-carbon energy sources.
- (%) Reduction of the use of fossil fuels in the building sector. No data available at the moment.

Indicators of success linked to the practice:

Since the Sustainable Construction Programme, in Andalusia (PICSA) count on a 2020 horizon the success is yet to come.

The creation of the Sustainable Construction Roundtable involving more than 70 experts from different disciplines as a part of the Sustainable Construction Programme in Andalusia, was given reconnaissance with the **REGIOSTARS 2015 award** in the Category 2: Sustainable Growth. Link to the [news](#):

http://ec.europa.eu/regional_policy/en/newsroom/news/2015/10/regiostars-awards-2015-honours-europe-s-most-innovative-regional-projects

Evidence of success.

The evidence of success comes from the fact that the Plan was approved with a massive support and full consensus from all the involved stakeholders.

The public authorities get benefited from this open participatory process and assure the plan has solid bases in accordance to the citizens and stakeholders opinions. The plan has been written in a democratically opened way, empowering the stakeholders and getting benefits of an open decision-making process.

Factors that might hamper the transfer: Please indicate problems or barriers that could appear when transferring the good practice to other partner.

GOOD PRACTICE FICHE		Region: Andalusia
Time required to complete the BP	1 year	
Contact details to obtain further information on the practice		
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Organization	Andalusian Energy Agency	
Type of Organisation	Regional public government energy agency	
Website	www.agenciaandaluzadelaenergia.es/know-the-agency	

GOOD PRACTICE FICHE		Region: Andalusia
Title of the good practice:	A5. Closed Catalog of energy improvement measures for the Incentives Programme for Sustainable Construction in Andalusia	
Partner region:	Andalusia	
Location data	Andalusia	
Topic of the practice: Thematic coverage <ul style="list-style-type: none"> • Activation of demand and combating energy poverty • New financial instruments 		
Description of the practice: <p>A closed catalogue of 48 available energy improvement measures involving a wide range of thematic as renewable energies, energy saving and efficiency, smart mobility, etc., to choose from the Programme for Sustainable Construction in Andalusia</p> <p><i>This GP is part of the Sustainable Construction Programme in Andalusia – PICSA. Managed by the Andalusian Energy Agency, financed under the ERDF and totally online, the aim of the programme was to facilitate the rehabilitation of existing buildings through energy saving and efficiency and renewable energy measures and to promote a culture based on the sustainable energy rehabilitation of buildings.</i></p>		
		
<p>To ease the investment decision of beneficiaries and collaborating companies, a closed catalogue of measures to receive the incentives is displayed once the user accesses the online tool.</p> <p>The user friendly catalogue is segmented into different categories and also guides and helps the beneficiary to navigate through the incentives call application. The upper menu gives access to the different tabs that orientate the user:</p> <ul style="list-style-type: none"> • Energy improvement measures guide • What should I know? <ul style="list-style-type: none"> ○ Recommendations ○ Step by step ○ Key concerns ○ Collaborating companies list ○ Funds aim 		

GOOD PRACTICE FICHE

Region: Andalusia



The resources needed are obvious hardware and software tools. The implementation process is easy

Strengths

- ✓ The catalog facilitates access to the incentives call, lowering documentary obligations and paper usage and animating the beneficiary to finish the application process.
- ✓ The application process and administrative complexity burden is much lower.

Weaknesses

- × Some improvement measures shall not be covered. The action number 48 should solve this eventuality.

Areas of improvement and lessons learned:

The catalog needs to be updated due to the technological progress.

Performance indicators linked to the practice

Data come from the general performance of the Incentives Programme for Sustainable Construction in Andalusia.

- Number of households engaged in support programmes: 60.000. Benefited groups included 60.000 citizens, 600 neighbourhood communities and 2.500 companies, many of them SMEs.
- (kWh) Annual energy savings in households: **422 million kWh/year** (26.000 toe) primary energy saved or diversified through low-carbon energy sources.
- (%) Reduction of the use of fossil fuels in the building sector. No data available at the moment.

Indicators of success linked to the practice:

- Management model relied basically on the collaborating companies: up to 90% of developed actions.
- 86.000 tons/year CO₂ avoided.
- +36.000 energy improvement actions have been carried out.
- Total investment outcome: 258 million Euro.
- Total energy economic saving: 320 million Euro.
- Increased activity (+93%) and incidence in the creation and / or maintenance of employment in the companies (+60%). **20.000 direct jobs** have been created and/or maintained.
- Better strategic competitive positioning towards the creation of value and improvement of business development (+74%).
- +8.300 collaborating partner companies, most of them SMEs. 1.600 for first time, fuelled by

GOOD PRACTICE FICHE
Region: Andalusia

this incentives programme.

- 22% of the companies stated that they worked in collaboration with other participating companies in the Programme.
- 43% of the collaborating companies carry out other economic activities types of actions that are different to the total of 48 included in the Programme (not covered by the programme).

Regarding the collaborating companies:

- More than 70% indicate that the most positive elements of the Programme are its contribution to the development and/or maintenance of the companies of the sector, as well as the creation/maintenance of employment.
- 75% say that the Programme had an “excellent, very good or good” impact on their company.

Regarding the beneficiaries:

- Almost 85% say that the Programme has contributed to raising their awareness of the energy consumption of their households/buildings, and the need to adopt energy improvement measures.
- 97% have recommended or would recommend to other users the need to undertake improvement measures in their households and/or buildings and admit that the action implemented has affected in the degree of comfort or quality of life.
- 91% of beneficiaries value overall the Programme as very satisfactory.
- 43% of the collaborating companies carry out other economic activities types of actions that are different to the total of 48 included in the Programme (not covered by the programme).
- +7.000 households affected by, or in risk of suffering energy poverty consequences, were targeted and benefited.

Evidence of success.

The incentives were allocated in a brief time. The collaborating companies stated that the online tool was friendly, easy to manage and worked normally.

Factors that might hamper the transfer:

The triangle of actors is formed by beneficiaries, collaborating companies and a donor entity, better if it is public or for non-profit organization. This organization, ideally an energy or development agency should exist in the receiving partner.

A correct server architecture, OS, and beta versions should be tested before.

Time required to complete the BP
3 months
Contact details to obtain further information on the practice

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Type of Organisation	Regional public government energy agency
Website	www.agenciaandaluzadelaenergia.es/know-the-agency

GOOD PRACTICE FICHE		Region: Andalusia
Title of the good practice:	A9. Energy efficiency refurbishment in public social housing in Andalusia	
Partner region:	Andalusia	
Location data	Andalusia	
Topic of the practice: Thematic coverage <ul style="list-style-type: none"> o Activation of demand and combating energy poverty o Professionalization of the construction sector 		

Description of the practice:

The Andalusian Agency for Homes and Rehabilitation began in 2013 a new Energy Rehabilitation Programme of its social housing building stock (property of the public administration) due to policy and legal changes. Apart from the renovation works themselves, personnel training was needed as well as required changes on some organization processes.

The Agency acts fostering socio-economic activity by enabling the capacity building and employment of those population collectives with hard access to the labour market as well as enabling the social function of homes and showing itself as example and case study of energy rehabilitation for public bodies.

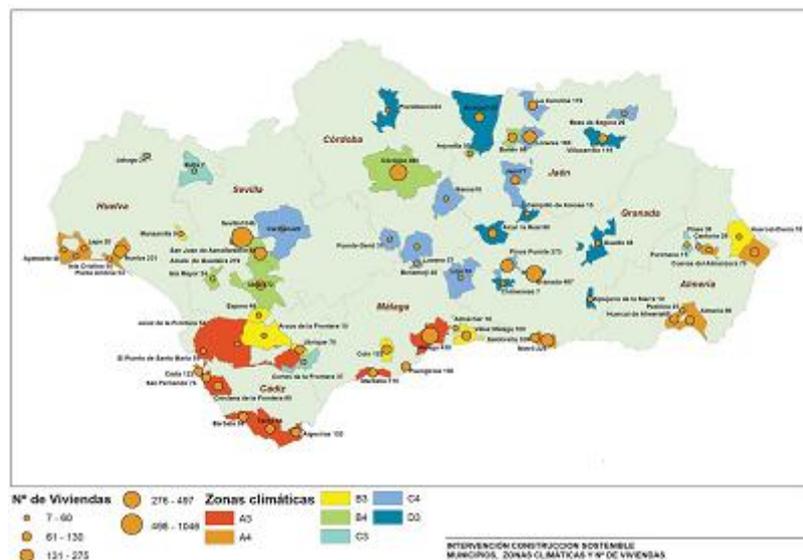
Kind of the practice: Gradual rehabilitation and energy retrofitting of the public homes stock (social housing).

Objective. Increase of indoor homes comfort and air quality, improvement of habitability, energy saving and reduction of GEI (CO₂) emissions in social housing homes.

Challenge addressed:

2014-2015:

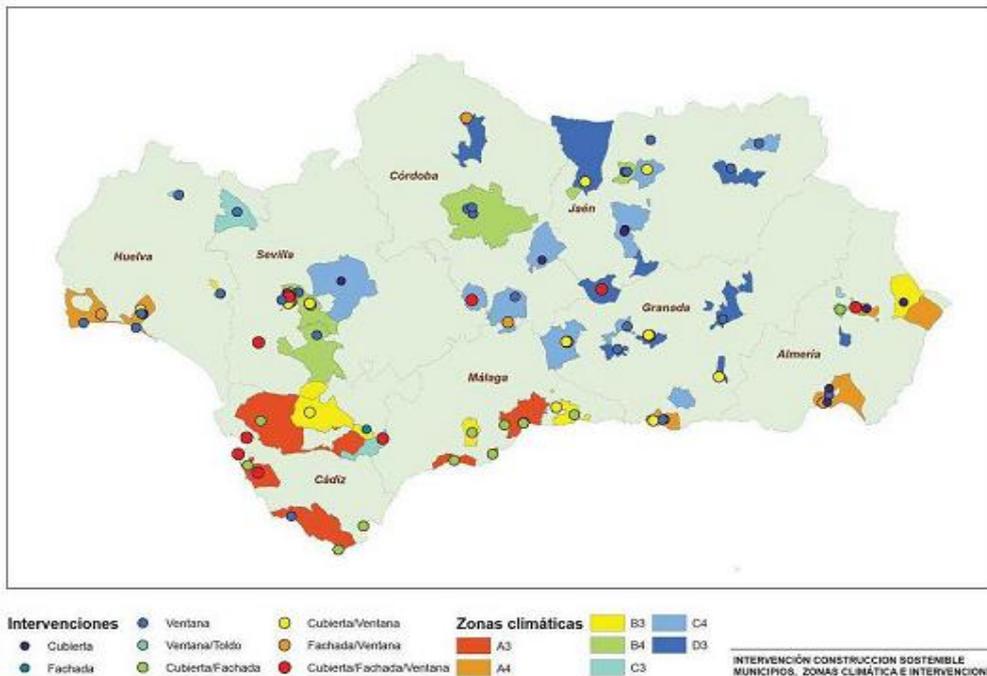
2014-2015 period, and under Sustainable Construction Programme (co-financed by FEDER) managed by the Andalusian Energy Agency (AEA), 111 buildings, summing up to 6.794 homes, were rehabilitated, renovated or retrofitted on the 8 Andalusian provinces, 65 municipalities and 7 different climatic zones.



These works made able meeting the European Directive targets and, when possible, overcome these limits to fail into “high energy efficiency standards” were focused mainly on the building envelope, e.g.,s façades, windows and roofs.

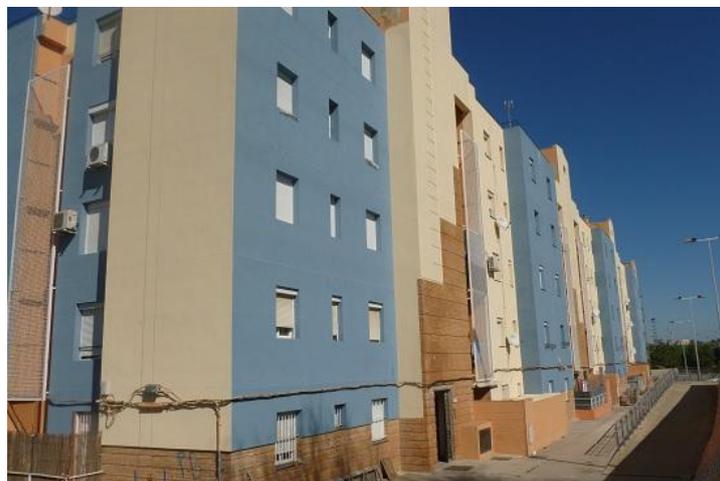
GOOD PRACTICE FICHE

Region: Andalusia



2016-2017:

During 2016-2017 period, 488 homes in 5 buildings were rehabilitated or retrofitted, co-financed by FEDER, National funding and regional budget. These works were more complete than those performed in the last period and some innovative elements were included, as isolation eco-materials, solar thermal, ventilated façades and high efficiency hot water equipment.



100 already renovated homes in Puerto Real, Cádiz.

2017-2019:

24 buildings covering 521 homes in Granada, Jaén and Córdoba is the target for the 2017-2019 period. Among them, 386 homes rehabilitation works will be covered by the Sustainable Construction Incentives Programme, managed by AEA and co-funded by FEDER

GOOD PRACTICE FICHE

Region: Andalusia



Target homes at Córdoba



Target homes at Málaga



Target homes at Jaén

Together with the technical renovation works themselves, AVRA conducted some other complementary initiatives to round the programme, as:

- Internal management of projects design, rehabilitation works and health and safety coordination, for what concerned personnel needed to be trained for the corresponding tasks.
- Diagnosis (before), surveillance (during) and check (after) of energy efficiency-related

GOOD PRACTICE FICHE	Region: Andalusia
<p>renovation works (blower door, thermographies, etc.) with the support of some university research teams.</p>	
<ul style="list-style-type: none"> - Measures to increase employability of concerned independent professionals and workers formerly unemployed. - Dissemination and raising awareness activities among the neighbourhood. 	
<p>A major challenge was performing the needed works while the tenants lived daily in the buildings</p>	
<p>Main stakeholders involved and beneficiaries target groups.</p>	
<p>There were three main involved target groups: tenants (families), the professionals and companies working for every stage of the programme, and the promoter itself –AVRA.</p>	
<p>The families are rewarded after a tiring works period due to the increased comfort at home, lesser energy consumption needs and improved durability and maintenance conditions of the buildings.</p>	
<p>The professionals (building-related workers, university researchers, independent professionals and construction companies) apart from the economic activity itself, have access to innovative techniques on building rehabilitation and renovation. AVRA’s personnel get and researchers got trained on-site on real works. Concerning formerly unemployed independent professionals and workers, had access to measures fostered by AVRA to increase their employability and training on energy rehabilitation. Companies, on the other hand, got an useful experience to increase their competitiveness regarding energy rehabilitation.</p>	
<p>AVRA, finally, gets benefitted for an increased quality and conditions of their social residential buildings through innovative measures. Also, AVRA is benefitted for a better qualification and education of the workers and the internalised processes through this experience.</p>	
<p>Financial resources required for its implementation</p>	
<p>Most of the works were granted with the Sustainable Construction Programme (co-financed by FEDER) managed by the Andalusian Energy Agency (AEA), and also co-financed with own funds.</p>	
<p>Strengths</p>	
<ul style="list-style-type: none"> • The involved professionals had access to innovative techniques on building rehabilitation and renovation while companies got useful experience to increase their competitiveness regarding energy rehabilitation, what fostered the reinforce of a energy rehabilitation market. • The exemplary work by the public administration served as a spark to ignite the rehabilitation private market 	
<p>Weaknesses</p>	
<ul style="list-style-type: none"> • Excessive subsidies dependency for rented homes. The landlord that rent a home has no way to obtain profits from this kind of investments since the benefitted persons are the tenants. 	
<p>Areas of improvement and lessons learned</p>	
<p>We learnt how to implement the needed measures in a more efficient way and optimizing resources. Also, we got experience on technical issues as isolation. Moreover, raising awareness among tenants was very important to avoid discomfort. Monitorization tasks in collaboration with the University of Seville has been very rewarding since it delivered a lot of useful data that helped AVRA how to optimize future renovation works.</p>	
<p>Performance indicators linked to the practice</p>	
<ul style="list-style-type: none"> • Number of households with improved energy labelling: <u>6.794</u> until 2015. 2016-2017: 488. 2017-2018 (exp.) 889. • Number of households with improved energy consumption classification. <u>6.794</u> until 2015. 2016-2017: 488. 2017-2018 (exp.) 889. • Number of households engaged in support programmes. <u>6.794</u> until 2015. 2016-2017: 488. 2017-2018 (exp.) 889. 	

GOOD PRACTICE FICHE		Region: Andalusia
<ul style="list-style-type: none"> • (%) Reduction of annual primary energy consumption in public buildings: N/A. It has been estimated a reduction in final energy consumption of 16-22% just avoiding the major leakage problems. A • (kWh) Annual energy savings in households: N/A. • (%) Reduction of the use of fossil fuels in the building sector: N/A. Estimation of 3.100 ton CO₂ /year reduction 		
<p>Indicators of success linked to the practice:</p> <ul style="list-style-type: none"> • During 2014-2015, 140 homes were monitorised. • Thermal comfort total time: 90% (under pilot project monitorisation in Cádiz). • Thermal discomfort time reduces by 72% (under pilot project monitorisation in Granada). 		
<p>Evidence of success.</p> <p>These works are putting all these families out of a former energy poverty situation. In addition, raising awareness and dissemination measures among the neighbourhood acts not only as an education tool but also a social glue and empowers directly their beneficiaries in the transformation of the buildings and urban landscape.</p> <p>Monitorisation of the buildings and explanations of the registered data let the beneficiaries interpret the change and enabled a change of habits regarding energy consumption and raising awareness on the importance of energy saving, directly billed on economic saving and CO₂ emissions reduction.</p>		
<p>Factors that might hamper the transfer:</p> <ul style="list-style-type: none"> • A lack of funding since the financial return of these kind of measures is very low. • Raising awareness among the neighbourhood and dissemination activities. • Low qualification of professionals that disable the correct execution of the planned measures. • Some programme requirements impose the installation of active equipment (heat and cold generation) to get a very high energy performance. Some of this equipment could not be maintained, managed or used by the final beneficiaries. 		
Time required to complete the BP	See dates above	
Contact details to obtain further information on the practice		
Contact name	Marta Romero García/Elena Morón Serna	
e-mail	marta.romero@juntadeandalucia.es elena.moron@juntadeandalucia.es	
Organization	AGENCIA DE VIVIENDA Y REHABILITACIÓN DE ANDALUCIA (Andalusian Agency for Homes and Rehabilitation) - AVRA	
Type of Organisation	Regional public agency, government Andalusia	
Website	www.juntadeandalucia.es/avra https://www.bing.com/search?q=agencia+de+vivienda+y+rehabilitaci%C3%B3n+de+andalucia&src=IE-SearchBox&FORM=IENTTR&conversationid=	
Fiche completed on date:	19/09/2017	

GOOD PRACTICE FICHE		Region: Lithuania
Title of the good practice:	L1. Carrot-and-Stick Game in Multi-Apartment Building Modernization	
Partner region:	Lithuania	
Location data	Lithuania	
Topic of the practice: Thematic coverage		
<ul style="list-style-type: none"> • Activation of demand and combating energy poverty • New financial instruments 		
Description of the practice:		
Lithuania decided to implement a carrot-and-stick policy to foster the renovation of multi-apartment buildings.		
Carrot part		
Initial Multi-Apartment Building Renovation (MABR) process was slow and insignificant without state support, due to following reasons:		
<ul style="list-style-type: none"> • long deep renovation payback period. • unwillingness of owners to change status quo. • commercial banks reluctance to provide financing. 		
Lithuanian State decided then to provide support to foster building modernization process by:		
<ul style="list-style-type: none"> • providing interest rate subsidies (result based). • providing additional grants to final beneficiaries (result based). • covering monthly installments for low income households. • providing technical support financing. • providing long term financing. 		
Lessons learned:		
<ul style="list-style-type: none"> • sensitivity analysis assessment is needed. • support should be higher in the beginning to encourage faster process. • step down plan on support is needed ones project pipeline is amplifying. • best case scenario - support funding sources are related to receivables from results e.g. carbon emission trading receivables. • support conditions should be embedded in the law and programs (stakeholders has to be certain about the support). 		
Stick part		
Initial MABR process was slow because:		
<ul style="list-style-type: none"> • large share of owners on fixed (low) income. • many low income people were eligible for heating bill compensations, and had no incentive to join the program. • chronic distrust of population in Government. 		
Lithuanian state decided then to discipline those who were not willing to join building modernization process by:		
<ul style="list-style-type: none"> • refusing to heating bill compensations to those who voted against their building modernization; • requiring to gradually accumulate funds for building renovation. 		
Lessons learned:		
<ul style="list-style-type: none"> • only “carrot” related stimulations are not working. • “stick related” requirements usually could follow by “carrot” related support. 		
Performance indicators linked to the practice:		
<ul style="list-style-type: none"> ▪ Estimated number of households with improved energy labelling: 37.000 ▪ Estimated number of households with improved energy consumption classification: 		

GOOD PRACTICE FICHE
Region: Lithuania
37.000

- Estimated number of households engaged in support programmes: 120.000
- Estimated annual energy savings in all households (kWh): 272 million

Indicators above are related to other practices as well, specific allocation to this GP is not possible.

Indicators of success linked to the practice:

- estimated total energy savings (kWh) – ~500.000 kWh up to the date.
- reduction of (ton CO₂ equivalent) emissions – ~116.000.
- buildings affected:
 - buildings renovated (as of 9 September 2016) – 848
 - estimated surface (m²) affected - ~ 1.5 million
 - buildings under renovation – 649
 - Investment projects evaluated (waiting list) – 1411.
- circa €400 million investment materialized in multi-apartment buildings in Lithuania (ESI, commercial banks, state budget);

Indicators above are related to other practices as well, specific allocation to this GP is not possible.

Evidence of success.

Introduced measures resulted in major increase in project pipeline. The GP helped to shape **financial instruments** in a way so they become attractive to final beneficiaries.

Factors that might hamper the transfer: Please indicate problems or barriers that could appear when transferring the good practice to other partner.

Major challenges:

- limited possibility to distribute “carrots”, especially when project pipeline is starting to build up.
- dissatisfaction with “stick” approach among final beneficiaries.
- moving away to far from usual market practice could result in problems to attract private investors.

Time required to complete the BP

It took about 1 year to set-up state support elements to the legislation, and other 2 years to make some amendments

Contact details to obtain further information on the practice

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Type of Organisation	Joint stock venture (publicly owned)
Website	www.vipa.lt

GOOD PRACTICE FICHE		Region: Lithuania
Title of the good practice:	L2. Technical Support and Promotion in Multi-Apartment Building Modernization (BETA Agency)	
Partner region:	Lithuania	
Location data	Lithuania	
Topic of the practice: Thematic coverage		
<ul style="list-style-type: none"> ○ Activation of demand and combating energy poverty ○ Professionalization of the construction sector 		
Description of the practice:		
<ul style="list-style-type: none"> ▪ At the introduction of the multi-apartment modernization program, just few building applied for the modernization loans. MABR was struggling, because: <ul style="list-style-type: none"> - public relations program failed (final beneficiaries were not aware of the program); - multi apartment owners were poorly organized; - financial intermediaries did not wanted to take on an extra administrative work (e.g. technical evaluation, reporting, creating new accounting systems and etc.); ▪ As a response to these issues state established agency (BETA) responsible for: <ul style="list-style-type: none"> - providing support with project/program preparation and implementation; - MABR program coordination and assistance to municipalities administrators; - evaluation of the project documentation; - supervision of project implementation; - monitoring; - administration of the State subsidy provided to the project implementers; - organizing capacity building programs, trainings and public information activities. 		
Description of the technical assistance institution – BETA		
<p>Public Company Housing Advisory Agency was established on 2001. After the reorganization the public company it was renamed Housing Energy Efficiency Agency (BETA), which established on February 19, 2013. BETA provides consulting services and assistance for homeowners on matters related to the renovation (modernization) of multi-apartment buildings. It also evaluates and approves submitted investment plans and procurement documents, cooperates with municipal authorities, engineering consultancy companies, educational institutions, non-governmental organizations, etc. BETA also implements the project which purpose is to encourage the owners of the apartments and other premises in multi-apartment buildings to participate in the Multi-apartment Building Renovation (Modernization) Programme.</p> <p>Moreover, BETA participates in EU-funded international projects, which in turn strengthens cooperation with housing partners from other countries, and enhances skills and experience in developing projects related to the application of alternative energy resources in multi-apartment buildings, and in generating ideas for the construction of passive houses. It also performs activities related to encouraging homeowners to renovate multi-apartment buildings.</p> <p>In the near future the Agency is planning to coordinate the Programme for Energy Efficiency Improvements in Public Municipality Buildings.</p>		
Performance indicators linked to the practice		
Performance indicators:		
<ul style="list-style-type: none"> • Estimated number of households with improved energy labelling - >37 thousand; • Estimated number of households with improved energy consumption classification - >37 thousand; • Estimated number of households engaged in support programmes - ~120 thousand; 		

GOOD PRACTICE FICHE		Region: Lithuania
<ul style="list-style-type: none"> Estimated annual energy savings in all households (kWh) - ~272 million <p><u>Indicators above are related to other practices as well, specific allocation to this GP is not possible.</u></p>		
<p>Indicators of success linked to the practice:</p> <ul style="list-style-type: none"> investment projects for the renovation evaluated – 3659; around 400 million EUR investments materialized in multi apartment buildings in Lithuania (ESI, commercial banks, state budget); Promotional activities implemented ~400; increase in awareness among individuals increased from 58,6 % (in 2014) to 92,9 % (in 2015) <p><u>Indicators above are related to other practices as well, specific allocation to this GP is not possible.</u></p>		
<p>Evidence of success.</p> <p>Introduced measures resulted in major increase in project pipeline. The GP helped to shape FI's in a way so they become attractive to final beneficiaries.</p> <p>Technical support measures helped to increase quality of applications, technical documentation and quality of construction works.</p>		
<p>Factors that might hamper the transfer: Please indicate problems or barriers that could appear when transferring the good practice to other partner.</p> <p>Major challenges:</p> <ul style="list-style-type: none"> to find resources to be allocated for the technical support (including funds to be allocated to local technical support agency); increase in number of employees working on the renovation (although this can be tackled by delegating some activities to existing entity) 		
Time required to complete the BP	1-2 years	
Contact details to obtain further information on the practice		
Contact name	Justinas Bučys	
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Organization	Public Investment Development Agency	
Type of Organisation	Joint stock venture (publicly owned)	
Website	www.vipa.lt	

GOOD PRACTICE FICHE		Region: Lithuania
Title of the good practice:	L3. Quality in Multi-Apartment Building Modernization	
Partner region:	Lithuania	
Location data	Lithuania	
Topic of the practice: Thematic coverage		
<ul style="list-style-type: none"> • Activation of demand and combating energy poverty • Professionalization of the construction sector • New financial instruments 		
Description of the practice:		
<p>Quality of works regarding buildings modernization is one of the main issues to be tackled, because investments for the modernization are relatively high. Bad examples are usually more visible, save less energy, create important concerns among the citizens and are escalated in the media.</p> <p>While promoting financial instruments, extremely huge attention was contributed to ensure the quality of construction works, so the following measures were implemented:</p> <ul style="list-style-type: none"> ▪ technical projects are checked and approved by municipalities specialists. ▪ construction companies are required to provide insurance, that they can perform works in accordance to the contract. ▪ construction companies are pre-checked before public procurement process (companies are checked for their capacity, excluded companies in black list). ▪ construction works are supervised by independent and certified specialists. ▪ effective complaint system is developed in order to timely react to any resident complaint. ▪ BETA (technical support agency) performs on-site visits to check all requirements are met. ▪ state territorial planning and construction inspectorate (local construction supervisory authority) has to visit each construction site at least 2 times- ▪ good examples of implemented projects are promoted in the media. 		
Performance indicators linked to the practice		
<ul style="list-style-type: none"> • Estimated number of households with improved energy labelling: 37.000 • Estimated number of households with improved energy consumption classification: 37.000 • Estimated number of households engaged in support programmes: 120.000 • Estimated annual energy savings in all households (kWh): 272 million <p><u>Indicators above are related to other practices as well, specific allocation to this GP is not possible.</u></p>		
Indicators of success linked to the practice:		
<ul style="list-style-type: none"> ▪ increase in value of renovated buildings 15-20%. ▪ all renovated buildings reached at least 40% savings and energy efficiency labeling C <p><u>Indicators above are related to other practices as well, specific allocation to this GP is not possible.</u></p>		
Evidence of success.		
Introduced measures resulted in major increase in project pipeline. The GP helped to shape		

GOOD PRACTICE FICHE		Region: Lithuania
<p>financial instruments in a way so they become attractive to final beneficiaries.</p> <p>Supervision measures helped to increase quality of construction works and satisfaction among final beneficiaries.</p>		
<p>Factors that might hamper the transfer:</p> <ul style="list-style-type: none"> • partners may need to adjust various legislation acts to implement provided measures. • measures may vary depending on the region weather conditions. 		
Time required to complete the BP	2-3 years. Although when measures are known, it can take much faster	
Contact details to obtain further information on the practice		
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Type of Organisation	Joint stock venture (publicly owned)	
Website	www.vipa.lt	

GOOD PRACTICE FICHE		Region: Lithuania
Title of the good practice:	L4. Municipalities involvement in Multi-Apartment Building Modernization	
Partner region:	Lithuania	
Location data	Lithuania	
Topic of the practice: Thematic coverage		
<ul style="list-style-type: none"> • Activation of demand and combating energy poverty • New financial instruments 		
Description of the practice:		
<p>In order to foster the modernization process Lithuanian government decided to stipulate and simplify MABR process at the level of the final beneficiaries by involving municipalities. At the beginning process of modernization was:</p> <ul style="list-style-type: none"> ▪ administratively intensive; ▪ challenging because required to conciliate many owners; ▪ home owners were averse (did not want to borrow) and poorly organized. <p>So the National Government set this plan:</p> <ul style="list-style-type: none"> ▪ municipalities instructed to draw lists of the worst energy performing buildings. ▪ municipalities appointed renovation administrators, which: <ul style="list-style-type: none"> ○ can borrow on behalf and in favor of apartment owners. ○ are providing all the process administration service. ○ keep loans on off the balance sheets. ○ expenses are covered by the budget funds. 		
Performance indicators linked to the practice		
<ul style="list-style-type: none"> • Estimated number of households with improved energy labeling: 37.000 • Estimated number of households with improved energy consumption classification: 37.000 • Estimated number of households engaged in support programmes: 120.000 • Estimated annual energy savings in all households (kWh): 272 million <p><u>Indicators above are related to other practices as well, specific allocation to this GP is not possible.</u></p>		
Indicators of success linked to the practice:		
<ul style="list-style-type: none"> • estimated total energy savings (kWh) – ~500.000 kWh up to the date. • reduction of (ton CO₂ equivalent) emissions – ~116.000. • buildings affected: <ul style="list-style-type: none"> ○ buildings renovated (as of 9 September 2016) – 848 ○ estimated surface (m²) affected - ~ 1.5 million ○ buildings under renovation – 649 ○ Investment projects evaluated (waiting list) – 1.411 • circa €400 million investment materialized in multi-apartment buildings in Lithuania (ESI, commercial banks, state budget); <p><u>Indicators above are related to other practices as well, specific allocation to this GP is not possible.</u></p>		

GOOD PRACTICE FICHE

Region: Lithuania

Evidence of success.

Technical assistance measures helped to decrease administration workload to final beneficiaries resulting in increase in project pipeline.

Factors that might hamper the transfer:

- some changes may touch upon property related laws, which may be challenging to change.
- enforcement measures must be created allowing modernization activities in the property of owners, who voted against and not willing to cooperate.

Time required to complete the BP

2-3 years. We believe, that it should take much shorter to introduce applied measures in other partners countries

Contact details to obtain further information on the practice

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Organization	Public Investment Development Agency
Type of Organisation	Joint stock venture (publicly owned)
Website	www.vipa.lt

GOOD PRACTICE FICHE		Region: Lithuania
Title of the good practice:	L5. Standardization and Simplification in Multi-Apartment Building Modernization	
Partner region:	Lithuania	
Location data	Lithuania	
Topic of the practice: Thematic coverage <ul style="list-style-type: none"> ○ Activation of demand and combating energy poverty ○ Professionalization of the construction sector 		
Description of the practice: <p>When planning the MABR modernization programme, one of the immediate challenges was to standardize and simplify the documents and whole processes to enable a smooth and understandable implementation of financial instruments.</p> <p>The Lithuanian government decided to simplify the process for final beneficiaries by imposing some legal changes:</p> <ul style="list-style-type: none"> • 50% +1 of apartment owners (absolute majority) needed to agree to join the program. • joint liability for the building modernization investments. <p>Other financial institutions introduced process simplification measures:</p> <ul style="list-style-type: none"> • Central public procurement organization introduced simplified and shorter procedures for building modernization procurement. • BETA Agency [see GP titled “Technical Support and Promotion in Multi-Apartment Building Modernization (BETA Agency)”] created simplified application forms and reduced administration extent to minimum necessary. • Special standardized templates prepared for public procurement, including standardized construction agreement. • Improved and standardized documents for energy efficiency certification were prepared. 		
Performance indicators linked to the practice <ul style="list-style-type: none"> • Estimated number of households with improved energy labeling: 37.000 • Estimated number of households with improved energy consumption classification: 37.000 • Estimated number of households engaged in support programmes: 120.000 • Estimated annual energy savings in all households (kWh): 272.000 <p>Indicators above are related to other practices as well, specific allocation to this GP is not possible.</p>		
Indicators of success linked to the practice: <ul style="list-style-type: none"> • estimated total energy savings (kWh) – ~500.000 kWh up to the date. • reduction of (ton CO₂ equivalent) emissions – ~116.000. • buildings affected: <ul style="list-style-type: none"> ▪ buildings renovated (as of 9 September 2016) – 848 ▪ estimated surface (m²) affected - ~ 1.5 million ▪ buildings under renovation – 649 ▪ Investment projects evaluated (waiting list) – 1.411 ▪ circa €400 million investment materialized in multi-apartment buildings in Lithuania (ESI, commercial banks, state budget); 		

GOOD PRACTICE FICHE		Region: Lithuania
Indicators above are related to other practices as well, specific allocation to this GP is not possible.		
Evidence of success. Introduced measures helped to decrease administration workload, legal uncertainty and trust in the program (financial intermediaries and investors now trust in the program and are willing to participate with own funds).		
Factors that might hamper the transfer: <ul style="list-style-type: none"> ▪ detailed local legislation analysis needed; ▪ high competencies of experts involved in standardization and simplification required; ▪ some measures may require to have more complex legal framework changes; ▪ market requirements must be considered and market should players consulted (responses should be treated cautiously) 		
Time required to complete the BP	2-3 years. We believe, that it should take much shorter to introduce applied measures in other partners countries	
Contact details to obtain further information on the practice		
Contact name	Justinas Bučys	
e-mail	justinas.bucys@vipa.lt	
Organization	Public Investment Development Agency	
Type of Organisation	Joint stock venture (publicly owned)	
Website	www.vipa.lt	

GOOD PRACTICE FICHE		Region: Lithuania
Title of the good practice:	L6. Standardization and Simplification in Public Buildings Modernization	
Partner region:	Lithuania	
Location data	Lithuania	
Topic of the practice: Thematic coverage <ul style="list-style-type: none"> ○ Activation of demand and combating energy poverty ○ Professionalization of the construction sector ○ New financial instruments 		
Description of the practice: <p>Lithuania has done much in recent years to reduce its energy intensity. However a market segment with considerable energy efficiency potential is the building sector. This includes public sector buildings such as schools, town halls, hospitals (and street lighting). Underinvestment and inefficient operations in these assets waste energy resources and create a significant burden on the public budgets and inadequate comfortable levels for its users, including civil servants, students, patients and normal citizens in poorly lit streets.</p> <p>Estimated potential energy savings range from 25% with few investments to as much as 60% provided there is a high standard of design and investments. It is well understood that many energy saving investments can be repaid through the savings on future energy bills, which means the net effect on the budget can be neutral, and once the investments have been repaid, strongly positive. Commercial arrangements to achieve this can be designed using energy performance contracting (EnPC). In EnPC energy efficiency works (capex) and services are paid mostly from resulting energy cost savings (i.e. budget neutral and not counted as public debt), while ESCOs may sell the resulting receivables (forfeiting) in order to refinance themselves.</p> <p>However these approaches have not yet been well developed in Lithuania. There are a number of existing barriers that explain this:</p> <ol style="list-style-type: none"> 1. Lack of internal funding of beneficiaries and lack of adequate long term financing product for external financing through ESCOs <ol style="list-style-type: none"> a. Public and private building owners lack own funds for financing energy efficiency investments. b. Lack of an appropriate long term financing product for externally financing the energy efficiency investments through ESCOs. 2. Regulatory uncertainties <ol style="list-style-type: none"> a. The contractual and regulatory framework in Lithuania could needed to be still further clarified and simplified. b. A business model is only starting to be established. 3. Lack of resources amongst stakeholders <ol style="list-style-type: none"> a. Lack of expertise and resources among the building owners for preparing ESCO tenders, evaluating bids and monitoring performance. <p>VIPA Agency signed an ELENA (technical assistance facility managed by EBRD) agreement to create project pipeline and to involve a certain number of stakeholders (Lithuanian ESCOs, public authorities and building owners participating in actual EnPC activities) big enough that they can then build on this experience and replicate the ESCO concept further. Transparent and secure framework conditions and sufficient demand of ESCO projects would allow a national ESCO industry to develop.</p>		

GOOD PRACTICE FICHE

Region: Lithuania

Because of the legal restrictions in Lithuania, most central government buildings users are not able to borrow capital on their behalf. In order to address this issue it was decided to apply the ESCO model and start to develop ESCO market in Lithuania. It was soon realized that it was needed standardized documentation for the Public buildings program:

- standard ESCO procurement documentation.
- standard ESCO agreement.

The ESCO procurement is considered public-private partnership (PPP) type procurement in Lithuania. PPP project cycle was, accordingly, standardized, simplified and made shorter.

Performance indicators linked to the practice

Indicators of success linked to the practice:

Other indicators of success:

- 39 applications received to finance through ESCO.
- 13 ESCO type financing application approved.

Evidence of success.

High interest and involvement of possible ESCO's and public building owners are shaping project pipeline. Simplified process will help to reduce administration burden.

Factors that might hamper the transfer:

Major challenges:

- detailed local legislation analysis needed.
- some measures may require to have more complex legal framework changes.
- high competencies of experts involved in standardization and simplification is required.
- market requirements must be considered and market should players consulted (responses should be treated in unbiased way).

Time required to complete the BP	1 year
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Contact details to obtain further information on the practice

Contact name	Justinas Bučys
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Organization	Public Investment Development Agency
Type of Organisation	Joint stock venture (publicly owned)
Website	www.vipa.lt

GOOD PRACTICE FICHE		Region: Lithuania
Title of the good practice:	L7. Complex projects	
Partner region:	Lithuania	
Location data	Lithuania	
<p>Topic of the practice: Thematic coverage</p> <ul style="list-style-type: none"> • Activation of demand and combating energy poverty • Professionalization of the construction sector • New financial instruments 		
<p>During multi-apartment building modernization project implementation, new tendencies emerged:</p> <ul style="list-style-type: none"> • broader planning required due to behavior changes (e.g. some blocks required less energy, therefore smaller diameter heating pipes and smaller heat producing plants needed). • building owners willing to improve their neighborhood. <p>Detailed background</p> <p>The Lithuanian Government has made the energy-efficient refurbishment of existing real estate one of their top priorities. In the new financial period of 2014-2020, the plans include renovations on entire city blocks at once, moving towards a more holistic practice of the integrating renovation of the entire block, rather than simple one-off projects. It means that not only would a single apartment building be affected, but that care would be given to the entire infrastructure in the immediate area, including street lighting, parking-lots, green spaces, playgrounds etc.</p> <p>At the end of 2014, the Ministry of Environment of the Republic of Lithuania and the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety signed a co-operation agreement, supporting Lithuania in developing and implementing the first pilot project of the block renovation initiative in three Lithuanian cities. In the first phase of the integrated block renovation implementation plan for three Lithuanian pilot cities was envisaged.</p> <p>Lithuania has been successfully engaged in modernizing multi-dwelling apartment buildings since 2013, after a new renovation model was introduced. But the overarching goal is to regenerate entire city blocks, rather than single buildings. Modernizing the existing infrastructure as a whole makes the city areas more attractive places to live overall. Therefore, within this pilot project, a complex renovation of the selected quarters in three different cities of Lithuania will be both a learning experience and an adaptable example for other Lithuanian municipalities. Close partnership between the Ministry of the Environment of the Republic of Lithuania and the Association of Local Authorities in Lithuania, throughout all stages of implementation of the pilot project, in later stages will help spread the good practice of block renovation across other Lithuanian municipalities. The aim is to encourage municipalities to include the renovation of residential and public buildings, as well as the regeneration of the surrounding environment and supporting infrastructure, a central facet of their on-going territorial development and improvements programs.</p> <p>Lithuania is looking for opportunities to achieve maximum cost-efficiency when it comes to investing in integrated regeneration projects for its cities, benefiting from the experience of other country's similar renovation projects (such as German experience).</p>		
<p>Performance indicators linked to the practice</p> <ul style="list-style-type: none"> • Estimated number of households with improved energy labeling: 37.000 • Estimated number of households with improved energy consumption classification: 37.000 		

- Estimated number of households engaged in support programmes: 120.000
- Estimated annual energy savings in all households (kWh): 272.000

Indicators above are related to other practices as well, specific allocation to this GP is not possible.

Indicators of success linked to the practice:

- new building block renovation program prepared and launched;
- 3 pilot project applications for block renovation received and financing plans prepared.

Indicators above are related to other practices as well, specific allocation to this GP is not possible.

Evidence of success.

The multi-apartment building renovation process fostered interest in complex buildings blocks (quarter) renovation program which envisage complex renovation of city areas. New programme is developed and 3 pilot projects are launched. Currently, potential financing sources to fund such programme are under analysis.

High interest of municipalities is expressed with possible project pipeline development is envisaged.

Factors that might hamper the transfer:

- coordination of the different financing sources for the complex renovation is challenging.
- Need to find financing sources for non-profit generating investments (e.g. recreational and green areas).

Time required to complete the BP	1 year
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Contact details to obtain further information on the practice

Contact name	Justinas Bučys
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Organization	Public Investment Development Agency
Type of Organisation	Joint stock venture (publicly owned)
Website	www.vipa.lt

GOOD PRACTICE FICHE		Region: Lithuania
Title of the good practice:	L8. Innovation in Financial Instruments	
Partner region:	Lithuania	
Location data	Lithuania	
Topic of the practice: Thematic coverage		
<ul style="list-style-type: none"> • Activation of demand and combating energy poverty • Innovation • New financial instruments 		
Description of the practice:		
<p>Usual financing sources like commercial banks, are risk averse and conservative in Lithuania. Financing periods proposed by banks are too short for the investments in the non-commercial infrastructure (including deep renovation of buildings). Therefore there is a need for non standard financial instruments.</p> <p>The VIPA Agency replied developing a non-standard guaranty product, based on a securitization model, to attract capital to the multi-apartment buildings renovation programmes from international capital market which is:</p> <ul style="list-style-type: none"> i) fast ii) the percentage guaranteed is increasing over time iii) it does not affect NPL's indicators up to guaranty amount 		
Performance indicators linked to the practice		
<ul style="list-style-type: none"> • Estimated number of households with improved energy labeling: 37.000 • Estimated number of households with improved energy consumption classification: 37.000 • Estimated number of households engaged in support programmes: 120.000 • Estimated annual energy savings in all households (kWh): 272.000 		
<u>Indicators above are related to other practices as well, specific allocation to this GP is not possible.</u>		
Indicators of success linked to the practice:		
<ul style="list-style-type: none"> ▪ 1 innovative financial instrument was developed. ▪ 1 innovative public funds leveraging technique is under development. <ul style="list-style-type: none"> ○ 1 investor expressed wiliness to be anchor investor. ○ support for this project from Ministry of Finance, central bank of Lithuania and other key players received. ○ 80% of the modeling prepared. 		
Evidence of success.		
<p>Standard financial instruments do not meet expectations of final beneficiaries, financial intermediaries or investors. The development of innovative financial instruments resulted in high interest among all stakeholders, which is envisaged to develop in new project pipeline.</p>		
Factors that might hamper the transfer:		

GOOD PRACTICE FICHE

Region: Lithuania

- market players are not familiar with new FI features (challenging promotion).
- the need of highly qualified employees to develop innovative instruments.
- some innovations generate high initial costs, (although relatively low compared to the attracted amounts).

Time required to complete the BP

6-24 month depending on novelty level

Contact details to obtain further information on the practice

Contact name Justinas Bučys

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Organization Public Investment Development Agency

Type of Organisation Joint stock venture (publicly owned)

Website www.vipa.lt

GOOD PRACTICE FICHE		Region: Lithuania
Title of the good practice:	L9. Legal Framework Harmonisation	
Partner region:	Lithuania	
Location data	Lithuania	
Topic of the practice: Thematic coverage <ul style="list-style-type: none"> • Activation of demand and combating energy poverty • New financial instruments 		
Description of the practice: <p>A major challenge regarding funding energy initiatives is to have possibility to implement financial instruments harmonizing legislation with EU regulations. Lithuanian government has addressed this question since establishment of the first financial instrument in 2007 by:</p> <ul style="list-style-type: none"> ▪ assessing and harmonizing legislation that conflicts with financial instruments established using public funds. ▪ developing special legislation or programs (with continuous adjustment) for new financial products which can be trusted by all stakeholders. Following special legislation for buildings renovation in Lithuania are developed: <ul style="list-style-type: none"> ○ multi-apartment building renovation programme (MABR). ○ special law governing MABR process. ○ Public building renovation programme. ▪ Stakeholders involved: ministries, funds and financial instruments managers, financial intermediaries, final beneficiaries. ▪ Implementation of this practice did not required substantial amounts of financial resources, but it was crucial to mobilize political support and competences to proceed with change in legislation. ▪ The major weakness of this practice is that there is no universal solution how to implement it. 		
Performance indicators linked to the practice <ul style="list-style-type: none"> • Number of financial instruments established in various sectors, including energy efficiency in buildings . • Currently, VIPA Agency is involved in the legislation changing process which we believe will have the positive effects on attractiveness of financial instruments and enlarge the possibility to attract private investors. 		
Indicators of success linked to the practice: <ul style="list-style-type: none"> • 4 financial instruments for building renovation established. • 1 financial instruments for the building renovation is under development. 		
Evidence of success. <p>We believe that legislation assessment is very important both for:</p> <ul style="list-style-type: none"> - enabling and setting-up financial instruments. - creating any financial instrument using public funds. 		

GOOD PRACTICE FICHE
Region: Lithuania

This good practice and the involvement of the government helped to shape financial instruments in a way so they become attractive both for final beneficiaries and financial intermediaries. The change in legislation resulted in a major increase in project pipeline as well as in participation of financial intermediaries with own funds.

Factors that might hamper the transfer:

This GP is hard to transfer directly to other countries because of differences in legal systems. However, main principles, implementation process and motivational impact of measures could be replicated.

The best solution is to gather a team of top experts in different fields for improvement of the legislation: sector related, state aid public accounting, legal consultants (lawyers), state debt and fiscal, etc.

Another barrier is the limitations set by legislation at the EU level. This obstacle can be dealt with by communicating to EU officials.

When transferring this practice it is very important to have **top level political support** for the legislation changing process to foster energy efficiency.

Time required to complete the BP
Depending on the type of legislation and political support level decisions can take from 2 weeks up to 1 year
Contact details to obtain further information on the practice

Contact name	Justinas Bučys
e-mail	justinas.bucys@vipa.lt
Organization	Public Investment Development Agency
Type of Organisation	Joint stock venture (publicly owned)
Website	www.vipa.lt

GOOD PRACTICE FICHE		Region: Gloucestershire, UK
Title of the good practice:	G1. Warm & Well – Energy Efficiency Advice and Installation Scheme	
Partner region:	Gloucestershire, UK	
Location data	Gloucestershire, UK	
<p>Topic of the practice: Thematic coverage</p> <ul style="list-style-type: none"> • New financial instruments • Activation of demand and combating energy poverty 		
<p>Description of the practice:</p> <p>Warm & Well is delivered by Severn Wye on behalf of a consortium of seven local authorities covering the counties of Gloucestershire and South Gloucestershire. The consortium is currently chaired by Stroud District Council. The other local authority members are Cheltenham Borough Council, Cotswold District Council, Forest of Dean District Council, Gloucester City Council, South Gloucestershire Council and Tewkesbury Borough Council.</p> <p>Warm & Well was launched in October 2001 to install energy efficiency improvements in the homes of domestic householders. In 2012 the Warm and Well scheme opened the Warm and Well advice line, allowing clients in Gloucestershire and South Gloucestershire to access free energy efficiency advice and information on grants and funding available both nationally and locally. This advice line had been running in parallel to Warm & Well previously but then became integrated in order to ensure provision of a holistic programme.</p> <p>The Warm & Well scheme aims to improve energy efficiency in the home and reduce the risk of fuel poverty and associated health problems by:</p> <ul style="list-style-type: none"> • Raising public awareness • Providing specific and appropriate advice to all householders • Making referrals into grant and discount schemes • Addressing central links between energy efficiency, affordable warmth, cold living conditions and health risks, such as cardiovascular illness and condensation damp related respiratory illness <p>The target groups for the project are:</p> <ul style="list-style-type: none"> • Households vulnerable to health problems associated with, or exacerbated by, low indoor temperatures • Households likely to be living in fuel poverty, and unable to afford adequate heating • The general public, to promote awareness of energy efficiency and the related issues of ventilation and the avoidance of condensation damp <p>Grants are available through the Warm and Well scheme and over the years have covered a variety of measures from solid wall installation, first time central heating systems and cavity and loft insulation. The funding has come from different sources, including government departments, local authorities, fuel supplier obligations [see “Energy Company Obligation (ECO)” good practice] and client funding. The scheme has been required to quickly adapt to changes in funding opportunities and explains the current funding available to clients in a clear manner.</p> <p>More recently (since 2014) the scheme has also delivered home energy advice visits to customers, giving behavioural advice specific to their property to help clients lower their fuel bills and/or increase the comfort in the property. This includes supporting people in switching their energy suppliers in order to achieve lower cost energy tariffs.</p> <p>When the Warm & Well scheme was first established in 2001, it received pump-priming funds from</p>		

GOOD PRACTICE FICHE

Region: Gloucestershire, UK

the government sponsored HECAction (Home Energy Conservation Act) programme. In subsequent years, the majority of funding has come from:

- ✓ Local Authority partners: Between 2001-2015 local authority grant funding for energy efficiency measures for privately owned homes has been delivered through Warm and Well. These funds were managed as a single grant scheme known as Gloucestershire Energy Efficiency Grants (GEEG). In 2015/16 Stroud and South Gloucestershire provided GEEG funding for clients.
- ✓ The National Health System (NHS): This support has aided the development of promotional materials and funded home visits to vulnerable households.
- ✓ The Department of Health: The consortium was successful in securing funding from the Department of Health's 'Warm Homes Healthy People Fund' to undertake work with partners to assist vulnerable people living in cold homes winter. The fund provided grants for energy efficiency measures and funding for marketing, events and home visits.
- ✓ Fuel suppliers: In April 2013 the new Energy Company Obligation was introduced - an obligation placed upon the energy companies to invest in energy saving measures and reduce domestic carbon emissions. The funding from suppliers under these obligations has provided a significant proportion of capital funding of works for Warm and Well over the years, and has been obtained either directly through bilateral agreements with the suppliers or via installers listed by the suppliers.
- ✓ The Department for Energy and Climate Change: has funded two projects, the Green Deal Pioneers and latterly the First Time Central Heating Fund, a project ongoing in 2016/17.

Local context

The presence of an independent, impartial not for profit organisation such as Severn Wye has enabled the Warm & Well programme to achieve significant results. With reducing Public Sector funding and resource to provide such services directly, Severn Wye has been in a strong position to be able to engage with eligible clients year on year and as a result of the impartiality, is seen by customers as a trusted organisation able to focus on their needs without prejudice.

With this in mind, Severn Wye has established hundreds of partnerships with other support organisations such as local Citizen Advice Bureaus, Age UK, and Social Care Groups where strong referral networks are in place to ensure customers are signposted as appropriate to support that is aligned to their requirements.

Whilst it takes time to establish a strong brand, the benefits of achieving a long term programme of support is clear – the results below demonstrate just this!

Strength

Utilising a strong relationship with the local Public Sector has enabled Warm & Well to continue to receive financial support year on year as it helps to meet a number of changing statutory requirements whilst simultaneously maintaining a simple and clear offering to householders in the participating region. As resources become increasingly stretched within the Public Sector, the strength of using a dedicated delivery partner such as Severn Wye is that it is possible to focus on specific delivery at the same time as integrate a range of disparate programmes in a uniformed way so as to ensure clarity of message for those in need of support.

Opportunity

There is an underlying strategic opportunity present in the approach of Warm & Well, which means that not only can local policy be influenced, but the region can also benefit from new opportunities that appear as a result of having a delivery mechanism already in place that is ready to take on new avenues of funding. This means that it is not necessary to set up new systems for new opportunities as they can be merged into existing frameworks, which not only offers the benefit of providing a holistic and cohesive service provision, but that it can also achieve it at a lower cost than would be the case if all systems needed creating from nothing.

GOOD PRACTICE FICHE

Region: Gloucestershire, UK

Threat

The main threat to Warm & Well comes from a combination of reduced funding availability from the Public Sector and a change of focus that has reduced statutory priorities away from Environmental issues.

Contracting budgets from the Public Sector means that they must focus their resources on current statutory requirements. These are largely focused around a) their own income generation and b) provision of Health support to their residents. As such Severn Wye has to integrate the Warm & Well programme with Local Authority priorities, which at the current time is possible as a result of the direct links between Health and warm and affordable housing. However, with changing priorities, it is possible that in the future it will become less possible to draw such links (subject to the direction that changing priorities take), and as such the need for independent delivery organisations such as Severn Wye to consider their own income diversification opportunities is paramount.

Lessons Learned

There are a number of key lessons we have learned in developing and delivery of Warm & Well, and the key lessons are:

- Partnerships with other local service delivery organisations are essential for the long term success of the programme and the need for a clear and simple message for the end users
- Maximisation of external funding streams enables a strong service to be maintained – it allows more external funding to be utilised, thus reducing the requirement on householders to spend money (they often don't have) on energy saving improvements

Continued availability of a delivery mechanism (the infrastructure that enables such programmes to be delivered) is essential in enabling the region to attract further revenue from new initiatives on an ongoing basis.

Performance indicators linked to the practice

- Number of households with improved energy consumption classification
- **Number of households engaged in support programmes: 80,000**
- Annual energy savings in households

Indicators of success linked to the practice:

Since 2001 the scheme has given energy efficiency advice to more than 80,000 residents across the participating regions, installed over 65,000 measures in over 41,000 properties.

678,327 tonnes of CO₂ has been saved over the lifetime of measures that were installed through Warm and Well since 2001. 17,452 tonnes of CO₂ saved each year from measures installed through Warm and Well since 2001. More than £30 Million has been invested in home improvements, with as little as 11% of this coming from householder contributions.

Evidence of success.

The Warm and Well scheme has been highlighted as an example of good practice in several best practice guides and toolkits, and in June 2006, was awarded first prize for energy efficiency at the "Ashden Sustainable Energy Awards". In 2014 Warm & Well was nominated for the EU Managenergy Award for local action, and awarded joint second prize with Severn Wye's colleagues at the Andalusian Energy Agency.

Factors that might hamper the transfer:

There needs to be a commitment toward longer term improvement of housing stock within a region from the Public Sector that is closely linked to the understanding of all associated problems for people living in poor quality or unaffordable homes. In line with this is a need for capital funding to be available in order that it can be accessed by those most in need without requiring a significant

GOOD PRACTICE FICHE		Region: Gloucestershire, UK
<p>contribution from them towards the planned improvements. As the benefit of installed measures are often not realised until after they have been installed, it will be difficult for people to justify making significant contributions towards the cost of measures if they are required to do so.</p>		
Time required to complete the BP	Approximately 2 years	
Contact details to obtain further information on the practice		
Contact name	Mike Brain	
e-mail	mikeb@severnweye.org.uk	
Organization	Severn Wye Energy Agency	
Type of Organisation	Independent, not for profit sustainable energy education charity	
Website	www.severnweye.org.uk or www.warmandwell.co.uk	

GOOD PRACTICE FICHE		Region: Gloucestershire, UK
Title of the good practice:	G2. Energy Company Obligation (ECO)	
Partner region:	Gloucestershire, UK	
Location data	UK	
Topic of the practice: Thematic coverage <ul style="list-style-type: none"> • New financial instruments • Activation of demand and combating energy poverty 		
Description of the practice: <p>The ECO is a financial obligation that is placed on energy suppliers that have either more than 250,000 domestic customers or provide 400 gigawatts of electricity or more than 2,000 gigawatts of gas. It is a government energy efficiency scheme to help reduce carbon emissions and tackle fuel poverty. It is administered by the industry regulator OFGEM (the office of gas and electricity markets) who impose sanctions on fuel suppliers who do not achieve their targets to reduce carbon emissions and tackle fuel poverty. They also report back the results to the Department of Business Energy and Industrial Strategy (BEIS) and the Secretary of State. The suppliers are given targets based on their share of the domestic gas and electricity market. The scheme focuses on installing heating and insulation measures and supports vulnerable consumer groups.</p> <p>The funding comes from a mixture of fuel supplier investment and a levy on all fuel bills which have been reduced significantly over the last 3 years reducing the pot from £1.3bn to £640m. We are currently in phase 2 of ECO which is due to end in March 2017.</p> <p>The key stakeholders are:</p> <ul style="list-style-type: none"> ▪ Department of Business, Energy and Industrial Strategy (national policy) ▪ OFGEM (regulation) ▪ Local Government (local policy and implementation) ▪ Energy Saving Trust (NGO) ▪ Energy Services Companies (industry) ▪ National Energy Action (fuel poverty charity) ▪ Energy Agencies (local implementation) <p>The obligation is split into 3 categories.</p> <p>1) Carbon Emissions Reduction Obligation (CERO)</p> <p>The key target group:</p> <ul style="list-style-type: none"> ▪ Able to pay (private and social housing) <p>2) Carbon Saving Community Obligation (CSCO)</p> <p>The key target groups:</p> <ul style="list-style-type: none"> ▪ Low income ▪ People receiving certain benefits and living in private domestic properties ▪ Vulnerable households in rural areas <p>3) Home Heating Cost Reduction Obligation (HHCRO)</p> <p>The key target group:</p> <ul style="list-style-type: none"> ▪ People receiving certain benefits and living in private domestic properties <p>Initially there was no client contribution but since the funding has been decimated in order to ensure high numbers there is often a client contribution required. This reduction of funding has impacted the</p>		

GOOD PRACTICE FICHE

Region: Gloucestershire, UK

delivery of the programme to the low income and vulnerable demographic. Phase 3 of ECO will commence in April 2017 for 5 years with the strategy focus being fuel poverty. Details have still to be released on the specific details.

Local context

As there is no regional apportionment of the funding, local government and devolved administrations (Scotland, Wales and Northern Ireland) have invested in local programmes to attract and maximize ECO investment into their area. Essentially, the more local, or matched funding (from the private sector) identified, the increased likelihood that ECO funding can be attracted to any given region.

Strength

Across Gloucestershire we have established two funds for insulation GEEG (local government provision of the 'Gloucestershire Energy Efficiency Grant') and GEEG+ (funding provided by the Clinical Commissioning Group (CCG)). This additional investment covers the client contribution and ensures that vulnerable and low income households can still access measures. Severn Wye currently provides the delivery mechanism for these funds.

Weakness

HHCRO is mainly focused on gas boiler replacement and this has negatively impacted investment in areas that are off the gas grid.

Opportunity

This market failure is being addressed via a separate £20m Central Heating Fund pilot to help install first time central heating and increase connectivity the mains gas pipeline where practical. It is likely that this will form part of the new obligation in ECO 3 to be launched in April 2017.

Threat

General budget cuts means that everyone is fighting to attract funding and those with the most local investment or the ability to scale up programmes with higher carbon yield will benefit to the detriment of those with less potential.

Lessons Learned

It is vital that local energy agencies are engaged with the key stakeholders and are planning ahead for the future. While local government funds are being cut, public health funding is widely available where it can be evidenced that the funding is reducing the impact of cold damp homes and keeping people safe and well at home as opposed to in hospital or social care. Our recent £200k investment from the CCG will hopefully be the start of further and wider investment that will supplement ECO 3 which will, as we know, focus on fuel poverty.

Utilizing an independent delivery mechanism (such as Severn Wye Energy Agency, or others) not only gives trust and credibility for the end user beneficiaries, but it also means that wider opportunities can be joined up enabling significantly more 'on the ground' impact to be achieved.

Performance indicators linked to the practice

- **Number of households engaged in support programmes: 1,169,521**
- Number of households with improved energy labelling
- Number of households with improved energy consumption classification
- Number of households engaged in support programmes
- (kWh) Annual energy savings in households

GOOD PRACTICE FICHE
Region: Gloucestershire, UK
Indicators of success linked to the practice:

Outcomes for ECO1: Jan 2013 - March 2015

1,169,521 households received ECO support between January 2013 and March 2015. This is 44.5 households from every 1000. The highest concentration was in North-West England at 71.8 per 1000 households.

CERO 18.33 MtCO₂ lifetime, measures - 593,042

CSCO 9.87 MtCO₂ lifetime, measures - 382,982

HHCRO total lifetime cost savings £5.16bn, measures – 433,657

For more info:

https://www.ofgem.gov.uk/sites/default/files/docs/2015/09/eco_final_report_0.pdf

Evidence of success.

All ECO1 programme indicators were achieved or surpassed. It was a catalyst for major investment and jobs growth in the energy services sector. This success of ECO1 has led to ECO2 being delivered, and from April 2017, it is expected that ECO3 will be launched.

Factors that might hamper the transfer:

An equivalent scheme would need national policy implementation and wider support in skills and growth for the energy services/construction sector.

Time required to complete the BP
12-24 months
Contact details to obtain further information on the practice

Contact name	Brian Canning
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Organization	Severn Wye Energy Agency
Type of Organisation	Private SME and not for profit sustainable energy education charity.
Website	www.severnwye.org.uk

GOOD PRACTICE FICHE		Region: Gloucestershire, UK	
Title of the good practice:	G3.ACHIEVE – Actions in low income Households to Improve Energy efficiency through Visits and Energy diagnosis		
Partner region:	Participant Name	Country	
	Liaison Committee for Sustainable Energy	France	
	(GERES) Groupe Energies Renouvelables, Environnement et Solidarites	France	
	Severn Wye Energy Agency, Gloucesterhire	UK	
	Caritasverband (CARITAS) Frankfurt, Germany	Germany	
	Focus Association for Sustainable Development	Slovenia	
	Energy Agency of Plovdiv (EAP) Bulgaria	Bulgaria	
	Institute de l'Ecologie en Milieu Urbain (IDEMU)	France	
Location data	Wiltshire, UK		
Topic of the practice: Thematic coverage			
<ul style="list-style-type: none"> • Activation of demand and combating energy poverty • Professionalization of the construction sector 			
Description of the practice:			
<p>A number of training and work experience placements were offered to job-seekers through the local Job Centre. A guaranteed interview was then offer at the end of the work experience placement. The training was aimed at people who had no previous experience in working in the energy sector or in energy advice.</p> <p>Home visits were offered to vulnerable clients in the Trowbridge area of Wiltshire; these were carried out by the new trained energy advisors. Each client received two visits which produce a broad range of recommendations for clients, with the aim of saving households an average of 10%.</p> <p>Visit 1: Assessed in detail the clients energy and water consumption in the home and will lasted around 2 hours.</p> <p>Visit 2: The advisor then visited a second time to give the client a written report showing where and how the client could reduce their energy use. The advisor explained the information in the report, and answered any questions the clients had. The advisor also fitted free energy saving devices where appropriate and giving them tips on small changes in behaviour that will help to save even more money.</p>			
Complementary benefits			
<ul style="list-style-type: none"> ○ Training and development of new energy advisors ○ Job creation for people out of work 			
Performance indicators linked to the practice			
<ul style="list-style-type: none"> • Number of households with improved energy consumption classification • Number of households engaged in support programmes: 136 • (kWh) Annual energy savings in households • Training and development of new energy advisors: 9 • Job creation for people out of work: 9 			

GOOD PRACTICE FICHE		Region: Gloucestershire, UK
<p>Indicators of success linked to the practice:</p> <ul style="list-style-type: none"> o 136 home visits were carried out. From these a total of £6062.81 per year was saved from customers' bills, averaging £44.58 per household/year. This equates to 19374.93 kg of CO₂ saved per year, averaging 142.46 kg of CO₂ per household. o Nine advisors were recruited and trained during the project. 		
<p>Evidence of success.</p> <p>Across the 136 properties, 1319 energy saving devices were installed; this included 572 energy saving bulbs (82 LEDs), 372 reflective radiator panels and 272 TV power downs. In addition, as a result of referrals made through the scheme, further energy efficiency measures were installed (boiler upgrades, loft and cavity wall insulation) that are estimated to save a further £855 and 3640kg of CO₂ per year.</p> <p>Customer satisfaction with the service was high (the average was 8.9, where 10 was very satisfied). 95% found the energy saving tips and recommendation provided helpful (30%) or very helpful (65%). 95% also said they found the energy saving devices installed on the return visit helpful (21%) or very helpful (74%).</p> <p>Nine advisors were recruited over the period of the project on either a fixed term contract or a zero hours contract. Recruitment was targeted at people who had been out of work. The targeted individuals were offered a training course, work experience and a guaranteed interview. The training was aimed at people who had no previous experience in working in the energy sector or in energy advice. All advisors reported that they liked the job, one commenting that they 'get a great deal of job satisfaction'.</p>		
<p>Factors that might hamper the transfer:</p> <p>Newly trained energy advisors required a lot of support from supervisors; this should be allowed for in time allocations.</p> <p>Generating interest in visits can take a significant amount of time. It would therefore be beneficial to conduct the project in an area where existing relationships with potential clients and stakeholders are held. It is important to consider whether the newly trained advisors can drive/have access to a car or use reliable and accessible public transport.</p> <p>Consider the ability of the recruits and their confidence to do the job. It is important to provide day to day mentoring and support.</p>		
Time required to complete the BP	36 months	
Contact details to obtain further information on the practice		
Contact name	Sarah Dittmann	
e-mail	sarahd@severnwye.org.uk	
Organisation	Severn Wye Energy Agency	
Type of Organisation	Private SME and not for profit sustainable energy education charity	
Website	www.severnwye.org.uk	

GOOD PRACTICE FICHE		Region: Gloucestershire, UK
Title of the good practice:	G4. Cynefin	
Partner region:	Gloucestershire, UK	
Location data	Wales, UK	
Topic of the practice: Thematic coverage <ul style="list-style-type: none"> • Activation of demand and combating energy poverty • Innovation 		
Description of the practice: <p>Cynefin was a Welsh Government programme that aimed to explore new approaches to the delivery of long term improvements to community well-being across Wales. It broke away from the traditional competitive, style delivery models for community development, driven by targets and reporting, and aimed to engage and collaborate with communities and across sectors to share services and goals.</p> <p>The Cynefin project covers a very wide range of projects including:</p> <ul style="list-style-type: none"> • <i>Stronger Resource Efficiency for desirable communities: How local innovation in asset stewardship ensures a green and prosperous economy</i> • <i>Tackling poverty</i> <p>All details can be found: http://www.cynefinwales.org.uk/resources.html</p> <p>The Cynefin programme was built around three main aims:</p> <p>Place –to deliver real improvements to the wellbeing and quality of life of people in deprived areas, through engagement, involvement and empowerment of communities to develop sustainable place-based projects.</p> <p>Process – to explore and support novel ways of working and to demonstrate how cross sectorial working and creating new partnerships could inspire creative solutions to deeply engrained issues.</p> <p>Policy – to provide evidence and real-time learning about delivery, policy barriers and policy drivers to inform local and national policy development.</p> <p>Cynefin employed eleven “Place Coordinators” who each engaged with a deprived community in Wales. Within these communities, the Place Coordinator:</p> <ul style="list-style-type: none"> • facilitated the community to build a shared vision for what was needed to improve the quality of life in their area • facilitated collaboration between the existing organisations, service delivery agents, third/private sectors and residents, to work together to come up with creative solutions • provided real time feedback and learning into the programme and policy development <p>Evaluation and active learning was built into Cynefin from the outset. The programme managers worked alongside an independent research and strategy consultancy to develop a learning framework to capture the multiple benefits and added value of the Cynefin ways of working, which was reported on a quarterly basis following feedback from Place Coordinators, stakeholders and management. This pioneering evaluation process allowed continuous flexibility to make changes throughout the programme and to feedback to policy makers.</p> <p>Programme management and governance</p> <p>The Cynefin management team consisted of representatives from Severn Wye and Welsh Government, who worked together to enable real-time information flow and learning. In addition, a Place Leadership and Advisory Group was established to both steer and share learning from and with Cynefin, which brought together academics, local authorities, and senior practitioners already working in a place-based way.</p>		

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Strengths

- The programme had no predetermined targets; to ensure that the work in each area would arise from engagement and dialogue with all community stakeholders.
- The Place Coordinators did not deliver community projects but instead facilitated collaboration, built capacity and empowered communities to take on projects themselves.
- As independent facilitators, Place Coordinators have been able to identify duplication and synergies between service providers and to bring them together to work in an integrated, collaborative manner.
- By involving the community and stakeholders throughout the process, a sense of ownership of work streams, services and assets is created, which ensures that continuance of projects is more likely to be achieved.

Weaknesses

- Small grants to support community engagement activities, pilots or to collect local data may have allowed early investigations of work streams to progress more rapidly
- Phased funding of the programme (based on results) particularly at early stages did not support the transformational change and long-term approach required to tackle deep issues in a sustainable way, beyond the initial 1st year trial the additional 2 years was beneficial but in reality this type of programme requires a minimum of 4 years funding.

Lessons learned

- Early engagement with all stakeholders is essential to build long-lasting relationships
- Creating a shared vision and mandate between all stakeholders and then empowering all to take action is necessary
- Independence from specific programmes, funders or vested interests but with high level government backing was essential.
- Permission to challenge the status quo and roam across public sector silos was required to provide creative and joined-up solutions to complex issues
- Trusting, responsive and constructively critical management was needed to support the delivery officers this also required flexibility from the funders and the space and freedom for delivery officer to be responsive to place context

Performance indicators linked to the practice

- **Number of households engaged in support programmes: 3899 residents**

The monitoring approach consisted of a narrative account based mainly on qualitative evidence and case examples, produced as a quarterly report by an independent consultancy firm. This was supported by a set of 11 cross-cutting indicators that covered a range of place and process outcomes.

Indicators of success linked to the practice:

The quantitative data showed that, by mid-March 2016, Cynefin had: catalysed 59 workstreams (although some had become inactive) and over 270 new working groups, networks and partnerships; actively engaged more than 10,000 individuals and organisations; secured over 38,000 hours of time for Cynefin-linked activities from individuals and organisations (including public sector bodies); unlocked over £1.73 million of funding; and enabled over 2600 community members and professionals to receive mentoring and training. Several places were waiting to hear the outcome of funding applications and therefore the final figure for funding secured for Cynefin-linked activities will ultimately be higher.

3899 residents were actively involved in Cynefin-linked activities. This rose from 541 in the first quarter to 3899 by the end of the fifth quarter. 8097 hours were contributed to activity with residents. £2670 was directly linked to residents whilst the majority of funding went to charities and the public sector to support residents.

Evidence of success.

Cynefin was able to feed into the development of National policies, including the Environment Act, Public Health Bill and Wellbeing of Future Generations Act. Communities were empowered to take

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<p>action to improve quality of life and wellbeing in their places.</p> <p>Public Sector bodies were trained and supported to understand and consider new ways of working internally and within their communities. This acted as a forerunner to the 5 Ways of Working they are now required to demonstrate under the Wellbeing of Future Generations Act – Involvement, Collaboration, Long-Term, Integration and Prevention.</p> <p>One of the key elements of Cynefin was that success was not defined by hitting KPIs and targets – when you measure a piece of work by predefined targets and measures that’s what you get but it doesn’t always actually deliver the changes you need. Cynefin was about understanding what was needed for the people in those communities and helping them to achieve that – we were most accountable to those we were supporting and not those measuring our performance. The best evidence of success therefore comes directly from them.</p> <p>See communities telling us themselves why and how Cynefin worked for them at http://www.cynefinwales.org.uk/resources.html#collapse-869</p>		
<p>Factors that might hamper the transfer:</p> <p>Cynefin was an entirely new way of working for community developers, managers, evaluators and funders. The approach developed throughout the 3 years and required commitment, bravery, training and support for all. Now we understand how it worked and why we have a reasonable understanding of the critical factors/ Whilst many of these can be factored into delivery e.g. flexible targets, funding structures, engagement training etc., many factors are also related to behaviour, ethos and approach. This approach requires a high level of trust, willingness to take risk and learn from failure.</p>		
Time required to complete the BP	3 years	
Contact details to obtain further information on the practice		
Contact name	Simone Lowthe-Thomas	
e-mail	SimoneLT@severnwye.org.uk	
Organization	Severn Wye Energy Agency	
Type of Organisation	Independent, not for profit sustainable energy education charity	
Website	www.severnwye.org.uk http://www.cynefinwales.org.uk	

GOOD PRACTICE FICHE		Region: Gloucestershire, UK
Title of the good practice:	G5. Target 2050	
Partner region:	Gloucestershire, UK	
Location data	Stroud Local Authority area, UK	
Topic of the practice: Thematic coverage <ul style="list-style-type: none"> • Activation of demand and combating energy poverty • Professionalization of the construction sector • Innovation • New financial instruments 		
Description of the practice: <p>What was the reason for commissioning the project?</p> <p>Stroud District Council were aware that there was a need to increase the rate of retrofit in their properties in order to meet the 2050 carbon reduction targets. As many buildings in the district are old and there is wide range of property types, many existing households did not fit the standard retrofit options available so uptake of incentives was not as high as it could be. This also applied to businesses and community buildings which were facing financial pressures and were important hubs for the community both socially and economically. As a result, Stroud District Council commissioned Severn Wye Energy Agency to complete the Target 2050 project. The name was inspired by the headline National target for a 60% reduction in carbon dioxide emissions on 1990 levels by 2050.</p> <p>What is Target 2050?</p> <p>A programme of local activity which was developed to complement what was provided through the market and/or national programmes. This consisted broadly of:</p> <p>Target 2050 Homes: Development of a targeted approach to achieving deep carbon cuts in existing homes.</p> <p>Target 2050 Business: Bespoke advice for SMEs, with on-site surveys and action plans. This was designed to complement the Carbon Trust provision by targeting those whose annual energy spend was below their threshold for face-to-face support.</p> <p>Target 2050 Community Buildings: On site surveys, advice and help with finance for measures to improve energy efficiency and promote renewables in community buildings.</p> <p>The programme also incorporated completion of the Eco-Management Scheme (EMAS) for the local authority's own operations and support for development of forward-looking planning policy through mapping of heat loads and resources for renewable energy against housing needs.</p> <p>How did Target 2050 Homes work?</p> <p>The project aims were:</p> <ul style="list-style-type: none"> ○ Providing an effective framework for significantly reducing carbon emissions for the domestic sector ○ Providing a significant range of examples of how existing technologies might be used to achieve deep carbon cuts in existing homes, while preserving built heritage and character ○ Stimulating the local market for sustainable energy retrofit ○ Alleviate fuel poverty by 'future-proofing' local homes ○ Enabling local suppliers to participate in this area of economic activity <p>The main features of the programme were the development and delivery of:</p> <ol style="list-style-type: none"> 1. An <i>expert advice programme</i> to support whole house sustainable energy retrofit. This included a home survey, a report and follow-on support. 2. Ongoing support for an <i>installer network</i> covering a range of relevant technologies with an inclusive, capacity building ethos. Installers were provided with support, networking events and advice through events, meetings and newsletters. All installers had to be accredited to named 		

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organisations and were able to explain the financial support mechanisms in place as part of their work, increasing the benefits for both consumer and installer.

3. A *set of case study homes*, broadly representative of the range of building types in the area, to illustrate the barriers and solutions to achieve deep carbon cuts through sustainable energy retrofit. 23 from 200 homes were selected based on a clear set of criteria. Each home had a full energy survey, an action plan, support to install as many measures as possible during the project including applications for grants where applicable. Up to £6000 additional support towards the cost of measures from a dedicated fund was also available. Low income households were able to apply to another allocated local authority fund to largely, or completely, cover the cost of installations.

The participating households Monitored their energy use and provided meter readings to the project team. They also took part in a behavioural change programme and had regular contact with the project team and each other through meetings, events and a website.

A further 37 exemplar homes have been developed through the extension of the Stroud Target 2050 approach into neighbouring areas.

4. An *effective communications programme* to make knowledge and experience available throughout the community. The behavioural change programme aimed to complement the core advice service through:

Feedback: Enabling and encouraging households to monitor energy use, to see what they have (or have not) achieved and take further action. Participating households were asked to log energy use on a monthly basis and this was fed back to them annually. More immediate feedback was to be provided through a locally-developed energy monitoring system known as “EMU” (Energy Monitoring Utility).

Peer group support: Motivating households to maintain energy saving behaviour through interaction with the other households in the group, developing a sense of being part of a club, and physically enabled via the project website, newsletters, social gatherings and events.

Sense of agency: A term sometimes used with regard to pro-environmental behaviour, in that if people feel empowered that they CAN make a difference if they make certain decisions, then they are more likely to do so.

5. A *pilot PAYS (Pays As You Save) loans programme*, to test consumer interest in this approach and learn practical lessons about delivery. During the final year of the programme the opportunity arose to join the Department of Energy and Climate Change Pay As You Save (PAYS) pilot, and Stroud District was one of just five pilots selected. It was relatively straightforward to apply the approach to the Target 2050 programme, as the appropriate partnership was already in place, together with a relevant advice approach with the requisite quantification of potential savings, and an installer group covering the necessary technologies. The District Council Environmental Health team adapted their grants and loans programme to meet the needs of a long-term loan repaid in monthly instalments, alongside the Council tax billing system, and put the necessary legal framework in place. A charge was registered against the property on the Land Registry to provide security for the loan in case of change of ownership. The PAYS loans programme was used in combination with bespoke advice about other grants and funding mechanisms available. This created a trusting relationship and avoided homeowners feeling overwhelmed.

How did Target 2050 Community Buildings work?

The project’s main focus was to ensure the uptake of energy efficiency and renewable energy measures in all participating community buildings, creating a number of ‘exemplar’ halls that demonstrate that an energy-efficient hall is a better asset to the community, a more viable business opportunity and can act as a catalyst for change across the community.

Support, advice and an on-site energy audit plus written report was offered to 30 Stroud District village halls and community buildings over the two years on a ‘first come, first served’ basis.

Severn Wye contacted all halls in the district in Year 1 and invited them to fill in a short application form. The first 10 eligible applications received were offered a full energy audit in Year 1 with remaining halls being put through to Year 2 when another recruitment campaign was carried out to fill the remaining places. All participating halls were required to provide Severn Wye with at least one year’s worth of fuel bills prior to audit to help determine energy consumption patterns, check tariffs and any standing charges.

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Once a building had been accepted onto the scheme, Severn Wye carried out an on-site energy audit accompanied by a relevant member of the committee and/or caretaker. The walk-round survey examined all elements of the building fabric and heating systems and involved discussion with the hall representative regarding building history, hall user type and frequency, any heating or lighting control systems, how they are used in practice and any plans for the future. Severn Wye then produced an energy audit report designed to provide a useful, accessible, comprehensible summary of the main features of the building in relation to energy use.

The report then moved on to a section that provided a summary of the recommended actions that could be taken.

Severn Wye advisors remained available to the halls for ongoing support with the implementation of the projects. This further support included help with applications for funding, obtaining permissions, identifying installers, assessing quotes, preparing business plans and consulting with local residents and community members.

To assist halls with the installation of identified measures and technologies, Stroud District Council offered participating halls a capital grant towards the realisation of the project.

In Year 1 Stroud District Council made £20,000 available through the Target 2050 programme and £55,000 through a regeneration programme. Halls were able to apply for up to £3,000 without match funding but for amounts above £3,000 and up to the maximum of £35,000, match funding of no less than 50% was required. All grants in Year 1 were administered by the Council.

In Year 2 the grant level was altered due to reduced funding available and halls were eligible for up to £3,000 (max. 75% of total project costs) from a total grant pot of £30,000. Severn Wye took over the administration of the grants in Year 2. The audit reports included full details of complementary funding sources, both local and national, to which halls could apply for matching funds.

Where required, direct follow-up assistance was given with applications to organisations including the Gloucestershire Environmental Trust (which awards grants from Landfill Communities Fund monies), and other government, private sector and charitable funds.

At the time of the project, there was significant public grant funding available for renewable energy installations, principally the Low Carbon Buildings programme. This has since ended and been replaced by the Feed-In Tariffs.

During the second year of Target 2050 Community Buildings, Severn Wye organised a number of energy days and events when the participating halls could come together to discuss the issues they were facing in implementing their sustainable energy projects and any lessons learnt. This was useful in encouraging halls to work together especially as many were facing very similar challenges.

How did Target 2050 Businesses work?

The project had four key elements:

1. To fill the gap in service provision. Only businesses with an annual energy spend of more than £50,000 were eligible for free, face to face, energy saving support at the time the project commenced.
2. The essence of the project was to work with local SMEs to identify opportunities for them to reduce their energy consumption/CO2 emissions at the same time as reducing the rate at which their energy bills were increasing.
3. One very important aspect was to provide ongoing support up to the point at which measures were actually installed within businesses. To support this, a local sustainable energy installer network was established to deliver recommendations made in the energy reports.
4. The final element of work was to integrate this project with wider environmental support services available to businesses. By creating close working relationships with other service providers such as Business Link it was possible to achieve this.

The project proved very popular and successful. 120 Stroud-based businesses signed up to the scheme over four years with 93 receiving a full package of support.

The scope of this programme was developed from experience of two previous programmes: the Carbon Trust on-site support to larger businesses with an annual energy spend of more than £50,000, and the Carbon Trust/Energy Saving Trust partnership SME advice pilot, Action Energy ,

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which ran from 2002 to 2004.

In both cases it was the business that was left to interpret the energy report, identify the specific energy saving measures (specific type of lighting, motor, pump or boiler) and then find a quality installer to undertake the work. As a result, many businesses did not get to the point of implementing the measures recommended, and energy and carbon saving potential was not realised.

The Target 2050 business service provided:

- o free on-site energy surveys
- o a tailored report of findings
- o development of bespoke 'energy action plans' with each business
- o follow up support to research specific technologies
- o identification of qualified and accredited installers
- o help with reviewing quotes for works being considered

Initially our service was aimed at those businesses with an energy spend of £5,000-£50,000. As the project progressed, this was broadened to be available to businesses with an energy spend of less than £5,000 at the request of the Federation of Small Businesses and other partners.

At first it was difficult to recruit businesses to the scheme with many companies appearing suspicious of an unknown agency approaching them. However, working with known and trusted organisations such as Business Link and the Council has greatly increased the number of companies joining the project.

The top five measures installed by Target 2050 businesses were:

1. Improved monitoring of energy use
2. Development of an energy policy
3. Installation of more efficient lighting
4. Increase in levels of draught proofing
5. Undertaking competitive tendering for utilities

Performance indicators linked to the practice

- o Number of households with improved energy labelling
- o Number of households with improved energy consumption classification
- o **Number of households engaged in support programmes: 102 (see overleaf)**
- o (%) Reduction of annual primary energy consumption in public buildings
- o **(kWh) Annual energy savings in households: 70,290 kWh/year energy savings**
- o Number of households with improved energy consumption classification

Indicators of success linked to the practice:

What were the key outcomes of the Target 2050 Homes project?

- o The surveys indicate the potential to achieve an average annual reduction of 58% in CO2 emissions, 57% in energy consumption and £960 on fuel bills, by applying known and available measures
- o **102 of the households surveyed are known to have gone on to install energy saving measures which could reduce their energy consumption and carbon emissions by an average of 24%, and their fuel bills by £406**
- o Of the 50 case study homes, the ten with the greatest savings potential as a result of the measures already installed could achieve carbon savings of 41-74%, energy savings of 22%-70% and fuel bill savings ranging from £186 to £2,160
- o The top ten homes all addressed heat loss in one form or another. Five of them switched their main heating fuel and a further four improved the efficiency of their heating by replacing their gas or LPG boiler
- o Between £14,000 and £47,000 was invested in each of the top ten homes
- o No obvious direct correlation was found between the amount of money spent and the carbon savings achieved, due mainly to the wide variation in practical opportunities for improvement, as well as differing priorities and restrictions for each household.

What were the key outcomes of the Target 2050 Community Buildings project?

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The project results show a significant uptake of a wide range of measures including:

- Fifteen lighting and glazing upgrades – these are relatively straightforward measures that can be usually installed within the £3,000 Target 2050 grant
- Six upgraded heating systems and controls – for halls that are on mains gas, upgrading to a more efficient boiler with proper controls is very often the most cost-effective solution
- Three solid wall and sloping ceiling insulation measures – it is very encouraging to see some of the halls tackling the difficult issue of insulating solid walls and sloping ceilings. The capital grant was key to these going ahead
- Three ground source heat pumps, five new solar PV systems installed or approved, and a solar thermal hot water system helping halls to generate renewable energy and reduce costs into the future

The savings made during the project were:

- 70,290 kWh/year energy savings
- £4938 cost savings
- 28.6 tCO₂/year carbon savings
- £105,210 lifetime cost savings (based on 2008 energy prices)
- 630 tCO₂ lifetime carbon savings (assumes 60% of units exported; benefits quantified are savings only)

A small number of halls used the opportunity to obtain capital grants and technical support to install several measures simultaneously as part of a significant refurbishment. These became the 'exemplar' halls and continue to be a source of inspiration and motivation to other halls and the wider community.

Several of these halls have been nominated for awards and all have reported lower bills and warmer, better-used halls and interest from users as to why and how the changes have been made. All of these halls were successful at using the Target 2050 capital grant to lever in significant resources from other funders.

Another key result of the project was the amount of external funding that has been 'levered in' to the district as a result of the programme. The grants and support offered by Target 2050 enabled these halls to apply for the remaining funds from a wide variety of sources. By May 2012, in excess of £191,000 was levered in by Target 2050 Community Buildings. The figure increased further once all projects were completed. The vast majority of this funding has been directed at local Target 2050 Installers' Network companies which have carried out the work. This has been of benefit to the local economy and increased the experience and portfolio of these local businesses.

What were the key outcomes of the Target 2050 Businesses project (2007-2011)?

- 1,300,000+ kWh of energy
- Cost savings of at least £99,500
- Saving of 490+ tonnes of CO₂ emissions
- 93 businesses accessed the full service
- 22 smaller businesses offered telephone advice only
- 46 businesses signed action plans

Evidence of success.

Target 2050 Homes

Target 2050 Homes has provided the basis for an effective longer term targeted approach to achieving deep energy and carbon cuts in existing homes, including:

- An advice approach and advisor experience in identifying and prioritising a range of energy and carbon saving measures in a range of house types, and with a range of households, including development of a tailored home energy report and provision of 248 detailed home surveys
- A significant range of 50 case study homes, illustrating what can be achieved and how, and the practical barriers and solutions encountered in applying solutions
- A model for dissemination through events and seminars, case studies, and 'open homes', raising awareness of the opportunities with both householders and installers

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- Stimulation of the market for sustainable energy retrofit through development of a local installer network, which now has over 100 members installing a range of energy efficiency and renewable energy measures
- An understanding of the costs and householder perspective on investing in improvements, and the practical issues as regards financial support mechanisms, through the experience of managing grants programmes and the PAYS pilot, and in supporting households in identifying finance and obtaining quotations for works

The overall conclusion is that there is significant value in moving forward with an integrated non-profit local partnership model which builds further upon these positive features. By extending this to neighbouring local authority areas, we aim to achieve some economies of scale while maintaining the benefits of local knowledge and a personalised service.

The evaluation of the PAYS pilots indicated householder preference for a programme led by public/non-profit providers that are commercially impartial, and the importance that they placed on practical knowledge and expertise. In the emerging market for sustainable energy retrofit, this depends upon an open and transparent sharing of experience, and a culture of continuous learning and improvement.

While a streamlined customer journey is a positive ideal, the value of allowing for multiple entry points to a service should be recognised, and to facilitate this it is important to engage all key actors and to ensure that communication lines remain open so that problems can be resolved as they arise.

Target 2050 Community Buildings

In addition to the outcomes shown above, the Target 2050 Community Buildings project demonstrated that the provision of bespoke and expert advice, coupled with capital funding, can kick-start community buildings into action and enable important improvements to be made quickly. Many halls are then able to build on these successes and lever in further funding to complete the transition into exemplar buildings that are cheap to run, nice to use and can encourage the uptake of sustainable energy measures in the wider community.

Since the completion of the project in Stroud, the approach has since been expanded to other areas, including Swindon, Wiltshire, the Forest of Dean, Wales and Herefordshire, with similar success.

Target 2050 Businesses

Further to the savings mentioned above, there was a 32% increase in Target 2050 businesses consistently checking energy bills against meter readings and 18% increase in businesses using actual meter readings rather than estimated readings when paying invoices.

The programme has helped almost 100 organisations to take a serious look at their energy use and their potential to generate renewable energy. The extensive follow-up support and advice provided ensured that the businesses went on and implemented a wide range of actions that have resulted in significant ongoing cost savings for many of these companies.

By reducing demand and increasing local renewable energy capacity, the Target 2050 project has helped local companies to be:

- more financially secure through difficult times
- less vulnerable to energy price hikes in the future
- more streamlined and self sufficient

The project also further boosted the environmental credentials of not only the businesses and installers involved but the whole of Stroud district.

The Target 2050 Business scheme has since been used to develop similar programmes in other districts, including future paid-for services where funding is not accessible. Following the project, Stroud District Council continued to offer a 50% subsidised service to their small and medium sized businesses.

Factors that might hamper the transfer:

The transfer of the **Target 2050 Homes** project to other partners is very possible providing the partnerships between active agencies are strong and planning is detailed. It is also important to

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consider the scope of area covered. The ideal programme should ensure that it is:

- tailored to the practical realities of the existing building stock and its complexity and imperfections
- designed to deliver to the real and multiple practical needs of households and home-owners
- able to engage with all key actors in the supply chain, and deliver to their needs
- intelligent, and can flex and develop as providers learn, markets develop, and external factors change
- open and transparent, allowing benefits

The transfer of the **Target 2050 Community buildings** project to other partners is very possible. However, partners should account for the fact that timescales for the implementation of measures in community buildings can be very protracted. The community buildings in the UK are run by volunteers working in their own time (often around work commitments) and with limited resources. Partners will need to account for this if the set-up is similar. The following key themes and learning points emerged from the project and would be worth considering in other partner areas:

- Help with simple behavioural change and better heating control usage is crucial
- Learning to deploy the 'sustainable energy hierarchy' when planning improvements
- Finding reputable installers
- Provide support in negotiating with planners, with regard to heritage buildings
- Communication with hall users and the wider community about the improvements
- Capital grants were vital in making small measures happen quickly, as well as enabling larger ones
- Critical under-utilisation of halls leads to very long payback times for some measures
- Improved halls report better utilisation, raising income and reversing the negative cycle
- Small savings make a big difference to constrained budgets

The transfer of the **Target 2050 Businesses** project to other partners is very possible, providing a number of factors are considered. For example, it is crucial that there are financial gains for the businesses concerned. It's also important to consider how businesses are engaged. The Target 2050 Business project took a while to take off until it was linked in via organisations that businesses trusted and used regularly. Once this happened, the uptake increased rapidly. Further points to consider are noted below:

- The private sector is driven by the need to generate profit and the reduction of overheads and running costs are critical to this objective. As a result there is often a healthy appetite amongst businesses to reduce energy costs although very often support is needed to identify the most effective options
- Giving detailed illustrations for the potential for year on year cost savings within the individual business energy reports was also key to achieving commitment to install measures from business owners
- Where capital investment was required for measures, particularly for those with longer payback periods, the availability of financial support mechanisms such as grants, loans and tax incentives greatly increased the likelihood of uptake.
- The focus on no-cost measures and especially improved monitoring proved very important – the end of project surveys showed a 32% increase in Target 2050 businesses consistently checking energy bills against meter readings and an 18% increase in businesses using actual meter readings rather than estimated readings when paying invoices
- The ongoing financial savings for local businesses involved are significant, with Stroud-based businesses now saving almost £100,000 on energy bills annually. This is money that would otherwise have predominantly passed out of the district to electricity, gas and fuel suppliers but is now helping these businesses to be more competitive and survive in difficult economic times.

It became apparent early on in the project that recommendations would be prioritised not solely on the basis of cost or saving potential but also on the wider business impacts. This shows that whilst businesses are prepared to consider energy saving initiatives, these will always be secondary to day-to-day priorities.

GOOD PRACTICE FICHE		Region: Gloucestershire, UK
Time required to complete the BP	2-3 years depending on how many themes are completed	
Contact details to obtain further information on the practice		
Contact name	Neil Towler or Paul Sheridan	
e-mail	neilt@severnwey.org.uk or pauls@severnwey.org.uk	
Organisation	Severn Wye Energy Agency	
Type of Organisation	Independent SME and not-for-profit sustainable energy education charity	
Website	http://www.severnwey.org.uk/fileadmin/Resources/SevernWye/Publications/Target_2050_Homes - Report.pdf http://www.severnwey.org.uk/fileadmin/Resources/SevernWye/Publications/Target_2050_Community_Buildings - Report.pdf	

GOOD PRACTICE FICHE		Region: Gloucestershire, UK
Title of the good practice:	G6. European Sustainable Energy Award for Prisons (E-SEAP)	
Partner region:	Gloucestershire, UK	
Location data:	UK	
Topic of the practice: Thematic coverage <ul style="list-style-type: none"> Activation of demand and combating energy poverty Professionalization of the construction sector 		
Description of the practice: <p>E-SEAP is an award framework for prisons developed as part of an Intelligent Energy Europe project that was delivered between 2011 and 2014. The framework involves prisons being assessed against criteria under three main elements:</p> <ol style="list-style-type: none"> 1) Buildings and Energy Management 2) Education and Training 3) Communities <p>Depending on their total assessment score, each prison then achieves either the bronze, silver or gold award (or, of course no award at all).</p> <p>The project itself involved prisons having a preliminary assessment carried out in order to identify areas for development, followed by an intense period of external support, culminating in prisons being re-assessed towards the end of the project.</p> <p>Under the buildings and energy management element, a full energy survey of the prison premises was carried out resulting in the production of a full report and action plan detailing where savings could be made. Severn Wye's business staff then supported each prison in implementing actions to achieve these savings.</p> <p>Under the education and training element, Severn Wye's education staff supported prisons to delivering training to prison staff and the prisoners themselves. Prison staff received a two hour training session focussing on how they could save energy in the home. This made it relevant and incentivised them to take part, whilst helping to instigate positive behaviour change that also had in impact on prison consumption. This training was CPD accredited so that it could be used as evidence towards staff continuing professional development.</p> <p>The prisoner training was delivered using one of two routes:</p> <ol style="list-style-type: none"> 1) The delivery of a short two-day course delivered by Severn Wye staff. 2) The delivery of a longer, accredited course delivered by prison staff supported by Severn Wye staff. <p>There were three main aims of this training:</p> <ol style="list-style-type: none"> 1) Improved energy-saving behaviour among prisoners, helping to reduce prison consumption. 2) Helping prisoners to gain employment post-release. 3) Helping to reduce rates of re-offending through reducing prisoner's energy bills post-release, helping them into employment and providing them with transferable skills. <p>Under the community element, the prison was supported in running events for visiting families and the community local to the prison. These events were aimed at alleviating fuel poverty and those attending received a range of information and support including being signposted to further sources of support.</p>		
Key lessons learned:		

GOOD PRACTICE FICHE
Region: Gloucestershire, UK

- The delivery of accredited training incentivises prisoners as they can see a potential route to employment post-release.
- Where possible this training should be linked to practical work experience to develop practical as well as academic skills.
- Prison staff is incentivised by thinking about how to save energy in the home but knock on benefits are also felt in terms of reducing the prison's own consumption.
- Prisons provide a key route to working with those in fuel poverty, both prisoner's families and the local communities surrounding prisons which are often located in areas of economic deprivation.

Performance indicators linked to the practice

- **Number of households engaged in support programmes: minimum of 350.** The staff, prisoners and families were trained or given advice how to improve the energy efficiency in their homes.
 - In the UK, 175 members of prison staff received energy efficiency training
 - 157 prisoners received accredited training
 - 18 prisoners received Severn Wye short course
 - 8 'energy surgeries' held in prison visitor centres and areas surrounding prisons.
- **(%) Reduction of annual primary energy consumption in public buildings**
The following reductions in energy use per prisoner were achieved in the UK prisons:
 - HMP Cardiff: 11% (7% gross)
 - HMP Hewell: 7% (0% gross)
 - HMP Littlehey: 1% (joined the programme late) (5% gross)
 - HMP Usk and Prescoed: 3% (8% gross)
 - HMP Swansea: 3% (3% gross)

Indicators of success linked to the practice:

Improvements in assessment scores by prison:

Prison	Initial assessment score	Post support assessment score	Award achieved
HMP Cardiff	38%	80%	Gold
HMP Hewell	26%	68%	Silver
HMP Littlehey	23%	57%	Silver
HMP Swansea	40%	77%	Gold
HMP Usk & Prescoed	33%	64%	Silver

Evidence of success.

In order to make this level of progress, different departments within each prison were required to work together an institution-wide ethos of energy-saving achieved. This is not easy when you consider the size of the establishments involved.

Factors that might hamper the transfer:

- Current priorities of the prison service will determine the amount of time and dedication given to the scheme.

GOOD PRACTICE FICHE		Region: Gloucestershire, UK
<ul style="list-style-type: none"> Support of the prison service at a strategic level is key as is support from senior management within each prison. 		
Time required to complete the BP	2-3 years	
Contact details to obtain further information on the practice		
Contact name	Rachel Brain	
e-mail	rachelb@severnwye.org.uk	
Organization	Severn Wye Energy Agency	
Type of Organisation	Private not-for-profit SME	
Website	www.severnwye.org.uk	

GOOD PRACTICE FICHE		Region: Gloucestershire, UK
Title of the good practice:	G7. Save@Work	
Partner region:	Gloucestershire, UK	
Location data	Gloucestershire, UK	
Topic of the practice: Thematic coverage		
<ul style="list-style-type: none"> • Activation of demand and combating energy poverty 		
Description of the practice:		
<p>Save@Work is an EU funded project which is taking place across 9 partner countries. The project is designed to help the public sector lead by example and reduce the energy consumption of their own buildings by running a year-long energy saving campaign amongst their staff. The staff are provided with the support and tools needed to run an energy saving initiative amongst their colleagues by making small changes to their everyday workplace energy consuming behaviours.</p> <p>The project started with the formation of an energy team in each participating building. This team were then given the support needed to carry out an energy audit and then attended an energy training session. Following this training session the team drew up an action plan of what changes they were going to implement in the building and how they were going to carry them out.</p> <p>To help provide a feedback mechanism, an online calculation tool was developed into which the team would add their monthly electricity and gas meter readings – this would show whether they were using more or less energy than in previous years.</p> <p>To increase the gamification of the project, each building was in competition with the others to win a prize in one of three categories:</p> <ul style="list-style-type: none"> ○ Greatest energy savings ○ Best action plan ○ Most innovative campaign <p>This project works best with large office-based organisations, preferably where staff know each other; this makes the competition element of the project more fun and is likely to have higher engagement and ultimately better results.</p>		
Performance indicators linked to the practice		
<ul style="list-style-type: none"> • No of households engaged in support programmes: 15 Sustainability Champions were directly trained in tariff switching and saving energy in the home. These champions then trained the staff in their buildings, amounting to 3985 people. Assuming an application of 82% (based on the proportion of teachers applying their training at home from the YEP! project (another BP example)), an estimated 3188 households will have been engaged. • (%) Reduction of annual primary energy consumption in public buildings. Some of the buildings are making substantial energy savings of around 10%. • (kWh) Annual energy savings in households 		
Indicators of success linked to the practice:		
<p>This is a European initiative with 9 participating countries. Collectively we are looking at running the competition in 180 buildings, with 9000 employees, saving 3,100 tonnes of CO₂.</p> <p>From a UK perspective we started the project with 16 buildings taking part but by the end of the competition this had dropped to 14. The data from the energy saving competition hasn't yet been gathered but we will provide an £800 prize to the building that has made the greatest energy savings as well as the one that produced the most comprehensive and engaged action plan. The final £800 will also be offered to the building that runs the best energy saving campaign.</p>		

GOOD PRACTICE FICHE

Region: Gloucestershire, UK

Evidence of success.

Some of the buildings that have taken part in this project have really embraced it; it breathed life into a number of 'sustainability teams' that already exist within the Land Registry – the UK's biggest participating organisation (12 buildings). At this stage, the final results are not yet in but some of the buildings are making substantial energy savings of around 10% which is significant considering this is through behaviour change only. It has also encouraged a number of the employees to look at their energy saving practices and bills at home with a number of them turning to switching sites.

Factors that might hamper the transfer:

Because this project was part of a large European funded initiative there was a budget for 'incentives'. These ranged from thermometers to vouchers to chocolate. These initiatives were a fantastic way of engaging staff on the objectives of the project as well as providing them with the tools to help them identify areas of high energy usage. There are also prizes of £800 x 3 which in themselves are also incentives to engage and win. Whilst a number of staff were interested in the environmental objectives of this project, the largest percentage were not likely to be and therefore, running a behaviour change project without a budget for these incentives could be more challenging.

Another barrier to this project is motivation, this project has been aimed solely at the public sector which in a number of participating countries is under very real fiscal strain, therefore, whilst the management are often keen to find ways of saving money, morale amongst staff is often low.

Time required to complete the BP	2 years
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Contact details to obtain further information on the practice

Contact name	Karen Robinson
e-mail	karenr@severnwyenergy.org.uk
Organisation	Severn Wye Energy Agency
Type of Organisation	Private SME and not-for-profit sustainable energy education charity
Website	www.saveatwork.org.uk

GOOD PRACTICE FICHE		Region: Gloucestershire, UK
Title of the good practice:	G8. Link to Energy	
Partner region:	Gloucestershire, UK	
Location data	Gloucestershire, UK	
Topic of the practice: Thematic coverage		
<ul style="list-style-type: none"> • Activation of demand and combating energy poverty • Professionalization of the construction sector • Innovation 		
Description of the practice:		
<p>Severn Wye Energy Agency initially set up a local network of installers in 2007 recognising the need for a more holistic approach in delivering project funded energy efficiency improvements to householders, businesses and communities in the region, so as to ensure the maximum take up of installed measures. In 2011 this network of ‘Link to Energy’ installers were made more readily available to the public with the setting up of a new, user friendly website www.linktoenergy.org.uk</p> <p>Improvements and adaptations were made to the website in 2013 as part of the ‘Countdown to Low Carbon homes’ European project and again in 2015 to ensure that it was up to date with current website design and capability requirements.</p> <p>As of January 2017, The Link to Energy website has 122 registered installer members and 15 supply chain members. This will increase in line with secured funding to increase our support to SMEs through our European Structural Investment funded Target 2020 programme.</p> <p>Registered installer members are able to offer a full range of energy efficiency and renewable energy improvement measures to domestic, business and communities across Gloucestershire and South Gloucestershire. This includes everything from loft and cavity wall insulation to external insulation, gas boilers, heat pumps, solar panels and cooling systems for businesses.</p> <p>Supply chain members typically offer self-installed measures such as LED lighting and chimney balloons. It is also possible to view and order technologies such as solar batteries and heat batteries.</p> <p>Of the 137 members, the vast majority are based within Gloucestershire and South Gloucestershire. Each Local Authority area within Gloucestershire has installer or supplier members represented, ensuring that Local economies are benefitting from improvements being made to homes and businesses.</p> <p>The vast majority of Link to Energy members are SMEs with a small number of larger companies offering services in the area. These members are typically included to ensure that householders are able to access funding schemes such as the Energy Company Obligation (ECO).</p> <p>The Link to Energy website includes functionality that allows users to locate installers local to them. A postcode area or location can be entered providing a list of installers, the closest to them being at the top of the list. These results can be filtered by technology or measures and a contact form with the customer details and requests can then be sent to one or more of the recommended installers simultaneously. This generates an email to the installer and the project manager who then follows up with the installer or the client as to the outcome. Automated reminders are sent to both the installer and the client if the installer hasn’t been in touch within the agreed three working days.</p>		

GOOD PRACTICE FICHE

Region: Gloucestershire, UK

The Link to Energy website includes information pages and installer searches specific to businesses and community groups. This allows these organisations to locate and contact only those installers that can service their requirements. Case studies of local businesses that have made energy improvements can also be read or downloaded.

The domestic section of the Link to Energy website incorporates additional information including advice pages on:

- Installer accreditations
- Finding the finance
- Home energy assessments
- Home energy improvements
- Over 50 local case studies of homes that have made energy efficiency improvements
- Information and links to the Warm & Well scheme

The Link to Energy site also includes functionality that allows Severn Wye Energy Agency to report on the following:

- The number of enquiries sent by Local Authority area
- The total number of installations completed by Local Authority area
- Site visitor statistics and analytics
- The value of work completed by Local Authority area
- The numbers of technologies and measures that users are requesting quotes for

Regular networking and information events are provided to support all registered Link to Energy installers. These are held quarterly, though additional events have also been included when new incentives or funding schemes have dictated that more information would be useful to local installers, the launch of the Green Deal for example. Speakers and topics discussed at installer events have included:

- Updates on projects of interest from Severn Wye Energy staff
- Installer members promoting their own products and services
- External speakers covering areas of interest to local installers

Speakers have included representatives from:

- The Federation of Master Builders
- Local Authority staff
- Insulation and heating product manufacturers
- Sector skills body – construction skills
- South Gloucestershire and Stroud (SGS) College

Several funded training sessions for local installers have also been held in the region. This has included:

- External wall insulation manufacturer training
- Internal wall insulation manufacturer training
- 'Winning the Contract' understanding public sector procurement for SMEs

Installers are in regular contact with the scheme manager via email, telephone and during face-to-face meetings to ensure customer referrals are managed well and to pass on information relating to local, regional and national updates that may be of interest or relevance.

The Link to Energy website includes a section dedicated to installer members that incorporates the following:

GOOD PRACTICE FICHE

Region: Gloucestershire, UK

- An overview page for potential new installers and suppliers to learn more about the service
- A news and events page
- Useful information – this includes information specific to installers.
- A document library
- A Link to Energy Twitter feed

Future Link to Energy Service developments aim to include the following:

- A quarterly installer newsletter distributed to all members
- Research to understand the training requirements of local installers and to ensure that relevant and required courses are made available in the region
- The Development of existing relationships with bodies such as SGS College, the Federation of Master Builders and the sector skills councils to allow delivery of courses

The existing Link to Energy installer network database allows domestic, business and community customers to obtain quotations from installer members, and ultimately have improvement measures installed. The database incorporates an automated system that allows **Warm & Well** to determine the value of completed work and to request a referral fee from the installer where a lead has provided work to them. This referral fee has historically been set at 3% (+VAT) of the total value of the work completed. This rate allowed us to draw a small income whilst not penalising the installer. This avoids significant additional costs being passed onto the client.

The online installer database incorporates a number of reporting facilities that allow Severn Wye to report on completed job and referral fee values across the individual local authority areas, or for the region as a whole. These can also be broken down by domestic, business or community work.

Note: Links to other examples of good practice are shown in **bold letters**

Performance indicators linked to the practice

- o **Number of households engaged in support programmes: Link to Energy Installers have supported 353 households** as direct referrals from Severn Wye Energy Agency between April 2013 and April 2017. The value of these installations amounts to £1,333,297.40.
- o Number of households with improved energy consumption classification
- o (kWh) Annual energy savings in households
- o Number of households with improved energy consumption classification

Indicators of success linked to the practice:

Since 2013 over 1200 householders, businesses and community groups have used Link to Energy sending over 3000 enquiries to installer members.

Direct referrals from Severn Wye Energy Agency between April 2013 and April 2017 resulted in Link to Energy Installers supporting 353 households. The value of these installations amounts to £1,333,297.40.

Evidence of success.

In 2012, Link to Energy was selected as an exemplar service by the 'Green Skills Alliance' (made up of the UK Sector Skills Councils) for developing best practice around skills, training and innovation for the low carbon audience. A report was produced in 2014 detailing the Service provided at that time.

GOOD PRACTICE FICHE		Region: Gloucestershire, UK
Factors that might hamper the transfer:		
<ul style="list-style-type: none"> ○ The time and finance required to design and launch an online portal that allows customers in a specific area to find and contact appropriate local accredited installers ○ The ongoing required management of the service to ensure the success of relationships made between installers and customers ○ The ongoing promotion of the site to ensure the service presence in the area it serves 		
Time required to complete the BP	1 Year	
Contact details to obtain further information on the practice		
Contact name	Neil Towler	
e-mail	neilt@severnwye.org.uk	
Organization	Severn Wye Energy Agency	
Type of Organisation	Private SME and not for profit sustainable energy education charity	
Website	www.linktoenergy.org.uk	

GOOD PRACTICE FICHE		Region: Gloucestershire, UK
Title of the good practice:	G10. Your Green Future (YGF)	
Partner region:	Gloucestershire, UK	
Location data	South West and Midlands, UK	
Topic of the practice: Thematic coverage <ul style="list-style-type: none"> • Activation of demand and combating energy poverty • Professionalization of the construction sector • Innovation 		
Description of the practice: <ul style="list-style-type: none"> ○ <i>Education of young people and inspiring them to pursue jobs in the green sector, including jobs in construction and installation.</i> <p>Your Green Future is a 2-day sustainability event aimed at engaging secondary school students (aged 11-18) on the role of sustainability in innovation, retail, energy, construction and waste and how their careers in the future might help to develop a low carbon future.</p> <p>The UK low carbon economy is growing at 7% a year and this continued growth sees new skills needed at all levels. Yet businesses say they do not have the skills to meet growth, notably critical Science Technology Engineering & Maths skills (predicted shortfall of 50% by 2020 - Institution of Mechanical Engineers). To address these challenges it is vital that young people entering work are able to play their part. They need to be informed of the opportunities that are open to them, and given the necessary support to gain the appropriate qualifications and skills. This is not currently being achieved. For instance in 2015 we surveyed 669 young people from across the South West & Midlands and only 30% knew what a low carbon economy was and few could identify industries that have a link to its development.</p> <p>Enhancing young people's prospects, including providing them with a clear view on the current job market and training opportunities, will also help prevent youth unemployment - in 2015 young people are nearly three times more likely to be unemployed than the rest of the population and our survey of 669 young people found that 85% would like to speak to more people about job opportunities.</p> <p>These challenges were a call to action and our response was 'Your Green Future', which was developed in 2010 by a consortium of organisations, including Severn Wye Energy Agency, Rotary and InterClimate Network, who were overseen and driven by John Davidson OBE. In 2012 <u>Severn Wye Energy Agency</u> became the lead partner, in order to further develop existing approaches and deliver events throughout the UK.</p> <p>Each event involves up to 500 secondary school students working with over 30 businesses as together they tackle sustainability in a series of fun, interactive workshops. Each day usually includes:</p> <ul style="list-style-type: none"> ○ A key note speech ○ Workshops ○ An interactive exhibition hall where students have a focused activity which involves speaking to organisations. 		
Performance indicators linked to the practice <ul style="list-style-type: none"> ○ Number of households engaged in support programmes: 3611 students have been involved in Your Green Future. Using the 90% mean of the proportion of students and teachers making changes to their energy behaviours in the Young Energy People! Project (another Best Practice example), it is anticipated that 3250 households would have been engaged. ○ Education – a better understanding of how integrated sustainability already is within business and what the needs are in the future to help create a low-carbon economy. There may be an indirect impact on energy behaviours at home following some activities at the 		

GOOD PRACTICE FICHE		Region: Gloucestershire, UK
event.		
<p>Indicators of success linked to the practice:</p> <p>The West of England and Solihull YGF events have become a permanent feature of both the local authorities and local secondary schools calendars. They are incredibly well received and popular with many of the businesses who support the event as a way of engaging with the next generation of employee's and an opportunity to promote their organisation in their local area.</p> <p>A key element of each event is the pre and post event surveys which are given to each student. Prior to the event we ask the students which industries they think are involved in a sustainable economy to which they often answer energy and engineering but when we ask these questions after the event the results are very different, they still understand the importance of energy and engineering but they also appreciate its role in retail, construction, waste and land management.</p> <p>A number of businesses use the event to fulfil their Corporate Social Responsibility objectives and send their graduates to it as a training exercise; however, we are looking at working with the University of the West of England to provide attending mentors with a qualification along the lines of communicating science.</p>		
<p>Evidence of success.</p> <p>Severn Wye Energy Agency has held:</p> <ul style="list-style-type: none"> ○ 13 events ○ Over 130 schools have attended the events ○ Over 3000 students aged between 12-18 ○ Over 270 Businesses have supported the events 		
<p>Factors that might hamper the transfer:</p> <p>These are expensive events to fund*, often in the region of £25,000; however, if funding was available then the event is readily transferrable as long as there are sufficient schools and businesses local to the event.</p> <p>*Funding for the UK events comes from a wide variety of funders including the national lottery, local authorities, the rotary club and private sponsorship.</p>		
Time required to complete the BP	4-6 months per event	
Contact details to obtain further information on the practice		
Contact name	Karen Robinson	
e-mail	karenr@severnwyenergy.org.uk	
Organisation	Severn Wye Energy Agency	
Type of Organisation	Private SME and not-for-profit sustainable energy education charity	
Website	www.yourgreenfuture.org.uk	

GOOD PRACTICE FICHE		Region: Gloucestershire, UK
Title of the good practice:	G11. Countdown to Low Carbon Homes	
Partner region:	Gloucestershire, UK (worked with Cyprus and Greece)	
Location data	UK- Stroud District Council, Forest of Dean District Council, Wiltshire Council, and South Gloucestershire Council <i>Cyprus- as a relatively small country, the focus area was the whole country rather than one town or city</i> <i>Greece- The focus area was Thessaloniki in Northern Greece</i>	
Topic of the practice: Thematic coverage <ul style="list-style-type: none"> • Activation of demand and combating energy poverty • Innovation • New financial instruments 		
Description of the practice: <ul style="list-style-type: none"> ○ <i>Eliminating administrative barriers</i> <p>Overview</p> <p>Running from January 2012 to December 2014, Countdown to Low Carbon homes was an action research project. Its aims were to research, develop and communicate an integrated practical delivery approach to community-scale sustainable energy retrofit of homes, focusing on delivery by small to medium enterprises (SMEs).</p> <p>By exploring the whole ‘retrofit journey’ from planning stage to implementation and post installation energy use, the Countdown to Low Carbon Homes project aimed to find ways to make domestic retrofit easier and more mainstream, in ways that benefit local businesses. To do this, the project partners worked with households, installers and other key decision makers involved in domestic retrofit in their communities to gather evidence on the situation at a local level.</p> <p>Funding and set up</p> <p>Countdown to Low Carbon Homes was funded by the ERA-Net Eracobuild programme. ERA-Net Eracobuild is a network of national R&D programmes focusing on construction and the sustainable built environment, with the aim of developing synergies between national programmes by sharing strategies and establishing joint programmes and projects.</p> <p>Countdown to Low Carbon Homes was funded under the Sustainable Renovation theme, addressing the challenge of sustainable renovation of the existing built environment, and providing opportunities for industries, research, academic and other organisations to take part in multilateral cooperation in this field.</p> <p>Key areas of work</p> <ol style="list-style-type: none"> 1. Research <p>To better understand the whole ‘retrofit journey’ from planning stage to implementation and beyond, the research teams in Greece, Cyprus and the UK recruited and worked with households, installers and other key actors involved with the sustainable energy retrofit of homes. Action learning techniques were used in a variety of ways to work with key actors, record the results and use these to refine processes and support activities.</p> <ol style="list-style-type: none"> 2. Installer Network <p>A local installer group for energy improvements to buildings had been established in partnership with Stroud District Council in 2007, to build local capacity for the measures that were less common in the UK at the time such as micro-renewables, solid wall insulation and high efficiency windows suitable for traditional buildings, and as a means for homeowners to find installers in the local area. Members were included on a list that was made available to homeowners and meetings were held to share knowledge and discuss industry developments. This network was further developed as part of the Countdown to Low Carbon Homes project, and branded ‘Link to Energy’</p>		

GOOD PRACTICE FICHE

Region: Gloucestershire, UK

3. Local loans pilot

As part of the delivery model Severn Wye developed and piloted a loan scheme offering households alternative sources of finance for their improvements. Severn Wye enlisted the expertise of Hungarian consultancy GESB to help develop the loan product, with the aim of adapting the approach they had used successfully in Hungary-the Revolving Retrofit Guarantee Fund – to the UK owner-occupier market. By June 2014, both local pilots in Stroud District and South Gloucestershire were underway.

4. Community scale delivery of home energy improvements

A guide to community scale delivery of home energy improvements was set up, to support organisations aiming to implement a community scale delivery model. In developing this model, Severn Wye aimed to ensure that homeowners would be supported through the whole retrofit journey, from awareness raising and outreach to develop interest, through advice and assessments, sourcing installers and finance, and post retrofit user behaviour. This involved developing appropriate support processes at each stage of the journey and ensuring the right systems and procedures were in place.

Performance indicators linked to the practice

- **Number of households engaged in support programmes: 52 households were engaged in action research**

Indicators of success linked to the practice:

There are three outputs from this project:

- a research report which captures the work with households, installers and other key actors at local level
- a set of case studies charting the journeys of households in Cyprus, Greece and the UK that made energy improvements to their homes
- a guidance toolkit for community scale delivery of home energy improvements

These are available at: <http://www.countdowntolowcarbonhomes.eu/index.php/gb/>

By June 2014, both local pilots to deliver the local loan projects in Stroud District and South Gloucestershire were underway.

Evidence of success.

1. Research

The research report captures the work with households, installers and other key actors at local level. Its conclusions include reasons, triggers and obstacles for considering retrofit alongside other results. This can be used by other organisations to guide their projects and inform ways of working.

2. Installer network

The installer network was further developed, and has since been used to facilitate grant funding programmes.

3. Local loan pilot

By June 2014, both local pilots in Stroud District and South Gloucestershire were underway. A significant amount of learning came from setting up these projects, including the legislation surrounding these projects. The learning from this is included in the guide to delivering community scale retrofit.

4. Community scale delivery of home energy improvements

The outputs provide information and guidance for other organisations setting up community scale delivery of home energy improvements. The key aim of this was to ensure the organisations are aware of the main points that need to be considered to set up a project, including barriers and administration (areas addressed include: reaching homeowners, energy advice, technologies, installers, regulations, finance mechanisms and monitoring and evaluation).

Factors that might hamper the transfer:

GOOD PRACTICE FICHE		Region: Gloucestershire, UK
<p>For organisations looking to set up a project to deliver retrofit projects: the research report and guide provides information. It isn't a comprehensive guide but should be a useful starting point. Each section in the guide provides information on barriers that could hamper the set-up of a project. The research report and guide were written with the experience from three countries, but there could be additional/different barriers in other countries.</p> <p>For organisations looking to create a similar project to Countdown to Low Carbon homes: a key challenge was locating and working with the householders. There was not any additional funding for the householders through the scheme, and as such they gave their time and information freely without a key incentive. They were required to give detailed information (including energy use) and therefore there was an administrative burden for them. This was also replicated in the work with other stakeholders, as they were asked for their time and expertise without any identifiable benefits for them. The organisation setting up the project would also need to ensure they have detailed knowledge and experience in the area of energy efficiency, in order to set up detailed project outputs and provide information.</p>		
Time required to complete the BP	2 years	
Contact details to obtain further information on the practice		
Contact name	Sam Evans	
e-mail	same@severnwye.org.uk	
Organisation	Severn Wye Energy Agency	
Type of Organisation	Private SME and not for profit sustainable energy education charity	
Website	www.countdowntolowcarbonhomes.eu http://www.severnwye.org.uk/en/news/archive/article/countdown-to-low-carbon-homes-research-report-and-toolkit-launched.html	
Fiche completed on date:	08.03.17	

GOOD PRACTICE FICHE		Region: Gloucestershire, UK
Title of the good practice:	G12. Young Energy People	
Partner region:	Gloucestershire, UK	
Location data	Gloucestershire, Wiltshire and Wales (UK)	
Topic of the practice: Thematic coverage		
<ul style="list-style-type: none"> • Activation of demand and combating energy poverty • Professionalization of the construction sector 		
Description of the practice:		
<p>Young Energy People is a sustainable energy project aimed at students in secondary schools (aged 11-18 years). It aims to educate these students in energy management and renewable energy technologies whilst also helping their schools to become more efficient in their energy use. In this way, it helps to prepare student for potential employment with the ever expanding 'green economy' whilst improving the sustainability of their school's operations. As an added benefit, students also develop a range of transferable skills including employability skills.</p> <p>A student 'School Energy Management Team' (SEMT) is recruited in each school via an application and interview process (developing key employability skills). This team of students receive training in energy management and renewable energy technologies before going on to carry out a survey of their school buildings.</p> <p>Following the survey, they develop a report containing their findings and an action plan for improving the energy efficiency and sustainability of their school. These findings and action plans are presented to school governors and senior leadership teams where elements are amalgamated into the school's development plans.</p> <p>This is followed by an energy campaign led by the SEMT aimed at encouraging positive behaviour change towards reducing energy use.</p> <p>Students are then provided with opportunities to apply the knowledge and skills they have developed to a work context as part of their planned work placements. During these placements, they repeat the energy survey for the work premises where they are based and report their findings and action plan back to the business concerned.</p> <p>The programme originated as a pilot project utilising funding through the 'Intelligent Energy Europe' programme. Since then it has been funded locally through Local Authority funding.</p> <p>A total of 31 secondary schools have completed the programme across Gloucestershire, Wiltshire and Wales.</p> <p>The project was awarded an Ashden Award for Sustainable Energy in 2011.</p>		
Performance indicators linked to the practice		
<ul style="list-style-type: none"> • Number of households engaged in support programmes: At least 92 <p>Of those directly involved in the project, 82% of teachers and 98% of students indicated that their behaviour had become more energy conscious as a result of taking part in the project. This amounts to an impact on at least 92 households.</p> <p>To date, the project has engaged approximately 25,000 school students with a knock-on effect into these student's homes.</p> <ul style="list-style-type: none"> • (%) Reduction of annual primary energy consumption in public buildings <p>On average schools reduced their annual energy consumption by 22.7%.</p>		

GOOD PRACTICE FICHE

Region: Gloucestershire, UK

Indicators of success linked to the practice:

- On average schools reduced their carbon emissions by 22.5%
- The 29 Gloucestershire schools reduced their energy bills by an average of 12.7%*, reducing their annual energy bills by a total of £158,000. This is an average saving of £5,448 per school.
- Note: There was a steep increase in the unit cost of both gas and electricity during this period.
- 100% of students enjoyed taking part in the project.
- 100% of teachers and 87% of students felt that the project had been a success in their school.
- 82% of teachers and 98% of students indicated that their behaviour had become more energy conscious as a result of taking part in the project.
- 84% of students felt that their teamwork skills had improved as a result of taking part in the project.

Evidence of success.

The YEP project was awarded an Ashden Award for Sustainable Energy in 2011. (See <https://www.ashden.org/winners/swea11> for further details.)

The project also received excellent feedback from both students, staff, school governors and participating businesses:

Feedback from Teachers

‘Farmor’s school is committed to environmental issues and the YEP! project is ideal to enhance this. The project offers practical benefits that students can feel a part of to help reduce energy waste and costs to the school plus the environment at large. The students who are taking part are learning lots of useful skills that extend beyond the YEP! project such as public speaking, interview skills, team working and research skills. For Farmor’s school the intention is that in the near future the YEP project becomes part of a multi-agency approach to environmental issues that affect our school and the wider community.’

- Simon Ditchfield, Teacher & YEP! Project Coordinator, Farmor’s School

‘I would say that Y.E.P! has been an excellent opportunity for my students to get involved in. The support from Severn Wye Energy Agency, has been excellent in planning and providing me with the resources and support that is needed. The benefits from the project will have a big impact on the school in terms of more positive behaviour towards using energy and hopefully saving money.’

- Miss McKinley, Geography & Year 10 tutor, Severn Vale School

‘Many thanks for all your help, you have been the driving force behind the group, doing wonders for their self-esteem, sense of achievement and developing their professional skills.’

- Neil Williams, Geography Department, Archway School

‘The presentation to the governors went very well; the students were fantastic. They asked could they dress as ‘business people’ so they came all dressed up. Although they were very nervous they had practised several lunchtimes this week and came across so well, especially as there were about 20 adults there. They handled the questions really well and I’ve had lots of positive comments about their presentation. YEP! now has a strong reputation with the governors.’

- Simon Ditchfield, Teacher & YEP! Project Coordinator, Farmor’s School

“The presentation went well – stimulated lots of questions from SLT and a desire to act on our report. They are now keen for the group to start on the next stage of getting the school involved.”

GOOD PRACTICE FICHE		Region: Gloucestershire, UK
<p>- Chris Reynolds, Teacher & YEP! Project Coordinator, The Crypt School</p> <p>“The head was VERY impressed with the YEP! team’s presentation. ”</p> <p>- Mrs R Weiss, Teacher & YEP! Project Coordinator, Maidenhill School</p> <p>‘The support received from Severn Wye Energy Agency has been fantastic. The resources are brilliant and have been improved since the first pilot project. It has also promoted interschool sharing. It is fantastic having the support at the end of an email, and regular meetings at school to help keep the campaigning on track.’</p> <p>- Julie Parsons, Teacher & YEP! Project Coordinator, Chosen Hill School</p> <p>Feedback from Senior Leadership</p> <p>‘Having students involved from the outset has been brilliant – the core YEP! Team are still just as keen and happy to now oversee further implementation of our energy awareness plan.’</p> <p>- Beth Warren, Deputy Head Teacher, Bournside School</p> <p>Feedback from Governors</p> <p>‘...at Wednesday's Premises Committee meeting we had a superb presentation by a group of students all about the fantastic survey they had completed of the school's energy use and potential for cutting down consumption, as part of your fab YEP! programme! It was a brilliant piece of work (supported wonderfully by your education officer – sorry, I didn't get his name) and the report is being taken very seriously, with many of the 'quick win' suggestions to reduce energy consumption being taken on board as soon as possible.’</p> <p>- Beth Whittaker, Governor, Archway School</p> <p>Feedback from Business</p> <p>‘The audit and review the YEP! students and Severn Wye Energy Agency carried out has really opened my eyes and I believe once I present to the General Manager, and hopefully the CEO, it will show them a dual role, business development /cost saving possibility that they will not be able to ignore. The knock on from this is the environmental impact reduction that comes with these measures which as a bonus is fantastic and I believe that this might carry almost as much weight with the company as the cost savings when all is said and done.’</p> <p>- Hotel Manager, The Four Pillars Hotel.</p> <p>-</p>		
<p>Factors that might hamper the transfer: <i>Please indicate problems or barriers that could appear when transferring the good practice to other partner.</i></p> <p>The level of success to a great extent depends on:</p> <ol style="list-style-type: none"> 1) The degree to which the project activities can be incorporated into the existing curriculum. 2) The amount of time that teachers are able to dedicate to the project (we found a lack of teacher time to be a barrier in some instances). 3) The level of support from school senior managers. 4) The presence (or otherwise) of a keen member of staff. 		
Time required to complete the BP	18 months (6 months preparation; 12 months delivery)	
Contact details to obtain further information on the practice		
Contact name	Mark Stead	

GOOD PRACTICE FICHE		Region: Gloucestershire, UK
e-mail	marks@severnwe.org.uk	
Organisation	Severn Wye Energy Agency	
Type of Organisation	Private SME and not-for-profit sustainable energy education charity	
Website	www.severnwe.org.uk	
Fiche completed on date:	03/03/2017	

GOOD PRACTICE FICHE		Region: Podkarpackie
Title of the good practice:	P1. Expansion of energy infrastructure at the Higher School of Law and Public Administration using renewable sources of energy	
Partner region:	Podkarpackie Region (Poland)	
Location data	Rzeszów	
Topic of the practice: Thematic coverage		
<ul style="list-style-type: none"> ▪ Activation of demand and combating energy poverty ▪ Innovation 		
Description of the practice:		
<p>Innovative installation of photovoltaic cells installed at the campus of the Higher School of Law and Public Administration in Rzeszów. It is one of the largest facilities of heat pumps and photovoltaic cells in Poland.</p> <p><u>Objective</u></p> <p>The aim of the investment was the acquisition of electricity with a capacity of 150 kWp from solar energy using silicon technology (back-contract). The aim of the investment was also the construction of base stations for charging electric cars. The aim of the project was also to develop a functional program of retrofitting heat pump system with the possibility of passive - active cooling of selected rooms of the Higher School and the use of waste heat air for the regeneration of brine heat pump. The solutions, that have been applied in the Higher School of Law and Public Administration, are based on two renewable energy sources:</p> <ul style="list-style-type: none"> • The first, is the heat gained from the ground, from a depth of over 125 meters (30 wells) where specialized probes, connected to the pump, absorb the heat from the ground. The thermal energy for heating the building is taken from the ground by a system of thirty vertical borehole heat exchangers with a length of 125 meters deployed in the area surrounding the property. The existing pump system was modified and equipped with a system of passive-active cooling lecture halls. In addition, waste heat from air conditioners is used for the regeneration of heat source heat pump. • The second is the processing of solar energy to power low voltage. In total, photovoltaic panels cover an area of about 1200 square meters. <p>Important element of this project is the first stations for charging electric cars in Rzeszów. The most important part of the investment is the installation of innovative photovoltaic cells. There are almost 40 car ports, which were constructed at Higher School's main car park. These are special shelters, which are equipped with modern photovoltaic panels covering the area of about 840 square meters. Thanks to this there can be obtained electricity with a capacity of approximately 170 kW. Stations for charging electric cars allow simultaneous charging of 4 vehicles. The Higher School installed weather station measuring solar radiation, wind speed and air temperature, which main task is to optimize the activities of solar inverters. Optimization is to improve the MPPT (Maximum Power Point Tracking). The Higher School is powered by the local transformer station. The greatest demand for electric energy arises from the air-conditioning and ventilation in summer, when sunshine is the highest. Panel system reduces the need for power from the grid thus relieving it.</p> <p>Financial resources: ~ 1.500.000 Euro</p>		
Performance indicators linked to the practice		

GOOD PRACTICE FICHE		Region: Podkarpackie
<ul style="list-style-type: none"> - Number of households with improved energy labeling: 1 - Number of households with improved energy consumption classification: 1 - Number of households engaged in support programmes: 1 - (%) Reduction of annual primary energy consumption in public buildings - (kWh) Annual energy savings in households - Number of households with improved energy consumption classification: 1 		
<p>Indicators of success linked to the practice:</p> <ul style="list-style-type: none"> • Nominal power obtained from photovoltaic system: 150 kWp. Annually, this allows to obtain energy of 132 MWh • Estimated losses caused by temperature changes: 3.2% (in relation to the average local temperature) • The total losses of the photovoltaic system: 18.0% 		
<p>Evidence of success.</p> <ul style="list-style-type: none"> • Thanks to the technology, the Higher School of Law and Public Administration sets a new direction in ecology. According to calculations, the Higher School's own contribution in the installation will be paid back in 5 years. • Lowering the cost of maintaining the buildings will at the same time lower the cost of studying at the Higher School (saving money in lighting the building and rooms and running air conditioning system). • Extensive system of heat pumps and photovoltaic panels will also reduce the emission of pollutants into the atmosphere. • The project will also contribute to the promotion of innovative technologies. 		
<p>Factors that might hamper the transfer:</p> <ul style="list-style-type: none"> • Barriers and differences in legal systems and regulations between countries and regions • Climatic differences, different weather conditions, geological differences between countries and regions • Different labor and investment costs in different countries and regions • Longer process of building or binding materials in various countries and regions (climatic differences or law regulations). 		
Time required to complete the BP	2 years	
Contact details to obtain further information on the practice		
Contact name	Prof. Jerzy Połuszny	
e-mail	inwestycje@wspia.eu	
Organization	Higher School of Law and Public Administration	
Type of Organisation	private	
Website	www.wspia.eu	

GOOD PRACTICE FICHE		Region: Podkarpackie
Title of the good practice:	P2. Comprehensive use of renewable energy sources in the Community Center Association "Emmaus-Rzeszów"	
Partner region:	Podkarpackie Region (Poland)	
Location data	Przedmiescie Czudeckie	
Topic of the practice: Thematic coverage		
<ul style="list-style-type: none"> ▪ Activation of demand and combating energy poverty ▪ Innovation 		
Description of the practice:		
<p>This is the Centre for 25 homeless and unemployed people constructed by Association "Emmaus" in the period from 13.11.2013- 31.12.2014 – it is a collective residential building with a workshop.</p> <p>Within the Centre for Community, residents were given a chance to work. Association "Emmaus" prepared for these workshops: joinery, upholstery, recycling, tailor and electronics.</p> <p>Now in these workshops, among others, homeless and unemployed may repair furniture, appliances and other items collected during rebounds and passed by the local residents. After the repair, the items are sold - and the profits from the sale support the budget of the Association "Emmaus".</p> <p>Financial resources: ~500.000 Euro</p> <p>During the construction of the Community Center complex they used RES (Renewable Energy Sources), including:</p> <ul style="list-style-type: none"> • Photovoltaic power installation of 17kWp allows for the production of electricity. • Installation of central heating, underfloor heating and hot water-based ground source heat pumps with a capacity of 50 kW coupled with a system of solar panels with a capacity of 24 kW. • Lighting of car parks and alleys using hybrid lamps and street lights, in LED frames, powered by photovoltaic batteries • Modification of the ventilation system of the building (with the use of ventilation with recuperation) with heat recovery which allows to reduce losses by about 50 to 60%. • Installing the rainwater harvesting system for domestic purposes. • Remote supervision of the building's installations. 		
Performance indicators linked to the practice		
<ul style="list-style-type: none"> - Number of households with improved energy labelling: 1 - Number of households with improved energy consumption classification: 1 - Number of households engaged in support programmes: 1 - (%) Reduction of annual primary energy consumption in public buildings: 70% - (kWh) Annual energy savings in households - Number of households with improved energy consumption classification: 1 		

GOOD PRACTICE FICHE		Region: Podkarpackie
Indicators of success linked to the practice:		
<ul style="list-style-type: none"> The building is energy self-sufficient in about 70%, which generate savings which are used for financing statutory activities, 		
Evidence of success.		
<ul style="list-style-type: none"> The building is energy self-sufficient in about 70%, which generate savings which are used for financing statutory activities, The building is an example of environmentally friendly building standard in the region, A positive impact on the local community and the image of Podkarpackie Region. Building Association "Emmaus-Rzeszów" is one of the first that meets these standards in rural areas and one of the most modern in Poland. 		
Factors that might hamper the transfer:		
<ul style="list-style-type: none"> Barriers and differences in legal systems and regulations between countries and regions Climatic differences, different weather conditions, geological differences between countries and regions Different labor and investments costs in different countries and regions Longer process of building or binding materials in various countries and regions (climatic differences or law regulations) 		
Time required to complete the BP	+1 year	
Contact details to obtain further information on the practice		
Contact name	Krzysztof Serwiński	
e-mail	emausrzeszow@interia.pl	
Organization	Association "Emmaus-Rzeszów"	
Type of Organisation	private	
Website	www.emaus-rzeszow.pl	

GOOD PRACTICE FICHE		Region: Podkarpackie
Title of the good practice:	P4. Podkarpackie Low-Energy Consumption Technologies Transfer Centre's Passive House	
Partner region:	Podkarpackie Region (Poland)	
Location data	Rzeszów	
Topic of the practice: Thematic coverage <ul style="list-style-type: none"> • Activation of demand and combating energy poverty • Professionalization of the construction sector • Innovation 		
Description of the practice: <p>Presented building, will serve as the new headquarters of Podkarpackie Regional Chamber of Civil Engineers, and will play an important role as Podkarpackie Low-Energy Consumption Technologies Transfer Centre.</p> <p>Basic technical data: total net area of the building: 1,005.11 km^w, cubic net area of 4100,6m³.</p> <p>The energy performance of the building: The building was designed as a standard passive house:</p> <p>a) expected energy consumption for heating: 15 kilowatt-hour / m² / year.</p> <p>b) expected air tightness: n50 <0.3 exchange / h</p> <p>One of the main objectives of this structure is to develop the business of the Chamber, focused on the distribution of equipment and renewable energy technologies and training, organization of conferences and workshops in the field of knowledge engineering and construction art.</p> <p>Implementation of the Centre was launched in June 2016 by carrying out preparatory works, preparing the ground for further construction. The object will serve as office and exhibition. Documentation of the project was developed in a design office in Cracow with the active participation of the management of the Chamber. Apart from the typical function of serving the Chamber of Civil Engineers, there is an additional aim of promoting and educating in the field of energy-efficient building technologies and, therefore the level of the ground floor will be entirely intended for exhibition space and conference room.</p> <p>Project activities in the field of architecture, determining the minimum energy demand, associated primarily with the desire to achieve:</p> <ul style="list-style-type: none"> - High compactness blocks, the lowest ratio of surface envelope (A) to the volume (V) - High air tightness of the building envelope, - High thermal insulation of all external walls, - The correct orientation of windows: The preferred orientation is the south, providing the best lighting in winter and reduced overheating in summer. It is worth noting that the buildings most often overheat in the summer on the east side and the west, which results from the research of the angle of sunlight, - Appropriate selection of the surface of window openings - the size of window openings should be chosen so as to ensure a favorable intensity of daylight at this altitude, in accord with some basic activities performed in a given room. For example, in energy-efficient office buildings there is no rational justification to design glazing reaching down to the floor. - An effective system of external shading - movable awnings are installed at a significant distance from the glass set to ensure the widest gap ventilation. - Optimized design of the building - suitable for use. In buildings used in a continuous manner, a reasonable choice is a heavy construction. This type of construction makes buildings slower to 		

GOOD PRACTICE FICHE

Region: Podkarpackie

overheat during the summer and can be cooled at night through the ventilation system, often with limited need for air conditioning.

An important and unique feature of the presented object are applied bio-climatic solutions - including reused building materials and natural ventilation. The office on the first floor to a large extent has been designed with natural, non-fired clay blocks with the addition of sand. Other walls will be made of silicate blocks, plastered with lime plasters and light partition walls of plasterboard, plastered with clay plaster.

The above-mentioned materials, particularly brick clay, having a high ability to control the humidity in the room, which is especially important during the heating season. Unfired bricks are able, within two days to absorb 30 times more moisture than the fired ones. In addition, clay brick and silicate block materials have a high heat capacity and low radioactivity. For this reason, they can significantly affect the development of natural, healthy internal micro-climate. Noteworthy is the fact that for the production of unfired bricks there is required only a minimum amount of energy compared to other conventional building materials.

Another characteristic bio-climatic element is a skylight (centrally positioned above the main lobby), which in addition to its primary function will provide the possibility of natural ventilation and cooling. In addition, in the entrance hall has been placed high wall made of silicate bricks (white color) and clay blocks (green color), forming two-tone composition, referring to the aesthetics of external façades. In order to complement and underscore the project's approach, there has been designed a reception desk made from the beaten ground. The architecture of today is witnessing the formation of a new category of buildings. These are objects that can be described as pro-energy buildings. Energy of implementation should be the result of the search for the optimal solution planning, respectful of the most important aspects of utility, aesthetic and energy.

It is worth nothing that the final architectural form of the building, the selection of the deployment of photovoltaic cells and wind turbines, are an example of the fact that the utilization of renewable energy sources must not express itself only through thoughtless maximization of energy gain.

The methods of obtaining electricity from renewable energy sources:

- ✓ six wind turbines with a power of 2 kW each,
- ✓ three wind turbines with a power of 0,3 kW each,
- ✓ photovoltaic modules.

The duration of the project is approximately 12-15 months.

Performance indicators linked to the practice

- Number of households with improved energy labelling: 1
- Number of households with improved energy consumption classification: 1
- Number of households engaged in support programmes: 0
- (%) Reduction of annual primary energy consumption in public buildings:
 - ✓ Estimated energy consumption for equipment ventilation and heating and air conditioning is 21,700 kWh / year.
 - ✓ Estimated energy consumption for household is 28,300 kWh / year.
 - ✓ Estimated total balance of all the receivers installed in the facility is 50,000 kWh / year.
- (kWh) Annual energy savings in households: 0
- Number of households with improved energy consumption classification: 1

GOOD PRACTICE FICHE		Region: Podkarpackie
<p>Indicators of success linked to the practice:</p> <p>In order to balance the annual electricity consumed in relation to energy produced from renewable energy sources, there will be used the following solutions:</p> <ul style="list-style-type: none"> • The six wind turbines with a vertical axis of rotation: Aerocooper 450 with a capacity of 2 kW, installed on poles, in the parking lot (the use of the device will be able to produce 12,000 kWh / year) • Three wind turbines with a vertical axis of rotation: Aerocooper 220 with a capacity of 0.3 kW, installed on poles on the roof (expected production of energy 1,400 kWh / year) • Photovoltaic cells, designed on top of the building and on car park's roof, having a total power of 47 kW. All photovoltaic modules are made of monocrystalline silicon cells with a front metallization: Front-Contact. 		
<p>Evidence of success.</p> <ul style="list-style-type: none"> • VENTILATION The building is expected to use a distributed ventilation system consisting of six air handling units, giving the possibility of precise and economical control dependent on the conditions prevailing in the zone. Air handling units are equipped with cross and double cross heat exchangers, with efficiency of heat recovery of above 80%. Central support office and a conference room are provided with an adiabatic cooling. In addition, air handling unit serving the office is equipped with ground, air heat exchanger, which is an additional source of supplemental cooling. • Energy self-sufficiency • Estimated energy consumption for equipment ventilation and heating and air conditioning is 21,700 kWh / year. • Estimated energy consumption for household is 28,300 kWh / year. • Estimated total balance of all the receivers installed in the facility is 50,000 kWh / year. • Passive, NZEB house. • Annual energy consumption for heating - 15 kWh / m². 		
<p>Factors that might hamper the transfer:</p> <p>The transfer of good practice would involve a series of legal actions, construction and investment: purchase of land, building design, selection of the contractor, the construction of the building and use of the building for public purposes.</p> <p>Transfer of this practice would last several years.</p>		
Time required to complete the BP		2 years
Contact details to obtain further information on the practice		
Contact name	Zbigniew Detyna	
e-mail	secretariat@inzynier.rzeszow.pl	
Organization	Podkarpacka District Chamber of Civil Engineers	
Type of Organisation	private	
Website	www.inzynier.rzeszow.pl	

GOOD PRACTICE FICHE		Region: Podkarpackie
Title of the good practice:	P5. Rehabilitation of buildings and removal of asbestos	
Partner region:	Podkarpackie Region (Poland)	
Location data	Podkarpackie Region; 2011-2015	
<p>Topic of the practice: Thematic coverage</p> <ul style="list-style-type: none"> • Activation of demand and combating energy poverty • New financial instruments 		
<p>Poland was one of the countries where carcinogenic asbestos was widely used for many years. It is estimated that from 1952 to 1997 1.75 million tonnes of raw asbestos were used in the manufacture of asbestos-containing products, and in industrial facilities. Some 90% of that quantity was chrysotile, imported mainly from the USSR, the remaining 10% was crocidolite and amosite imported from Africa.</p> <p>The largest share of asbestos (some 65%, mostly chrysotile) was used for asbestos-cement products assigned for the construction industry (such as flat and corrugated roofing sheets and wall linings).</p> <p>According to estimates, some 1.2 billion m² of these products still exist. Crocidolite was used mostly for the manufacture of pressure pipes, one of more than 1 500 asbestos-containing products.</p> <p>In 2002 there was 15 million tons of inventoried asbestos in Poland. In addition, only 30 percent of asbestos containing products in Poland are thought to have been inventoried, meaning that it is uncertain as to where the asbestos is located.</p> <p>Most of asbestos was used as roofing in private households. People do not always realise how serious the problem of asbestos is. On the other hand, even if they do they often do not have will funds to remove asbestos (as it requires special treatment and processing).</p> <p>Programme for Asbestos Abatement in Poland 2009-2032</p> <p>In 2010 the Council of Ministers adopted the Resolution No. 39/2010 of the Council of Ministers of 15 March 2010 on “Programme for Asbestos Abatement in Poland 2009-2032” targeting these aims:</p> <ol style="list-style-type: none"> 1) removal and disposal of products containing asbestos; 2) minimizing adverse health effects caused by the presence of asbestos on the territory of Poland; 3) eliminating negative effect of asbestos on the environment. <p><u>Main areas of implementation:</u></p> <ol style="list-style-type: none"> 1) legislative activities; 2) education and information activities addressed to children and youth, trainings for employees of government and self-government administrations, development of training materials, promotion of technologies for the destruction of asbestos fibres, organisation of national and international trainings, seminars, conferences, congresses and participation therein; 		

GOOD PRACTICE FICHE

Region: Podkarpackie

- 3) activities related to the removal of asbestos and products containing asbestos from the constructions, public amenities and sites of former asbestos products producers, cleaning the premises, building landfills and installations for the destruction of asbestos fibres;
- 4) monitoring of the Programme implementation by means of electronic spatial information system;
- 5) activities in the area of exposure assessment and health protection.

Costs:

- 14.5 million tonnes of asbestos products remain to be removed and the total cost of their dismantling and transport as well as disposal of produced waste containing asbestos is estimated to amount to approx. PLN 40 billion;
- cost of building 56 landfills and landfill sectors for asbestos-containing waste has been estimated to amount to approx. PLN 260 million;
- financial resources from the national budget, at the Minister of Economy's disposal, allocated to support: development of plans for asbestos-containing products removal, education and information activities and the Programme monitoring, amount to PLN 53.2 million (0.13%);
- financial resources of self-government units allocated to develop and update the plans for asbestos-containing products removal and education and information activities are estimated to amount to approx. PLN 40 million (0.10%)

Description of the practice

Programme partially financed from the sources of National Fund of Environmental Protection and Water Management

Beneficiaries: municipalities that have inventories of asbestos and local programmes of asbestos removal

Form of support: grants up to 85%

Supported actions: disassembly or gathering, transportation, neutralisation, and disposal of products containing asbestos

GOOD PRACTICE FICHE
Region: Podkarpackie
Performance indicators linked to the practice

Year	# of projects	Projects general value (thousand PLN)	Grant from Regional Fund (thousand PLN)	Grant from National Fund (thousand PLN)	Grant total (thousand PLN)	Weight of neutralised and disposed asbestos
2011	23	1 285,49	447,34	639,03	1 086,37	2 641,58
2012	71	2 431,24	931,36	1 330,68	2 302,27	6 454,76
2013	115	3 382,10	1 183,74	1 691,05	2 874,79	9 169,73
2014	131	2 928,24	919,97	1 314,24	2 234,21	7 643,00
2015	125	3 112,97	977,06	1 395,81	2 372,87	8 468,75
Sum:	465	13 140,04	4 459,47	6 370,81	10 870,51	34 377,82

Indicators of success linked to the practice:

- Weight of neutralised and disposed asbestos in the years 2011-2015: 34.377,82;
- Number of project in the years 2011-2015: 465

Evidence of success.

Greater awareness in the society of asbestos risks and the above figures showing changes in the Podkarpackie towns and villages.

The National programme of asbestos removal could be an opportunity to renovate buildings according to the European energy policies!

Factors that might hamper the transfer:

The main problem for program's beneficiaries is that they receive support for the removal of asbestos but do not receive support for new elements such as for example a new roof.

Time required to complete the BP
Contact details to obtain further information on the practice

Contact name	Andrzej Indycki
e-mail	andrzej.indycki@wfosigw.rzeszow.pl
Organization	Regional Fund of Environmental Protection and Water Management in Rzeszów
Type of Organisation	Public
Website	www.wfosigw.rzeszow.pl

GOOD PRACTICE FICHE		Region: Podkarpackie
Title of the good practice:	P6. Revitalization of historic buildings in the old city Przemyśl	
Partner region:	Podkarpackie Region (Poland)	
Location data	Przemyśl	
Topic of the practice: Thematic coverage <ul style="list-style-type: none"> Activation of demand and combating energy poverty 		
Description of the practice: <p><u>General objective</u></p> <p>Improving the professional skills of people over 45 years-old with building qualifications: architectural, construction and installation.</p> <p><u>Detailed objectives</u></p> <ul style="list-style-type: none"> Updating knowledge about thermal energy buildings to 195 people with building qualifications enabling them to issue energy performance certificates of buildings; learning support program used for preparing building energy certification for 195 enabling them to issue energy performance certificates of buildings; promoting active professional attitude focused on personal development. <p><u>Target group</u> people over 45 years-old with building qualifications: architectural, construction and installation. It is a good example connected with experts and their awareness concerning need for additional education and improving their qualifications.</p> <p><u>Project activities</u> series of training courses for 195 beneficiaries over 45 years old in order to help them to get energy performance certificates of buildings;</p> <p>1. Training: Preparation of energy performance certificates. The training discusses the methodology of the certificates together with exercises in order to improve practical skills. Training was adapted to the situation of people over 45 years old holding a building license. The need to organize training courses in this field stemmed from the analysis of requests for specific knowledge and skills in the region. Classes were conducted in a way which did not interfere with day-to-day professional work – during the weekends. The training consisted of 32 hours of theoretical and practical classes (4 days x 8 hours). Program of training: Legal basis; Evaluation of the thermal protection of the building; RES; the methodology of calculation; Execution of training energy certificates; The use and operation of the thermal imaging camera.</p> <p>2. Training: Support for the drawing up of energy certificates. Each course consisted of 16 hours of practical classes, organized in participants' free time (weekends). Program of training: The scope of the building's data; discussion of the program in terms of preparation; The choice of computing solutions; Defining partitions, zones and premises; Entering data of heating and lighting installations; Analysis of errors; Generating the final certificate; Implementation of energy certificates</p> <p>Financial resources: 150.000 Euro – finance from European Social Fund under Operational Program Human Capital 2007 – 2013 + own contribution of participants - 10% costs of training.</p> <p>As part of the project of revitalization and thermo-modernization, 19 historic buildings in the old city of Przemyśl have been renovated. All buildings were built in the late 19th and early 20th centuries and have been individually registered at the monuments register. Natural persons were the owners of those buildings. Because of the systemic conditions and the resulting rents, regulated over many years in Poland, the condition of those buildings were very bad.</p> <p>The beneficiary of the project was the Association of Owners and Managers of Houses in Przemyśl, while the final beneficiaries were the building owners, individuals members of the association. All</p>		

GOOD PRACTICE FICHE

Region: Podkarpackie

activities related to the preparation of technical documentation, formal and legal documents, building permits obtaining, project application submission and the carry out of the project was conducted on the basis of the proxies granted by the owners of the Association.

The project was implemented within the framework of measure 7.1 Revitalization of RPO cities in the Podkarpackie Voivodship 2007-2013. The total value of the project was 6,551,994.92 PLN -ca. 1,5M€-. The co-financing of the RPO in podkarpackie voivodship was 75% and the rest of the funds were funded by buildings owners. The Association borrowed 1M PLN for 10 years for the project completion, because the amount of the funds collected by owners were insufficient. Nowadays, the credit is being paid back with the money collected from buildings rents.

The renovation works included:

- windows and door frames replacement
- elevators and heating renovation
- (for some buildings) heating energy sources switch
- roof coverings replacement
- telecom renovation
- (for some buildings) insulation of walls

A major issue when dealing with improving energy efficiency in historic buildings is the insulation of façades with stucco elements due to heritage constraints. That gives as an only choice the option of warming from the inner side, though is expensive as well as disturbing for residents.

Difficulties related to running the projects concerned mainly the formal and legal conditions of documents obtaining. Since the involved tenants live in different parts of Poland, the requirements imposed by some of the offices on detailed mandates greatly lengthened the process of carrying out the work. At the same time, despite of these difficulties, this project was the only project in this type implemented by the Association in Poland. To have the opportunity to apply for funds the Association had to get many interpretations. The final interpretation deciding on the possibility of applying for funds was issued by Ministry of Regional Development in 2010.

At present, within the next RPO 2014-2020, the Association uses previous experience to implement another similar project, a typical thermo-modernization project involving 5 buildings in Przemysl.



Before



After

Performance indicators linked to the practice

- Number of households with improved energy labeling: 198
- Number of households with improved energy consumption classification: 198

GOOD PRACTICE FICHE		Region: Podkarpackie
<ul style="list-style-type: none"> • Number of households engaged in support programmes: 198 • (%) Reduction of annual primary energy consumption in public buildings: N/A • (kWh) Annual energy savings in households: N/A • Number of households with improved energy consumption classification: 198 • (%) Reduction of the use of fossil fuels in the building sector: N/A • Other: Improved energy efficiency in 18 multi-apartment buildings. The usable area of units with improved energy efficiency was 12,800 m². 		
<p>Indicators of success linked to the practice:</p> <p>The project had a big impact on several factors. The first of it is saving of the energy what refers to a reduction of carbon dioxide emissions and renters' fees. Przemysl has been notoriously exceeding the carbon dioxide emission standards as well as the PM10 emission and its reduction is a positive effect of the project. The second factor is to increase the comfort of the lifes of renters. The dwellings are mainly occupied by low-income renters and it is the reason that they would not be able to renovate the premises. Also the owners' income did not allow for renovations to the extent that would cause a slow buildings' degradation. Renovations have also increased the aesthetics of the city centre, so it is slowly becoming a place friendly for native population and tourists.</p>		
<p>Evidence of success.</p> <ul style="list-style-type: none"> • Przemysl has notoriously exceeded the CO₂ emission standards as well as the PM10 emission reduction and it is a positive effect of the project. • Reduction of the cost of renters' premises related to the reduction of operating fees • Increasing of the aesthetics of the city of Przemyśl (historic buildings located in the old city of Przemyśl). 		
<p>Factors that might hamper the transfer:</p> <p>The problems may be related to the legal situation in each country as well as to the possibility of financing the property owned by natural persons.</p>		
Time required to complete the BP		Finished in 2013
Contact details to obtain further information on the practice		
Contact name	Bogusław Kotek	
e-mail	zrzeszenie_przemysl@poczta.onet.pl, bkotek@wp.pl	
Organization	Zrzeszenie Właścicieli i Zarządców Domów, ul. Sowińskiego 1, 37-700 Przemyśl, Poland	
Type of Organisation	association	
Website	www.zrzeszenieprzemysl.pl	

GOOD PRACTICE FICHE		Region: Croatia
Title of the good practice:	C8. Rural electrification project	
Partner region:	Croatia	
Location data	Counties: Karlovac, Zadar, Požega-Slavonia, Lika-Senj, Sisak-Moslavina	
Topic of the practice: Thematic coverage <ul style="list-style-type: none"> • Activation of demand and combating energy poverty 		
Description of the practice: <p>In Croatia there are still inhabited households in rural areas that have no access to electricity. For solving the access to electricity, the United Nations Development Program (UNDP) in Croatia, in cooperation with the Environmental Protection and Energy Efficiency Fund, College for Information Technologies and with the support of counties and municipalities is carrying out a project of the Rural electrification under which households are equipped with solar systems to produce electricity.</p> <p>More than 50 solar systems for priority households are installed. So far, results are showing that the model of electrification of rural areas using solar systems is economically, socially and environmentally advantageous, and thus successful implementation of the project has enabled access to electricity to its final beneficiaries, employment of local residents on its installation and the production of electricity from clean, renewable energy sources. For the objects several kilometers away from the power grid, solar systems are up to 25 times cheaper than building power grid close to the facility, taking into account the total cost of ownership in 25 years, the lifetime of the equipment and system maintenance.</p> <p>This approach which will allow homes to access electricity is based on usage of so called "island" solar systems, without connecting to the grid. Such systems generate electricity through photovoltaic panels and store it in batteries that will last up to three days in a case of bad weather. There are three typical systems planned, depending on the number of household members. The systems will allow users to use all the standard household appliances.</p> <p>The package given to the households for usage contains the aggregator that is used for the production of electricity in the case of several foggy days or a longer period without the sun; energy-efficient refrigerator and a set of LED bulbs. One of the main criteria is that the household owners or co-owners live there permanently or most of the year, and that the household is more than 1km away from the power grid. On this way, families without electricity living in remote areas will have access to energy from renewable sources. The solution is a modern, environmentally sustainable and cost effective.</p> <p>The equipment in the pilot project (realized in Karlovac County) that is being installed is from Croatian manufacturers. The co-financing of renewable energy projects creates a market for domestic companies that have opted for green technologies. Solar panels that are being installed in five houses in the Karlovac County are produced in company Solvis from Varaždin (CRO). Other supporting equipment is manufactured by the company Infoton from Novi Marof (CRO).</p>		
Performance indicators linked to the practice <p>Please tick at least any of the self-defined performance indicators in the Application Form (related to Policy Instruments) that may apply to the good practice.</p> <ul style="list-style-type: none"> • Number of households with improved energy labelling • Number of households with improved energy consumption classification • Number of households engaged in support programmes: 50 • (%) Reduction of annual primary energy consumption in public buildings • (kWh) Annual energy savings in households • Number of households with improved energy consumption classification • (%) Reduction of the use of fossil fuels in the building sector 		

GOOD PRACTICE FICHE
Region: Croatia
Indicators of success linked to the practice:

- Renewable energy capacity installed: 76 kW (solar PV)
- Renewable energy production: 36 MWh/year
- Fuel oil savings: 16,465 l/year
- Financial savings: 17,500 EUR/year
- With the introduction of electricity the targeted households have experiences an improvement in sanitary, social and technological standards of living.
- New contracts for domestic companies

Evidence of success.

In 50 households off-grid solar PV systems were installed instead of grid extension. More than 3.5 million EUR was saved, because autonomous solar PV systems are 14 times cheaper than grid extension cost on average.

The model of electrification of rural areas using solar systems has proven **economically, socially and environmentally advantageous** due to enabled access to electricity to its final beneficiaries, employment of local residents on its installation and the production of electricity from clean, renewable energy sources. A positive outcome is also the **independence from electricity distribution network**.

Factors that might hamper the transfer:

A possible problem or barrier could be national legislation regarding universal service for electricity. In addition, only 50 households in Croatia were living in rural areas and far from the grid. If the number of such households is higher different financing and technical models are needed.

Time required to complete the BP	19 months
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Contact details to obtain further information on the practice

Contact name	Mr. Mislav Kirac
e-mail	mislav.kirac@undp.org
Organization	UNDP
Type of Organisation	intergovernmental organization (UN)
Website	http://www.hr.undp.org/content/croatia/en/home/operations/projects/environment_and_energy/solar-energy-for-households-in-rural-areas.html

GOOD PRACTICE FICHE		Region: Croatia
Title of the good practice:	C12. Through Knowledge to a Warm home	
Partner region:	Croatia	
Location data	Sisak-Moslavina County	
Topic of the practice: Thematic coverage		
<ul style="list-style-type: none"> • Activation of demand and combating energy poverty 		
Description of the practice:		
<p>“Through Knowledge to a Warm Home” is a project implemented by a domestic NGO DOOR in collaboration with a local government, City of Petrinja. The project has succeeded in establishing energy advice as a new social service on regional level with the intention to combat energy poverty through a change in regional policy.</p> <p>Under the project 80 households were equipped with energy efficient appliances for small measures for saving energy. The real success of this project is that it resulted in a change of regional policy through the inclusion of a priority in the county social services plan for the period 2015-2020 by which a system of energy advice will be developed and set-up targeting individuals at risk of energy poverty. Sisak-Moslavina County is one of the counties most affected by poverty which implies energy poverty too. Key stakeholders from Petrinja – representatives of the City, the Centre for Social Welfare and public media – were introduced to the idea of energy poverty and its influence on different aspects of the life of citizens and community.</p> <p>Although energy poverty as a subject is growing in importance over the past few years, there is still no clear definition of the term nor agreed method to identify and monitor of energy poverty.</p> <p>The project has produced a detailed research in one of Croatia’s poorest regions, Sisak-Moslavina County, mapping out the needs of energy users at risk of energy poverty. In addition the status of national, regional and local regulatory framework and policies were analyzed and potential methods for the protection of users at risk of energy poverty were identified.</p> <p>A series of round tables with key stakeholders from national, regional and local public and civil sector have helped raising awareness of energy poverty and supported the communication and between key organization and sectors. This new improved cooperation has produced recommendations for the inclusion of energy poverty in strategic documents at regional level and a change in regional policy was implemented.</p> <p>The total project value is approximately 100.000 EUR and it was financially supported through national budget and the European Social Fund (ESF).</p>		
Performance indicators linked to the practice		
<ul style="list-style-type: none"> ○ Number of households with improved energy labelling ○ Number of households with improved energy consumption classification: 80 ○ Number of households engaged in support programmes: 80 ○ (%) Reduction of annual primary energy consumption in public buildings ○ (kWh) Annual energy savings in households: 700 x 80 = 56.000 kWh ○ (%) Reduction of the use of fossil fuels in the building sector ○ Other: Change of regional policy 		

GOOD PRACTICE FICHE
Region: Croatia
Indicators of success linked to the practice:

80 households were equipped with simple low-cost energy efficiency measures (ca. 100 EUR investment per household: LED light bulbs, reflexive foils behind radiators, thermometers, rubber draft proofing for windows, aerators for water taps, switch electrical cables, timers for electrical boilers, draft proofing for below doors); all households received energy advice on how to rationalize their energy use. Those measures resulted in annual savings of 700 kWh per household.

A significant indicator of success is the change in regional policy. As a result of the project energy advising was added as social service to the regional Plan of development of social services in Sisak-Moslavina county with direct link to the national Operational programme delivering ESF.

About 18 ton CO₂ annual reduction, average building surface 57m² affected, overall perception of improvement of quality of life as result of independent evaluation, average 400HRK (ca. 50 EUR) annual decrease estimate of energy bills per household.

Evidence of success.

Improving the energy efficiency of dwellings and of household appliances, while improving the heating and ventilation systems is the only effective and sustainable approach to alleviating energy poverty in Balkan countries. By testing simple and low-cost energy efficiency measures it was proven that with low investments significant improvements in the quality of life coupled with energy and emissions reductions can be achieved.

Factors that might hamper the transfer:

Field visits have been implemented by volunteers, so **securing enough volunteers** and providing adequate training has to be planned in advance.

Key to success is local and national **political will**. Lack thereof most certainly will hamper sustainability.

Cooperation between and capacity building of key stakeholders from public and civil sector is essential for the introduction of energy advice as social service.

Time required to complete the BP
14 months
Contact details to obtain further information on the practice

Contact name	Mrs. Ivana Rogulj
e-mail	ivana.rogulj@door.hr
Organization	Society For Sustainable Development Design (DOOR)
Type of Organisation	NGO
Website	http://www.door.hr/portfolio/znanjem-do-toplog-doma/

GOOD PRACTICE FICHE		Region: Jämtland Härjedalen
Title of the good practice:	J6. Energy wise housing cooperatives	
Partner region:	Region Jämtland Härjedalen, Sweden	
Location data	Jämtland Härjedalen and Västernorrland	
<ul style="list-style-type: none"> o Activation of demand and combating energy poverty 		
<p>Description of the practice:</p> <p>The project's aim was to reduce energy consumption in buildings, specifically housing associations in the counties of Jämtland and Västernorrland. This was done through joint actions of the two counties' energy agencies and the work performed by the energy and climate advisors.</p> <p>The objective of the project is to achieve reduced energy consumption in buildings through increased knowledge of energy matters and a systematic energy work in the housing associations</p> <p>The project has included activities such as participation at meetings, energy information, project meetings/awareness-raising activities for the participants with different themes, counseling visits, collection of energy statistics and writing proposals for action.</p>		
		
<p>The visit by the energy advisor has been appreciated and unions have received practical tips on energy efficiency measures.</p> <p><u>Objective/challenge addressed</u> Reduce energy consumption in buildings through knowledge enhancing measures.</p> <p><u>Main stakeholders/target groups</u> Housing cooperatives in the county of Jämtland Härjedalen and county of Västernorrland.</p> <p><u>Financial resources required</u> It was funded by the Swedish Energy agency and the budget was about 125,000 euros.</p> <p><u>Timeline</u> The original timeline for the project was one year, January to December 2014, but it was prolonged to March 2015 in order to reach the desired results.</p> <p><u>Regional context</u> Housing cooperatives in Sweden (also called tenant-owner's association) is a joint ownership of property in which the whole property is owned by a co-operative association, which is owned by the members. Housing cooperatives represent a large share of all housing in Sweden, 23% to be more precise. Housing cooperatives were identified as an interesting group to work with; they have great potential for energy efficiency and they typically lack the knowledge to make informed decisions themselves.</p> <p><u>Strengths/weaknesses</u></p> <ul style="list-style-type: none"> - Discussing energy measures with an impartial energy and climate advisor were much appreciated. As the advisors are not trying to promote a certain technology or product, the cooperatives can trust the advice given. - Housing cooperatives typically have high energy savings potential. 		

GOOD PRACTICE FICHE		Region: Jämtland Härjedalen
<u>Lessons learned</u>		
<p>A lesson from the project is that it may take quite a long time from idea/proposal for action to implementation. For example, it may take time for the board of the associations to make decisions. The project has nevertheless helped to speed up the process to make visible actions and many ideas have been raised about the potential for saving energy and saving money.</p> <p>Also, it takes some time and effort to recruit cooperatives. The board members typically have limited time to spare and the knowledge level and interest may be low, resulting in low interest for the project.</p>		
Performance indicators linked to the practice		
<ul style="list-style-type: none"> ○ (kWh) Annual energy savings in households: 1.130.000 kWh / year ○ Number of households engaged in support programmes: 1486. 		
Indicators of success linked to the practice:		
<ul style="list-style-type: none"> - 34 cooperatives signed up - 27 cooperatives identified profitable measures - 1486 apartments were included through their cooperatives - Large and small cooperatives participated; 3-256 apartments - The total energy savings of 1,130 MWh/year - Funding/Energy saved ratio: 110 €/MWh during the project 		
Evidence of success.		
<ul style="list-style-type: none"> - Many cooperatives developed long-term energy plans - Visits from energy and climate advisors were much appreciated. They provided easy to understand and hands on advice - Both boards and members of the cooperatives were offered energy education - The survey distributed to members resulted in important suggestions that the cooperatives could work with. 		
Factors that might hamper the transfer:		
Depends on the form of housing cooperatives existing in receiving region.		
Time required to complete the BP	2-3 years	
Contact details to obtain further information on the practice		
Contact name	Ingrid Ahnlund Rode	
e-mail	ingrid.ahnlund-rode@regionjh.se	
Organization	Region Jämtland Härjedalen	
Type of Organisation	Regional development agency	
Website	http://regionjh.se/regionalutveckling/valfardklimatochkompetens/energi/kontoret.4.5e03233315a5d76d07b39df5.html	
Fiche completed on date:	2017-07-07	

GOOD PRACTICE FICHE		Region Jämtland Härjedalen
Title of the good practice:	J7. Zerooil – with bio oil – a region without fossil heating oil	
Partner region:	Region Jämtland Härjedalen, Sweden	
Location data	Jämtland County, Sweden	
Topic of the practice: Thematic coverage <ul style="list-style-type: none"> ○ Activation of demand and combating energy poverty ○ Innovation 		
Description of the practice: <i>Switch from non-renewable to renewable energy</i> <u>Kind of the practice</u> The project “Zerooil – with bio oil” offered actors within the region consultancy support, arranged study visits that increased knowledge and interest, pairing suppliers with potential customers. And at the very least the project raised the question of this possibility of switching to renewable fuels. The aim of “Zerooil – with bio oil” was to create regional co-operation to deliver bio oil in such amounts that also small users can reach profitability. Secondly, the aim was to give advice to others concerning conversion from fossil heating oil to other alternatives and upgrade the inventory of the number of fossil heating oil boilers in the county. Fossil fuels are typically taxed quite heavily, which means that a lot of fossil oil has already been replaced. In some specific cases however (e.g. bio oil for heating), the price for fossil and renewable fuels is quite similar despite fossil taxation. In these cases, public authorities can support projects where cooperation and other driving forces are necessary to reach conversion to renewables. <u>Objective/challenge addressed</u> To reach necessary amount of bio oil delivered to the Jämtland County. <u>Main stakeholders/target groups</u> Main target group were district heating companies, industries and public property owners. Secondly others that use heating oil and fuel providers. <u>Financial resources required</u> The budget for the project was approximately 42,000€. The project was financed by the Region Jämtland Härjedalen during 2015-2016. <u>Legal framework</u> The development within this field is mostly driven by the taxes on fossil heating oil in Sweden. The taxes has increased during the last years, more for industries than for others, and that has in turn made it more interesting to find alternatives that also is more friendly for the climate. <u>Regional context</u> The vision of Jämtland County is to be a region with no fossil fuels by 2030. That means that use of fossil heating oil has to be at a minimum. Bio oil is one alternative that can make that possible. <u>Strengths</u> We have reached and based the project on regional cooperation. <u>Weaknesses/Lessons learned</u> We could have come further concerning smaller boilers		
Performance indicators linked to the practice Identified possible users of bio oil in Jämtland County.		

GOOD PRACTICE FICHE		Region Jämtland Härjedalen
<p>Given individual advices concerning bio oil at 10 companies, where the energy and climate advisors participated at on-site visits. Five of those have made plans for conversion.</p> <p>Had three meetings concerning regional cooperation. .</p> <p>Given individual advice to about 20 companies concerning other alternatives for fossil fuels.</p> <p>Updated the inventory concerning numbers of larger oil boilers. Larger than 50 kW.</p> <ul style="list-style-type: none"> o (%) Reduction of the use of fossil fuels in the building sector: 93% 		
<p>Indicators of success linked to the practice:</p> <p>Deliveries of fossil heating oil to Jämtland County was in the year of 1990 about 45.000 m³. That number has decreased to 3.200 m³, a decrease about 93%. That is a very good and fast development, although it still needs to speed up.</p> <p>During the project one site converted to bio oil, with the capacity of 10m³. At the time of writing more sites have converted, with capacities of several hundred m³.</p>		
<p>Evidence of success.</p> <p>Our inventory shows that the number of oil boilers compared with the year of 2014 has decreased from 310 to 265 and smaller boilers have decreased from 449 to 292. The oil boilers that have disappeared have been replaced by a variety of options, most have installed heat pumps, but many have also switched to biofuels (e.g. wood pellets) and district heating.</p> <p>In December 2016 bio oil was delivered to a site in Östersund. That was a good end point for the project.</p>		
<p>Factors that might hamper the transfer:</p> <p>- There is a discussion about how sustainable bio oil is. That can differ depending on which raw material that is used. Development within this will be extremely important to follow.</p>		
Time required to complete the BP	Approximately 6 years, 2014 - 2020	
Contact details to obtain further information on the practice		
Contact name	Jimmy Anjevall	
e-mail	Jimmy.anjevall@regionjh.se	
Organization	Region Jämtland Härjedalen	
Type of Organisation	Regional government	
Website	www.regionjh.se	
Fiche completed on date:	2017-05-31	

GOOD PRACTICE FICHE		Region: Slovenia
Title of the good practice:	S1. CHP Planina – Kranj	
Partner region:	Slovenia	
Location data	City Municipality Kranj	
Topic of the practice: Thematic coverage		
<ul style="list-style-type: none"> • Activation of demand and combating energy poverty • New financial instruments 		
Description of the practice:		
<p>Planina in Kranj has become in mid-March 2012 its intention to officially handed over completely renovated boiler room, modern way of producing energy, increasing the energy efficiency of existing energy sources and offering cheaper heating for residents of the neighbourhood. Project of complete renovation of the district heating neighbourhoods Planina also included the construction of combined heat and power (CHP) and represents one of the biggest energy projects in the area of Gorenjska and with this new chapter in efficient energy use and energy efficiency in the Gorenjska region.</p> <p>Investor of the project of construction of the CHP, the company was Soenergetika with the cooperation of the Municipality of Kranj and civil initiative, founded the company Elektro Gorenjska (later involved in the project Gorenjska power stations), HSE, Domplan and Petrol. The project was designed on the basis of concern for the protection of the environment, optimizing and increasing the efficiency of energy and the reduction of heating costs residents of the neighbourhood. Its objectives are to provide for more efficient use of energy and end-users boiler enable savings.</p> <p>The project brings environmental and financial benefits</p> <p>The entire renovation project, which included further modernization of thermal stations and optimization of district heating network and the replacement of two boilers, was completed in just over two years since the signing of the contract. This boiler Planina become a modern boiler is fitted with the latest technology from the standpoint of optimal, especially rational production and distribution of heat and its leadership and management. For the overall system of boiler Planina, it was in fact made common central monitoring system, through which guided production of heat and electricity.</p> <p>The value of the total investment amounted to more than 5.8 million €, of which four million earmarked for the construction of CHP. This project is a neighbourhood Planina acquired one of the most modern boiler district heating in the Slovenian area, allowing many operational reliability at significantly lower cost and minimal environmental impact. Renewed boiler residents of the neighbourhood Planina delivers 24 percent lower heating costs, which will be accounted as a discount on annual heating costs of EUR 250.000€ .</p> <p>Placement CHP plants was necessary to conduct a comprehensive renovation of the boiler room and a district heating network. Replacement and installation of boilers to the appropriate location was obtained with adequate space for the installation of CHP units and provided the corresponding parameters of the emissions of combustion on the basis of existing legislation. For the purposes of optimization of losses and placement CHP was also carried out rehabilitation of the district heating system, it was necessary to ensure proper temperature return water. It has also been replaced regulation equipment at the thermal stations for hot water at low and high pressure. A system of remote monitoring and control of implementation tools for the efficient conduct of the district heating system.</p> <p>CHP Planina has the boiler room with two gas engines that produce both electricity and heat. One of the engines has the power of 1 MW and is operating throughout the year and covers the need for hot water, another motor power of 3.3 MW covers peaks and operates only during the heating season.</p>		
Performance indicators linked to the practice		

GOOD PRACTICE FICHE		Region: Slovenia
<ul style="list-style-type: none"> ○ (%) Reduction of annual primary energy consumption in public buildings ○ (%) Reduction of the use of fossil fuels in the building sector 		
<p>Indicators of success linked to the practice:</p> <ul style="list-style-type: none"> ○ Project CHP also has a large environmental impact, as it will cut CO₂ emissions by 12.000 tons per year. ○ The investment in CHP will be repaid in six years (investment more than 5.8 million €, of which four million earmarked for the construction of CHP). ○ -24% heating costs 		
<p>Evidence of success.</p> <p>Technological solutions based on better use of energy gas and the simultaneous production of electricity. The total indicative annual energy output is 21.7 million kWh, which is sufficient to supply 5.400 households own investment in CHP should be the investor repaid in six years.</p>		
<p>Factors that might hamper the transfer:</p> <ul style="list-style-type: none"> ○ Consent of owners, ○ Building permit, ○ Finances. 		
Time required to complete the BP	3 years	
Contact details to obtain further information on the practice		
Contact name	Andrej Krč	
e-mail	andrej.krc@domplan.si	
Organization	Domplan d.d. Kranj Bleiweisova cesta 14, 4000 Kranj Slovenija	
Type of Organisation	Public/private, regional/local government, etc	
Website	http://www.domplan.si/files/dokumenti/energetika/brosure/spte_planina_kr.pdf	

GOOD PRACTICE FICHE		Region: Slovenia
Title of the good practice:	S2. Combating energy poverty	
Partner region:	Slovenia	
Location data	Slovenia	
Topic of the practice: Thematic coverage		
<ul style="list-style-type: none"> • Activation of demand and combating energy poverty 		
Description of the practice:		
<p>16 students of Secondary Technical and Professional School Trbovlje carried out their yearly practice in the form of energy advices. After a two-day training they started with work visiting households.</p> <p>The visit included the review of bills for electricity, heating and water consumption analysis of electrical and electronic household appliances, analysis of water usage, inspection of windows and radiators. All this information and data were collected by students and on basis of these data they prepared a set of measures and list of appliances suitable for the household. At the second visit to the household they installed free devices for energy and water consumption savings (energy-saving lamps, seals for windows, water saving appliances for tap and shower, etc.). At the same time households were presented advices for saving energy and water, and gave additional information on how or where to get additional help or advice. Complete services, including small devices for savings, were free of charge for the household. Students have visited about 80 households average savings in households amounts to approximately EUR 100 per household per year.</p> <p>The project has been organised by association Focus with participating Municipalities Hrastnik, Trbovlje, Zagorje ob Savi and Center for social work Hrastnik, Center for Social Work Trbovlje, Center for Social Work Zagorje ob Savi, Youth Center Hrastnik Youth Center Trbovlje and Youth Centre Zagorje ob Savi.</p>		
Performance indicators linked to the practice		
<ul style="list-style-type: none"> ○ Number of households engaged in support programmes, ○ (%) Reduction of annual primary energy consumption in public buildings, ○ (kWh) Annual energy savings in households. 		
Indicators of success linked to the practice:		
Average savings in households amounts to approximately EUR 100 per household per year.		
Evidence of success.		
At the end of the project students expressed their desire to participate in the project next year. Similarly, the desire was expressed by the other involved, so that the energy consulting for the households with low household income would take place in Zasavje in the coming school year.		
Factors that might hamper the transfer:		
Only factor that could hamper the transfer is willingness to cooperate.		
Time required to complete the BP	4 to 6 months	
Contact details to obtain further information on the practice		
Contact name	Tomislav Tkalec	

GOOD PRACTICE FICHE		Region: Slovenia
e-mail	tomi@focus.si	
Organization	Focus Association for Sustainable Development Maurerjeva 7 1000 Ljubljana	
Type of Organisation	Public/private, regional/local government, etc	
Website	http://focus.si/priznanja-za-dijake-ki-gospodinjstvom-svetujejo-o-vareni-rabi-energije/	
Fiche completed on date:	30.09.2016	

GOOD PRACTICE FICHE		Region: Slovenia
Title of the good practice:	S4. Eco Fund, Slovenian Environmental Public Fund	
Partner region:	Slovenia	
Location data	Slovenia	
Topic of the practice: Thematic coverage		
<ul style="list-style-type: none"> • Activation of demand and combating energy poverty • New financial instruments 		
Description of the practice:		
<p>Eco Fund is a public fund (owned by the state) specialized in providing financial incentives for environmental investments. Established in 1993, following the example of EU member states leading in sustainable development and green technologies, as one of public mechanisms for environmental policy enforcement. Employing ca. 35 people (public employees).</p> <p>Sources of funding:</p> <ul style="list-style-type: none"> • for Eco Fund's administrative costs and Eco Fund's loans: <ul style="list-style-type: none"> ◦ Eco Fund's own funds (some funds provided by the state at the time of establishment and later funds as recapitalization; repayments from loans also become own funds of Eco Fund), ◦ loans from domestic and international financial institutions. • for Eco Fund's grants: <ul style="list-style-type: none"> ◦ the Decree on energy savings requirements (providing funds from energy efficiency contributions paid by end users of energy as part of bills), ◦ contract providing budgetary sources from the Climate Change Fund administered by Ministry of Environment and Spatial Planning (funds from emission coupons) . • Earmarked assets fund: 111.8 million € • Reserve fund: 17.2 million € • Total Balance Sheet Assets on December 31, 2015: 246.2 million € 		
Key financial mechanisms		
<ul style="list-style-type: none"> • Soft loans with favourable interest rates (since 1994) • Non-repayable subsidies (grants) (since 2008) • Financing and coordination of Energy Advisory Network (ENSVET) free for households (offices all over Slovenia), • Financing of awareness-raising activities in the field of environmental protection (conferences, meetings, publications, projects of NGOs etc. 		
ECO FUND 2016		
Funds for public calls in 2016 (est.)		
<ul style="list-style-type: none"> • loans: 30 million € • grants: 52,6 million € 		
<p>Focus on: the building sector which has the biggest potential for delivering significant and cost-effective GHG emissions reductions (proven policies, technologies and knowledge already exist on the market); therefore, countries should prioritize the building sector as key to meet their national targets on energy efficiency.</p>		
SOFT LOANS WITH FAVOURABLE INTEREST RATE (3m euribor + 0-1.3 %)		
To households, legal entities and municipalities for various environmental investments:		
<ul style="list-style-type: none"> • air pollution reduction, 		

GOOD PRACTICE FICHE

Region: Slovenia

- efficient use of energy,
- use of renewable energy sources,
- waste management,
- waste water treatment,
- water supply.

NON-REPAYABLE SUBSIDIES (GRANTS)

- to households for energy efficiency and use of renewable sources of energy in residential buildings:
 - solar heating systems,
 - biomass boilers,
 - heat pumps,
 - connection to district heating on renewable energy sources,
 - energy efficient wooden windows,
 - facade insulations,
 - roof insulations,
 - heat recovery ventilations,
 - new nearly-zero-energy buildings (nZEBs),
 - full retrofits,
 - purchases of apartments in nZE multi-residential buildings (full retrofits),
- to households, legal entities and municipalities for electric cars and public transport (energy efficient buses),
- to municipalities for nearly-zero energy public buildings.

Performance indicators linked to the practice

- Number of households with improved energy labelling,
- Number of households with improved energy consumption classification,
- Number of households engaged in support programmes,
- (%) Reduction of annual primary energy consumption in public buildings,
- (kWh) Annual energy savings in households,
- Number of households with improved energy consumption classification,
- (%) Reduction of the use of fossil fuels in the building sector.

Indicators of success linked to the practice

- number of public calls ,
- number of granted loans,
- number of granted non-repayable subsidies,
- Energy savings in GWh per year due to the implementation of energy advices for citizens GWh per year,
- Reduction of greenhouse gas emissions due to the implementation of energy advices for citizens in tCO₂.

Evidence of success

1995 – 2015:

- total of 56 published public calls,
- 17,300 granted loans in the amount of over 451 million EUR,
- 78,400 granted non-repayable subsidies in the amount of over 141 million EUR,
- The majority of applications is from households (which, in Slovenia, are relatively under-indebted and keen investors, especially in buildings).

Factors that might hamper the transfer:

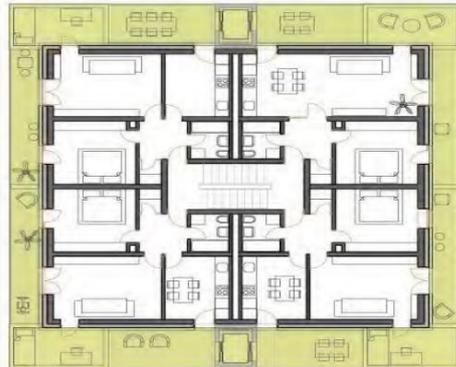
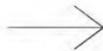
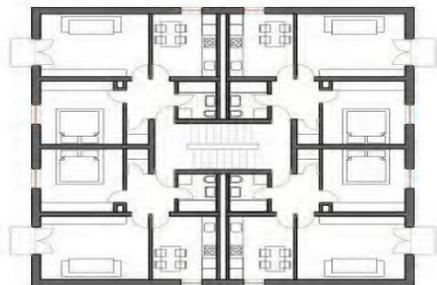
- Energy legislative is different in each country,

GOOD PRACTICE FICHE		Region: Slovenia
<ul style="list-style-type: none"> ○ way of taxation of energy usage is deferent in each country. 		
Time required to complete the BP	2 years (from the start of the process to having employees and office)	
Contact details to obtain further information on the practice		
Contact name	/	
e-mail	ekosklad@ekosklad.si	
Organization	Eko sklad, Slovenski okoljski javni sklad Slovenski okoljski javni sklad Bleiweisova cesta 30 1000 Ljubljana	
Type of Organisation	Public	
Website	www.ekosklad.si/fizicne-osebe/en-svet	
Fiche completed on date:	30.09.2016	

GOOD PRACTICE FICHE		Region: Slovenia	
Title of the good practice:	S5. ENSVET - Energy Advices for Citizens		
Partner region:	Slovenia		
Location data	Slovenia		
Topic of the practice: Thematic coverage			
<ul style="list-style-type: none"> • Activation of demand and combating energy poverty • New financial instruments 			
Description of the practice:			
<p>Program for the free energy advice for citizens - Network ENSVET offers individual, free, independent energy consulting and information education and awareness activities for the promotion of energy efficiency measures and renewable energy sources for citizens in the local environment.</p> <p>In offices spread across Slovenia network ENSVET, are employed qualified independent energy advisors. With free tips and interviews assist in the selection, design and implementation of investment measures of energy efficiency and use of renewable energy sources in residential buildings. Advices are increasing energy awareness of citizens, energy savings and reduction of greenhouse gas emissions and thereby are facilitating the implementation of certain measures and programs related to energy policy.</p> <p>ENSVET network is based on the first and third paragraph of Article 352 EA-1, organized by the Eco Fund, together with interested local communities - municipalities. Eco Fund is also the coordinator of the network and manages the operation of the municipal advisory offices network and into the integrated energy consultants.</p> <p>The project ENSVET is systematically combating pollution of the environment, energy poverty and dependency on energy imports. It also increases the quality of life and green jobs. ENSVET is giving advices to the citizens, final customers of energy in the residential sector, and is offering free and commercially independent advices with training services in the field of RES and RUE.</p>			
Performance indicators linked to the practice			
<ul style="list-style-type: none"> ○ Number of energy advices: 5003 per year on an average basis. ○ Energy savings in GWh per year due to the implementation of energy advices for citizens: 18.58 million kWh per year on an average basis. ○ Reduction of greenhouse gas emissions due to the implementation of energy advices for citizens in ton CO₂: 4846 per year on an average basis. 			
Indicators of success linked to the practice:			
Year	Number of advices*	Savings (GWh/year)*	Emission reduction* (t CO₂/year)
2012	5.867	20,16	5.257
2013	5.483	18,32	4.776
2014	4.344	18,54	4.834
2015	4.321	17,33	4.517
* Data provided by Eko sklad.			
Evidence of success.			
Network ENSVET only in 2015 advised for renovation or new construction of more than 6,000 objects. In the last ten years helped to consult in renovation of 61,000 dwellings in the media			

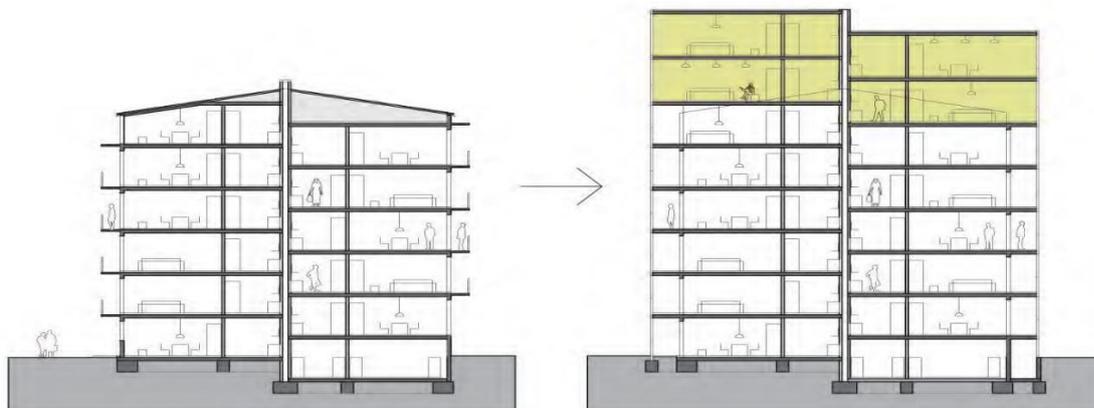
GOOD PRACTICE FICHE		Region: Slovenia
published over 2,000 articles and radio and TV broadcasts. During this time it also carried about 900 lectures for residents.		
Factors that might hamper the transfer:		
<ul style="list-style-type: none"> ○ Energy legislative is different in each country, ○ Way of taxation of energy usage is deferent in each country. 		
Time required to complete the BP	1 year	
Contact details to obtain further information on the practice		
Contact name	/	
e-mail	ekosklad@ekosklad.si	
Organization	Eko sklad, Slovenski okoljski javni sklad Bleiweisova cesta 30 1000 Ljubljana	
Type of Organisation	Public	
Website	www.ekosklad.si/fizicne-osebe/en-svet	

GOOD PRACTICE FICHE		Region: Slovenia
Title of the good practice:	S7. Complete renovation of apartment buildings - System Dominum	
Partner region:	Slovenia	
Location data	City Municipality Ljubljana	
Topic of the practice: Thematic coverage		
<ul style="list-style-type: none"> • Activation of demand and combating energy poverty • Innovation • New financial instruments 		
Description of the practice:		
<p>The idea is to solve problems with of apartment buildings from the 50s and 60s of last century:</p> <ol style="list-style-type: none"> 1. undersized housing, 2. nonperforming housing, 3. seismic (in)security, 4. energy (in)efficient. <p>250,000 people in Slovenia live in apartment blocks built before 1963, when there were no rules to ensure seismic safety of buildings.</p> <p>A little stronger ground tremors would cause social bomb (according to a study in 2009 only in Ljubljana would be damaged about 28,000 buildings), a serious earthquake could cause even a humanitarian disaster.</p> <p>Solution of these problems could be:</p> <ol style="list-style-type: none"> 1. extending the block: an increase in existing housing, 2. increasing the block: the addition of new dwellings. <p>Multi apartment building before renovation:</p> <ul style="list-style-type: none"> • small housing, • without elevator, • earthquake unsecured, • non-insulated façade. <p>Multi apartment building after complete renovation:</p> <ul style="list-style-type: none"> • housings are increased, • flexibility in housing, • elevator, • new installations, • earthquake rehabilitation, • energy rehabilitation. 		



GOOD PRACTICE FICHE

Region: Slovenia



Performance indicators linked to the practice

- Number of households with improved energy labelling,
- Number of households with improved energy consumption classification,
- (kWh) Annual energy savings in households,
- Number of households with improved energy consumption classification,
- (%) Reduction of the use of fossil fuels in the building sector.

Indicators of success linked to the practice:

- Residential area will increase,
- Value of housing will increase,
- Living conditions will improve,
- Improved energy efficiency.

Evidence of success.

The project is in the process of obtaining permits and approvals residents.

Factors that might hamper the transfer:

- Consent of neighbours,
- Building permit,
- Financing.

Time required to complete the BP

In progress (2 years by now)

Contact details to obtain further information on the practice

Contact name Tomaž Krištof

GOOD PRACTICE FICHE		Region: Slovenia
e-mail	office@studiokristof.com	
Organization	Studio Krištof arhitekti d.o.o. Rimska 20 1000 Ljubljana Slovenia	
Type of Organisation	Private	
Website	www.studiokristof.com	

GOOD PRACTICE FICHE		Region: Slovenia								
Title of the good practice:	S8. Community of Preddvor – Kindergarten Storžek									
Partner region:	Slovenia									
Location data	Municipality Preddvor									
<p>Topic of the practice: Thematic coverage</p> <ul style="list-style-type: none"> • Activation of demand and combating energy poverty • New financial instruments 										
<p>Description of the practice:</p> <p>The kindergarten is planned by three sectors, two are at ground floor, the middle part has the ground floor and main floor. At left sector there are 7 rooms. The modular construction allows addition of two rooms.</p> <p>In the middle sector there is a sports game room and multipurpose room on the flat floor. On the floor there are administration rooms, kitchen and heating station. On the attic there is machinery of ventilation system.</p> <p>The total area of kindergarten is 1.500 m² of usable area, outside playground, parking places and communication paths, all on the area of 8.500 m².</p> <p>Passive wood kindergarten was constructed according the Eco found passive standards.</p> <p>The construction material is Jelovica Thermo Plus with increased isolation of external walls, on façade, roof construction and foundation plate.</p> <p>Thickness of the isolation, mostly of mineral resources</p> <ul style="list-style-type: none"> • on the floor 30 cm • external wals 40 cm • roof 44 cm <p>The level of insulation was increased by wood windows and doors type Ekostar with three glass layers. The energy efficiency is increased with recuperation of air ventilation, which reaches over 80% of recuperation or return of the heat of waste air.</p> <p>The requests of Eko found for the subsidy were also:</p> <ul style="list-style-type: none"> • approval of air tightness of the building at pressure test of at least $n_{50} \leq 0,6 \text{ h}^{-1}$. The test of a specialised Austrian company approved that real tightness of the building was $n_{50} \leq 0,25 \text{ h}^{-1}$. • the building entered in the energy class B1, what means the use of energy in the range 15 – 25 kWh/m² per year. The energy audit was made by the Building centre ZRMK Ljubljana, the calculation estimated that the consumption of the erected building is 18 kWh/m² per year regarding to the reference location. <p>The kindergarten is heated by wood biomass trough the district heating system of Preddvor. On the roof there is a photovoltaic power plant of 96 kWp connected to the electrical grid.</p> <table border="0"> <tr> <td>• Production of PV 96 kW x 1.050 h</td> <td>= 100.000kWh</td> </tr> <tr> <td>• Total consumption</td> <td>= 60.000 kWh</td> </tr> <tr> <td> ○ Heating and ventilation 1.500 x 18</td> <td>= 27.000 kWh</td> </tr> <tr> <td> ○ Consumption electricity-estimated</td> <td>= 33.000 kWh</td> </tr> </table>			• Production of PV 96 kW x 1.050 h	= 100.000kWh	• Total consumption	= 60.000 kWh	○ Heating and ventilation 1.500 x 18	= 27.000 kWh	○ Consumption electricity-estimated	= 33.000 kWh
• Production of PV 96 kW x 1.050 h	= 100.000kWh									
• Total consumption	= 60.000 kWh									
○ Heating and ventilation 1.500 x 18	= 27.000 kWh									
○ Consumption electricity-estimated	= 33.000 kWh									

GOOD PRACTICE FICHE		Region: Slovenia
<ul style="list-style-type: none"> Positive net energy production of the kindergarten = 40.000 kWh <p>Investment needed:</p> <ul style="list-style-type: none"> Total investment 2.5 million €, Eco fund: 420.000 € grants. 		
<p>Performance indicators linked to the practice</p> <ul style="list-style-type: none"> (%) Reduction of annual primary energy consumption in public buildings, (%) Reduction of the use of fossil fuels in the building sector. Number of households with improved energy labelling: 1 Number of households with improved energy consumption classification: 1 (kWh) Annual energy savings in households 		
<p>Indicators of success linked to the practice:</p> <ul style="list-style-type: none"> Positive net energy production, Achieved energy class. 		
<p>Evidence of success.</p> <p>Kindergarten is:</p> <ul style="list-style-type: none"> a power plant energy class B1, what means the use of energy in the range 15 – 25 kWh/m² 		
<p>Factors that might hamper the transfer:</p> <ul style="list-style-type: none"> Ways of financing investment Energy legislation 		
Time required to complete the BP	3 years	
Contact details to obtain further information on the practice		
Contact name	Miran Zadnikar (Mayor), Franko Nemac (Consultant on project)	
e-mail	miran.zadnikar@preddvor.si, franko.nemac@ape.si	
Organization	Občina Preddvor Dvorski trg 10 4205 Preddvor	
Type of Organisation	Public, local government	
Website	http://www.jelovica.si/otvoritev-pasivnega-vrtca-v-preddvoru.html https://www.youtube.com/watch?v=C7MsiaDrHA1&feature=youtu.be	

GOOD PRACTICE FICHE	
Title of the good practice:	O6. Energy efficiency refurbishment in a multi-dwelling residential building in Sofia
Region:	Sofia (Bulgaria)
Location data	Block 10 in the Zakharna Fabrika housing estate in Sofia
Topic of the practice: Thematic coverage	
<ul style="list-style-type: none"> • Activation of demand and combating energy poverty • New financial instruments 	
Description of the practice:	
<p>This practice is based in a project to renovate and carry out maintenance of a multi-dwelling residential building: Block 10 in the Zakharna Fabrika housing estate in Sofia, Bulgaria, for low income families (who cannot afford to pay for renovation). The renovation aimed at reducing the consumption of energy by the residents of the block and to help target the fuel poor in particular.</p> <p>The project was started and managed by the Bulgarian Housing Association in partnership with the Housing Association De Nieuwe Unie, Rotterdam and the housing Association Woondrecht, Dordrecht (both from the Netherlands) in the framework of the "Sustainable Housing Management in Bulgaria; improving the capacity of homeowners associations of multi-family apartment buildings".</p> <p>Key target groups in this project are homeowners, homeowner associations of multi-apartment building as well as their associations.</p> <p>The multi-residential building's roof, basement, windows and external brick walls were in poor condition. The building, dating from 1947 had 13 flats, all of them privately owned.</p> <p>The residents of the whole housing estate were approached with the idea for the project in September 2003 and were invited to participate in the pilot project. The owners of Block 10 were registered as a legal entity.</p> <p>An energy audit was carried out before the works started and some monitoring also took place after the works were done. The external walls were insulated, the roof was water proofed and thermally insulated. The basement was also thermally insulated and the heating system was improved by the balancing and insulation of pipes.</p> <p>The two attic rooms were transformed into small flats. The rent paid by the tenants for these two small flats helped pay for the loan needed for renovation. The renovation was completed by the end of 2004. The project costs were about € 60,000, and it was financed by a loan from a Dutch bank.</p> <p>The 20 year, monthly payment of the loan totalled €420 - 40% of it is paid for by the rent from the two new flats.</p>	
Performance indicators linked to the practice	
<ul style="list-style-type: none"> • Number of households with improved energy labelling • Number of households with improved energy consumption classification • Number of households engaged in support programmes • (kWh) Annual energy savings in households 	

GOOD PRACTICE FICHE

- Number of households with improved energy consumption classification
- (%) Reduction of the use of fossil fuels in the building sector

Indicators of success linked to the practice:

- The renovation has increased the lifetime of the building and led to energy savings above 50%.
- The residents also have increased comfort.
- The building received a certificate A according to the Bulgarian certification. This certification exempts the residents from paying a building tax for ten years.

Evidence of success.

A range of trainings of homeowners and homeowners associations have been already carried out. New approaches in organising and financing renovation projects have been developed, also contributing to improving the energy efficiency of the buildings.

In November 2005 an International Seminar on sustainable housing management, maintenance and renovation has been held sharing experiences among countries in Central- and Eastern Europe.

In February 2006 a National Round Table with public discussion on the new Draft Condominium Law has been initialised within the framework of the project. One of the major project results is the establishment of the Union of Homeowners Associations in Bulgaria (CAC). CAC has been presented as mission and main objectives on the conclusive dissemination seminar that has been organised in close cooperation with the municipality of Varna.

Factors that might hamper the transfer:

- ✓ Poor energy awareness of homeowners
- ✓ Difficulty to make that all homeowners agree
- ✓ Lack of bank credits or policy instruments to finance the rehabilitation

Time required to complete the BP

Contact details to obtain further information on the practice

Contact name	
e-mail	cac.unionbg@gmail.com
Organisation	Union of Homeowners Associations in Bulgaria (CAC)
Type of Organisation	private
Website	http://www.cac-bg.org/index.php?p=23261

6 Benchmarking fiches

Benchmarking Fiches are provided by BUILD2LC partners as a consequence of the learning and exchange of common experiences. Based on the effective exchange of Good Practices (GP), partners were asked to identify which practice they are willing to adopt in their region.

A Benchmarking Fiche has been designed in the frame of the project to show the interest of the partner in adopting a specific Good Practice. Hence, partners are required to complete questions about main needs in their region (related to the topic) that the good practice will address, issues that could be improved in the region by adopting the good practice, problems that could arise when adopting or once adopted the good practice or policy instruments in place that could implement the good practice.

The good practices requested by the partners on this *New energy culture, citizen involvement and energy poverty* topic were:

- Warm & Well – Energy Efficiency Advice and Installation Scheme
- Complete renovation of apartment buildings - System Dominum
- Energy efficiency refurbishment in a multi-dwelling residential building in Sofia, Bulgaria
- ACHIEVE – Actions in low income Households to Improve Energy efficiency through Visits and Energy diagnosis Link to Energy.
- ENSVET - Energy Advices for Citizens
- Eco Fund, Slovenian Environmental Public Fund
- Your Green Future

Hence we present the compilation of Benchmarking Fiches showing the interest of partners to embody the already identified Good Practices for the topic ‘Activation of demand and combating energy poverty’.

BENCHMARKING FICHES FOR ‘ACTIVATION OF DEMAND AND COMBATING ENERGY POVERTY’							
	Warm & Well	System Dominum	Refurb. @Sofia	ACHIEVE	ENSVET	Eco Fund	Your Green Future
	SWEA	LEAG	OTHER	SWEA	LEAG	LEAG	SWEA
ANDALUSIA	X						
LITHUANIA		X					
GLOUCESTERSHIRE			X				
PODKARPACKIE				X	X		
CROATIA							
JÄMTLAND	X					X	X
SLOVENIA							

BENCHMARKING FICHE Region: Andalusia	
TOPIC: ACTIVATION OF DEMAND AND COMBATING ENERGY POVERTY	
Best practice to be adopted:	
Andalusia: Warm & Well – Energy Efficiency Advice and Installation Scheme	
AEA is particularly interested in:	
<ul style="list-style-type: none"> - Advice line working scheme of Warm&Well. - Exploring the synergies of both offering free and independent advice from a fully public energy agency and counting on a network of +8.000 collaborating companies used to manage the sustainable energy grants. - To know in-deep the finance agreement between the NHS and SWEA and the basis what is founded for. 	
Main needs to respond to:	
<ul style="list-style-type: none"> - Energy poverty and low energy standard building are hot issues in Andalusia. - Although winter can be serious in some zones, the main problem is the hot weather. Temperatures reach +40°C easily during summer and even late spring, which caused worrying scenes in the schools during 2017. - Typically it can be difficult to engage all citizens by talking energy efficiency or money alone. Therefore alternative angles are needed to achieve the desired engagement and energy efficiency. - Nowadays Andalusia has not regional energy and climate advisors. However, we rely on very well trained public workers who could deliver advice. 	
Main objective to transfer the best practice to your region:	
<ul style="list-style-type: none"> - By communicating onsite energy efficiency issues we seek to engage families to reduce energy poverty and increase health. 	
Factors that might hamper the transfer:	
<ul style="list-style-type: none"> - Cultural differences between English and Andalusian approached to get to population 	
Policy instrument:	
<ul style="list-style-type: none"> - Regional Sustainable Construction Programme - Regional Energy Strategy 2020 	
Existing financing funds:	
<ul style="list-style-type: none"> - Working budget in the AEA 	
Relevant stakeholders:	
<ul style="list-style-type: none"> - Regional energy and climate advisors - Regional healthcare - Vulnerable population - Public services (schools, hospitals, etc.) 	
Main beneficiaries:	

BENCHMARKING FICHE Region: Andalusia

TOPIC: ACTIVATION OF DEMAND AND COMBATING ENERGY POVERTY

- General public
- Regional energy and climate advisors
- Public services beneficiaries.

Further information:

- We will further contact Severn Wye Energy Agency to get details about and arrange a distance bi-lateral meeting.

BENCHMARKING FICHE	
TOPIC: ACTIVATION OF DEMAND AND COMBATING ENERGY POVERTY	
Good practice to be adopted:	
Lithuania: Complete renovation of apartment buildings - System Dominum	
Lithuania may use some part of experience of “Complete renovation of apartment buildings - System Dominum”.	
Main needs to respond to:	
In last programming period of 2007-2013 multi-apartment buildings were started to be renovated using financial instruments and this program was continued in 2014-2020 period. Despite the success of the program raised new challenges which requires to seek for alternative measures and solutions. The GP’s indicated above may lead to new solutions of financing building renovation program.	
Main objective to transfer the good practice to your region:	
As Lithuania is looking for new solutions and decisions, VIPA decided to explore Slovenian GP “Complete renovation of apartment buildings - System Dominum”, which may provide for the ideas on the renovations model, which will more rely on the private sector funding.	
Factors that might hamper the transfer:	
<p>The reluctance of the politicians to change model.</p> <p>Reluctance of the multi apartment owners to apply major changes to the buildings.</p> <p>Challenges raised by the differences in legal systems of the countries.</p> <p>Requirements associated with the cities development plans</p>	
Policy instrument:	
Currently there are no local policy instruments which might help to transfer such good practice to Lithuanian buildings sector. Although for the implementation of rehabilitation of multi-apartment buildings the Government of the Republic of Lithuania has approved multi-apartment buildings renovation (modernization) Programme.	
Existing financing funds:	
Currently approved multi-apartment building renovation system is relying on the funding from ESI funds and budget sources, as well as private participation, but the challenges associated with the programs raises questions about sustainability of the program. The applied model could increase the attractiveness of the renovation model as it could	
Relevant stakeholders:	
<p>Ministry of environment – responsible for municipalities public buildings renovation.</p> <p>BETA – technical assistance facility targeting multi-apartment buildings, owned by ministry of environment.</p> <p>Technical and financial consultants - willing to provide technical advises and help to prepare technical and financial documentation</p>	

BENCHMARKING FICHE	
TOPIC: ACTIVATION OF DEMAND AND COMBATING ENERGY POVERTY	
Main beneficiaries:	
<p>Multi-apartment owners</p> <p>Government (minimized pressure on the budget, increase in result associated with energy savings and reduction of CO2 emissions)</p>	
Further information:	
<p>Lithuania needs more information about experience in adopting such good practice. Bilateral meeting might be the best option of sharing such experience.</p>	
Contact details to obtain further information on the adoption of the good practice	
Contact name	Justinas Bucys
e-mail	justinas.bucys@vipa.lt
Organization	Public Investment Development Agency (VIPA)
Type of Organisation	Public
Website	www.vipa.lt
Fiche completed on date:	6th November 2017

BENCHMARKING FICHE Region: Gloucestershire	
TOPIC: ACTIVATION OF DEMAND AND COMBATING ENERGY POVERTY	
Good practice to be adopted:	
Gloucestershire: Energy efficiency refurbishment in a multi-dwelling residential building in Sofia, Bulgaria	
Main needs to respond to:	
The BUILD2LC action plan will involve the retrofit of domestic properties, some of which will be in multi-apartment blocks (often run by registered social landlords) or in individual properties which have been let by social or private landlords. These renovations are likely to occur in high need areas hence engagement of citizens, funding and high quality installations are required.	
Main objective to transfer the good practice to your region:	
<p>We have identified 16 potential actions to pursue. This good practice could support a number of these actions, most notably:</p> <p>Action 4: Pilot for Growth – A partnership project will be developed to focus on Oakely, Cheltenham and Matson, Gloucester.</p> <p><i>How could the GP support this action?</i> This action focuses efforts on specific areas within the region. Once this pilot has taken place, it is anticipated that the project will role out to other areas. The pilot will involve supporting private and social landlords within these areas to retrofit individual premises and also multi-apartment blocks. This GP could provide a methodology to support financing, citizen engagement and quality. Lessons could also be learnt about maintenance plans used within the project and training packages.</p> <p>Action 7: Develop a 0% loan to support landlords for: a) EPC E, F and G rated properties; b) to support landlords within Matson, Gloucester and Oakely, Cheltenham.</p> <p><i>How could the GP support this action?</i> It would be useful to learn about the financial mechanisms which have developed from the project and see if something similar can be replicated. It would also be helpful to establish whether specific criteria should accompany any loan.</p> <p>Action 8: Provide/source grant funding to support landlords to install energy efficient measures within Matson, Gloucester and Oakely, Cheltenham</p> <p><i>How could the GP support this action?</i> The GP could help to establish the nature of support and stipulations linked to any support. An understanding of evaluation methods would also support this action.</p> <p>Action 10: Create a formal partnership structure to support all RSLs and private landlords in the area and increase communication with energy suppliers, public bodies and agencies to provide equal access to opportunities to support residents</p> <p><i>How could the GP support this action?</i> The GP could be used as a case study to advise the partnership.</p> <p>Action 14: Review procurement processes with the aim of: a) improving standards through contracting; b) not excluding smaller, local businesses</p> <p><i>How could the GP support this action?</i> It would be interesting to learn how the procurement</p>	

BENCHMARKING FICHE Region: Gloucestershire	
TOPIC: ACTIVATION OF DEMAND AND COMBATING ENERGY POVERTY	
process worked for this project and the lessons learned.	
Factors that might hamper the transfer:	
<ul style="list-style-type: none"> - Finance to retrofit the properties or inability to secure a loan with sufficiently low interest. - Ability to engage landlords and citizens. - Applicability to the Gloucestershire context. 	
Policy instrument:	
Some Registered Social Landlords (RSLs) already have finances available for refurbishment. Some financial support is available (see below) but the action plan will support greater roll out.	
Existing financing funds:	
Some Registered Social Landlords (RSLs) already have finances available for refurbishment. We also have some finance available via the Energy Company Obligation (ECO) and finance from the Clinical Commissioning Group. However, this is based on the residents meeting specific criteria. More funds may need to be secured either via a loan or grant to top up funding.	
Relevant stakeholders:	
<p>Residents – residents will be directly impacted and involved.</p> <p>Gloucestershire Clinical Commissioning Group – potential for financial support.</p> <p>Severn Wye – potential lead and facilitator.</p> <p>Registered Social Landlords – RSLs properties are likely to be involved, especially in the identified areas.</p> <p>National Landlords Association – landlords within the target areas may be involved.</p> <p>Local Authorities and County Council – potential financial support and some social housing is provided through Stroud District Council.</p> <p>Installers – conducting the works.</p>	
Main beneficiaries:	
<p>Residents – Improved comfort, reduced energy costs.</p> <p>Landlords – Higher quality buildings (adds value), meets legislative requirements, tenants are more able to pay rent if energy costs are reduced.</p> <p>Health service – If buildings contain individuals with health issues, these could be improved due to the retrofit and result in reduced costs to the health service.</p>	

BENCHMARKING FICHE Region: Podkarpackie

TOPIC: ACTIVATION OF DEMAND AND COMBATING ENERGY POVERTY

Good practice to be adopted:

Podkarpackie: ACHIEVE – Actions in low income Households to Improve Energy efficiency through Visits and Energy diagnosis

Main needs to respond to:

- Training and development of new energy advisors
- Job creation for people out of work
- **Needs of free energy advice for citizens - individual, independent energy consulting and information education and awareness activities for the promotion of energy efficiency measures and renewable energy sources for citizens in the local environment**
- **Needs of free tips and interviews assist in the selection, design and implementation of investment measures of energy efficiency and use of renewable energy sources in residential buildings.**
- **Giving advices to the citizens, final customers of energy in the residential sector and offering free and commercially independent advices connected with training services**
- Needs of free helping in planning and implementation environmentally friendly investments in the region, helping in identification available sources of funding, organizing training and information and education activities to help prepare, verify and implement low carbon economy plans.
- Needs of training of municipal energy auditors.
- **Needs of different forms of support tailored to specific needs of different groups: the form of informational meetings, consultations in the office and outside of the office, answers by email inquiries, phone counselling, training and information and promotion activities, individual counselling as well as conferences or webinars.**

Main objective to transfer the good practice to your region:

- Support in the planning and implementation of environmentally friendly investments in the region,
- Increasing the quality of life and green jobs.
- Environmental benefits such as reducing pollutant emissions, improving air quality and reducing the use of non-renewable natural resources,
- **Increasing energy awareness of citizens, energy savings and reduction of greenhouse gas emissions and RES through providing local and regional information exchange and good practices** on the implementation of Directive 2010/31 / EU, 2012/27 / EC and 2009/28 / EC and Directive 2008/50 / EC
- Facilitating the implementation of certain measures and programs related to energy policy,
- Systematically combating pollution of the environment, energy poverty and dependency on energy imports,
- Preparation of well-qualified independent energy advisors,
- Promotion of low carbon economy,
- Generating of new jobs in the economy - increasing the number of municipal energy auditors,
- Facilitating access to EU and national funds for increasing energy efficiency and using of

BENCHMARKING FICHE Region: Podkarpackie	
TOPIC: ACTIVATION OF DEMAND AND COMBATING ENERGY POVERTY	
<p>RES,</p> <ul style="list-style-type: none"> • Citizens - lower energy costs, energy efficient investments can become a potential source of revenue, • Business: lower energy consumption, positive image, increased competitiveness. 	
Factors that might hamper the transfer:	
<ul style="list-style-type: none"> • Problems with financing various activities for the comprehensive implementation of the model of "ACHIEVE" • Problems with financing energy auditors • Problems with the interest of auditor services • Problems with access to car to drive to clients. 	
Policy instrument:	
<p>Infrastructure and Environment Operational Program for the years 2014-2020 within the Priority Axis "Reduction of emissivity of the economy".</p>	
Existing financing funds:	
<ul style="list-style-type: none"> • Regional Operational Program of the Podkarpackie Region for the years 2014-2020. • Infrastructure and Environment Operational Program for the years 2014-2020 within the Priority Axis "Reduction of emissivity of the economy". 	
Relevant stakeholders:	
<ul style="list-style-type: none"> • Marshall Office of Podkarpackie Region • Podkarpackie Energy Agency 	
Main beneficiaries:	
<ul style="list-style-type: none"> • public institutions, • students, • unympled people, • univercities, • civil society, • owners of buildings. 	
Further information:	
<p>Too little information at this moment.</p>	

BENCHMARKING FICHE Region: Podkarpackie	
TOPIC: ACTIVATION OF DEMAND AND COMBATING ENERGY POVERTY	
Good practice to be adopted:	
Podkarpackie: ENSVET - Energy Advices for Citizens	
Main needs to respond to:	
<ul style="list-style-type: none"> • Needs of free energy advice for citizens - individual, independent energy consulting and information education and awareness activities for the promotion of energy efficiency measures and renewable energy sources for citizens in the local environment • Needs of free tips and interviews assist in the selection, design and implementation of investment measures of energy efficiency and use of renewable energy sources in residential buildings. • Giving advices to the citizens, final customers of energy in the residential sector and offering free and commercially independent advices connected with training services in the field of RES and RUE. • Needs of free helping in planning and implementation environmentally friendly investments in the region, helping in identification available sources of funding, organizing training and information and education activities to help prepare, verify and implement low carbon economy plans. • Needs of training of municipal energy auditors. • Needs of different forms of support tailored to specific needs of different groups: the form of informational meetings, consultations in the office and outside of the office, answers by email inquiries, phone counseling, training and information and promotion activities, individual counseling as well as conferences or webinars. 	
Main objective to transfer the good practice to your region:	
<ul style="list-style-type: none"> • Environmental benefits such as reducing pollutant emissions, improving air quality and reducing the use of non-renewable natural resources, • Increasing energy awareness of citizens, energy savings and reduction of greenhouse gas emissions and RES through providing local and regional information exchange and good practices on the implementation of Directive 2010/31 / EU, 2012/27 / EC and 2009/28 / EC and Directive 2008/50 / EC • Facilitating the implementation of certain measures and programs related to energy policy, • Systematically combating pollution of the environment, energy poverty and dependency on energy imports, • Preparation of well-qualified independent energy advisors, • Promotion of low carbon economy, • Generating of new jobs in the economy - increasing the number of municipal energy auditors, • Facilitating access to EU and national funds for increasing energy efficiency and using of RES, • Citizens - lower energy costs, energy efficient investments can become a potential source of revenue, • Business: lower energy consumption, positive image, increased competitiveness, • Support in the planning and implementation of environmentally friendly investments in the region, • Increasing the quality of life and green jobs. 	

BENCHMARKING FICHE Region: Podkarpackie	
TOPIC: ACTIVATION OF DEMAND AND COMBATING ENERGY POVERTY	
Factors that might hamper the transfer:	
	<ul style="list-style-type: none"> • Problems with financing various activities for the comprehensive implementation of the model of Energy Advices for Citizens. • Problems with financing by municipalities municipal energy auditors. • Cooperation with interested local communities/municipalities/NGOs – lack of agreement or lack of willingness to participate in the project. • Shortage of qualified independent energy advisors.
Policy instrument:	
	Infrastructure and Environment Operational Program for the years 2014-2020 within the Priority Axis "Reduction of emissivity of the economy".
Existing financing funds:	
	<ul style="list-style-type: none"> • Regional Operational Program of the Podkarpackie Region for the years 2014-2020. • Infrastructure and Environment Operational Program for the years 2014-2020 within the Priority Axis "Reduction of emissivity of the economy".
Relevant stakeholders:	
	<ul style="list-style-type: none"> • National Fund for Environmental Protection and Water Management • Regional Fund for Environmental Protection and Water Management in Rzeszow • Marshall Office of Podkarpackie Region • Podkarpackie Energy Agency
Main beneficiaries:	
	<ul style="list-style-type: none"> • public institutions, • entrepreneurs planning to increase energy efficiency or the use of renewable energy sources in their facilities, especially those representing small and medium-sized enterprises, • community and housing co-operatives, • universities, • civil society.
Further information:	
	Too little information at this moment.

BENCHMARKING FICHE Region: Jämtland Härjedalen	
TOPIC: ACTIVATION OF DEMAND AND COMBATING ENERGY POVERTY	
Best practice to be adopted:	
Jämtland Härjedalen: Warm & Well – Energy Efficiency Advice and Installation Scheme	
<ul style="list-style-type: none"> We are particularly interested in the database and CRM-system used by the energy advisors, and the way to communicate energy efficiency through health benefits. 	
Main needs to respond to:	
<ul style="list-style-type: none"> Typically it can be difficult to engage all citizens by talking energy efficiency or money alone. Therefore alternative angles are needed to achieve the desired engagement and energy efficiency. Regional energy and climate advisors have hundreds of contacts with people and companies seeking energy advice and do not currently have a proper CRM-system. This makes it difficult to keep track of multiple contacts and how things develop over time. 	
Main objective to transfer the best practice to your region:	
<ul style="list-style-type: none"> Typically it is technology interested middle aged men who engage in the activities we arrange and who contact the energy and climate advisors. Only educating middle aged men on energy and climate issues does not contribute to creating an equal society. By communicating energy efficiency through health benefits we seek to engage other target groups, especially women and younger people. By adopting a CRM-system we seek to make our advice more efficient and thus be able to provide better advice and to more people. 	
Factors that might hamper the transfer:	
<ul style="list-style-type: none"> Our organisation also manages medical records, and does therefore have very strict security requirements. Finding a CRM-system that follows all the requirements and also provides the services we need may be challenging. Energy poverty is not a big political issue in RJH, therefore we do not have the political or financial support to make specific efforts in energy poverty. 	
Policy instrument:	
<ul style="list-style-type: none"> National grant for energy and climate advisors. 	
Existing financing funds:	
<ul style="list-style-type: none"> National grant for energy and climate advisors 	
Relevant stakeholders:	
<ul style="list-style-type: none"> Regional energy and climate advisors Regional development manager for energy and climate advisors Regional IT strategist Regional healthcare 	
Main beneficiaries:	

BENCHMARKING FICHE Region: Jämtland Härjedalen

TOPIC: ACTIVATION OF DEMAND AND COMBATING ENERGY POVERTY

- General public
- Regional energy and climate advisors

Further information:

- If we are to procure a new CRM-system, it would be helpful to see the procurement documents for the system used in Gloucester. Specifically, what does the system contain in form of data collection and how does it work with the new General Data Protection Regulation?
- Collaborations with the healthcare and social welfare systems or other relevant actors?
- Communication material and strategies to engage citizens?

BENCHMARKING FICHE Region: Jämtland Härjedalen	
TOPIC: ACTIVATION OF DEMAND AND COMBATING ENERGY POVERTY	
Best practice to be adopted:	
Jämtland Härjedalen: Eco Fund, Slovenian Environmental Public Fund	
From which: AERO , assistance for energy deprived households. AERO is funded by <u>ECO FUND</u> .	
Main needs to respond to:	
<ul style="list-style-type: none"> • Reduce energy consumption among households by offering a free energy and water efficiency package. • The municipal Energy and Climate advisors are committed to carry out one campaign project each year that results in measurable energy reduction. Usually it can be difficult to report effects of the energy and climate advice because it can take a long time between advice and implemented action. This kind of projects is necessary to motivate continued government funding for the energy and climate advisors. AERO would fit well as such a project. • The municipal Energy and Climate advisors need new to find new ways of reaching out to their target group. Cooperating with Social work centres or similar organisations can be a good way of doing this and at the same time reach out whom those who need help the most. 	
Main objective to transfer the best practice to your region:	
By developing an and applying learning tools for building managers and users, the entire energy efficiency potential can be utilized.	
Factors that might hamper the transfer:	
The guide that has already been developed in Zagreb cannot be directly transferred to our nordic conditions: <ul style="list-style-type: none"> • If it requires a lot of resources to develop guides and tools that are customized for nordic conditions • If it's hard to develop a single guide that can be used in different types of buildings. 	
Policy instrument:	
As of now there is no policy in place.	
Existing financing funds:	
As of now there are no existing funds for implementation of this practice.	
Relevant stakeholders:	
<ul style="list-style-type: none"> - Swedish energy agency - Municipal energy and climate advisors - Social work centers - Charitable organisations 	
Main beneficiaries:	
<ul style="list-style-type: none"> - Private households 	
Further information:	
We want more detailed information on the project, for example the scope of the guides , implementation plan, resources needed At a later time we may need a bilateral meeting to work out the specifics	

BENCHMARKING FICHE	
TOPIC: Activation of demand and combating energy poverty	
Best practice to be adopted:	
Jämtland Härjedalen: Your Green Future	
Main needs to respond to:	
<p>There is simultaneously a need for energy rehabilitation of existing building stock, and a great need for new dwellings due to the increased population and increased tourism. At the same time the housing and construction companies in the region typically have difficulties finding and keeping qualified staff. Hence there is a need for more young people to choose career within these fields. Also, energy related careers are likely to be even more demanded in the future.</p> <p>There are many different efforts to inspire young people in the different aspects of sustainability. But there is not something specifically aimed at inspiring young people to choose energy related careers, which will be needed. The GP of “Young Energy People” is also being discussed as a GP for transfer, and YGF could be a good complement to Young energy people. It does however depend a bit on how the transfer of that GP develops.</p>	
Main objective to transfer the best practice to your region:	Please detail what you want to improve or to achieve in your region by adopting the best practice. Identify what changes you want to make in your region
The main objective is to inspire young people to choose green and energy related careers.	
Factors that might hamper the transfer:	
Our region is very sparsely populated, many upper secondary schools are 150-200km away from Östersund (which is the only city in the region). So there may be some difficulties getting the schools and students interested to travel such distances.	
Policy instrument:	
None	
Existing financing funds:	
Operational programme for investments for jobs and growth, NUTS SE32.	
Relevant stakeholders:	
<ul style="list-style-type: none"> - Regional energy and climate advisors - Regional development manager for energy and climate advisors - Local businesses - Upper secondary schools 	
Main beneficiaries:	
<ul style="list-style-type: none"> - Upper secondary school students - Local businesses 	

BENCHMARKING FICHE	
TOPIC: Activation of demand and combating energy poverty	
Further information:	
<p>- If we were to implement this GP we would like it to have a very interactive nature, to really integrate the students with the local businesses. How did you design the workshops?</p>	
Contact details to obtain further information on the adoption of the best practice	
Contact name	Anneli Kamb
e-mail	anneli.kamb@regionjh.se
Organization	Region Jämtland Härjedalen
Type of Organisation	Regional development agency
Website	www.regionjh.se
Fiche completed on date:	2017-10-30

7 Conclusions

The seminar provided a wide range of valuable points for partners to inform practice within their own nations; there is already evidence of activity in Croatia at a national level as a direct result of the seminar.

Energy poverty and health

The importance of having a *definition and common understanding* of what constitutes energy poverty at least at a national level, if not a European level, became clearly apparent throughout the seminar. Not only was this conveyed by Harriet Thomson, EPOV, but the presentations from different partners showed that policy and decision makers really need to have a shared understanding in order to formulate a cohesive plan to combat energy poverty: its absence can result in a disjointed, ad hoc approach. Although energy poverty was legally recognised in 2009, only five member states currently have a definition. It is encouraging to hear that since the seminar, Croatia will be forming a working group in order to create a definition and establish national policy regarding energy poverty.

Together with defining energy poverty, *determining what constitutes a vulnerable consumer* is also an important starting point in order to direct services and support appropriately. However, discussions amongst delegates showed that very different proportions of the population within each nation would be classified as energy poor depending on the definitions adopted. It is therefore important that a range of definitions are carefully considered, and modelled, based on the characteristics of the population before making final choices. At a European level, the differences in interpretations about what constitutes consumer vulnerability between nations need to be understood within collaborative projects so that partners have a collective understanding before pursuing activities. The Horizon 2020 ASSIST project, which began in 2017, is an example of where a common understanding of energy poverty and vulnerability is being sought in the early stages of the project. The work undertaken by EPOV will make strides towards this ambition. Projects such as SEENADE, Intelligent Energy –Europe, and INSIGHT_E, Seventh Framework Programme have also conducted work in a similar vein.

The *patterns of energy poverty* were also of interest to delegates. Although the patterns of energy poverty were not unexpected, the outcomes of the EVALUATE project were of particular interest. Notably, the fact that the inability to cool properties is a significant issue in some areas and that some households are moving away from traditional fuels and using wood, or even old books, as a coping mechanism to warm homes. It also showed that ‘vulnerable’ people can include highly educated individuals in expensive households, or working age families. Therefore, there needs to be a shift away from focusing more exclusively on the elderly. Excess Winter Deaths were a commonly identified as a key concern; however, the rates of deaths during the high temperature peaks cannot be ignored.

Delegates were particularly surprised when Dr Thomson presented the *prevalence of poor health in the energy population compared to non-energy poor populations*. The outcomes showed that Slovenia, the Netherlands, and Sweden had the greatest prevalence of poor health in energy poor populations. This demonstrates that member states should consider the link between energy poverty and health when decision-making: it should not be assumed that countries with high levels of equality and income do not have impacts from energy poverty.

William Baker showed that there is an evidence base to prove the impact of energy poverty on health. *Evidence does exist to show the relationship between health and energy poverty; an emerging bank of evidence shows the impact of retrofit on health*. For those making a case to decision makers, systematic reviews are a useful place to start. The outcomes often show that retrofit has the greatest impact on people with health issues (Maidment CD *et al*, 2013¹⁹), particularly those with respiratory or mental health issues (Thomson *et al*, 2013²⁰) or children with asthma (Milner J & Wilkinson P, 2016)²¹. Positive impacts of retrofit on children were also statistically significant (Maidment CD *et al*, 2013²²). These data, alongside other studies referred to by Mr Baker, should be used to support retrofit proposals and in discussion with policy makers.

Delegates were interested in the *existing relationship between the health sector and domestic energy retrofit in Gloucestershire, UK*. The Clinical Commissioning Group (CCG) in Gloucestershire is committed to supporting people to stay healthy and live in their homes longer. The aim is to reduce pressure on the health service and reduces the number of elderly people being moved into care homes. Gloucestershire CCG provides financial support to the Warm & Well programme and have match-funded to Build2LC project in the UK. This is also pioneering work in the UK as currently only 6 CCGs across the country formerly identify 'housing' as a key focus on their sustainability and transformation plans. If pursuing a relationship with the health sector, it is important to ensure that data collected regarding retrofit and householders before and after installations suitably matches the requirements of the health body.

Engaging citizens & activation of demand

¹⁹ <http://www.sciencedirect.com/science/article/pii/S030142151301077X>

²⁰ <http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD008657.pub2/abstract>

²¹

https://www.researchgate.net/publication/311432523_Accepted_Manuscript_Effects_of_home_energy_efficiency_and_heating_interventions_on_cold-related_health

²² <http://www.sciencedirect.com/science/article/pii/S030142151301077X>

The increase and focus on developing retrofit initiatives is encouraging, however the seminar emphasised that it is not purely about providing retrofit, but ensuring the right people engage.

Vulnerable citizens are particularly hard to engage for a variety of reasons including shame or embarrassment, lack of trust, or inaccessibility. A *focused point of contact* is crucial for residents and ideally this should be via a network that already exists where trusting relationships have already been created. There should be *direct liaison from independent support personnel* in order to ensure good understanding, higher engagement, and higher quality outcomes. Even more challenging is being able to use examples of the positive impact of retrofit to vulnerable citizens as case studies, particularly: projects should account for this in the planning stages and use innovative ways to disseminate examples of success. Engaging citizens who have a *clear point of contact*, such as a large social landlord or a co-operative, are easier to access than private housing which are not in multi-apartment blocks. Project plans should consider how to engage these citizens.

Using existing and trusted networks to market opportunities to both businesses and residents is important: well-known, respected, and non-governmental avenues appeared to be most successful.

Establishing *comprehensive referral mechanisms* from local doctors, social services, fire and police services and voluntary agencies can stimulate activity, target vulnerable individuals, and improve health outcomes. An example of this is 'social prescribing' in the UK.

Long term programmes, rather than projects, are more effective as these allow for detailed planning and a formative evaluation process to be developed. This not only allows the initiative to become embedded, often leading to increased uptake, but ongoing evaluation leads to improvement in processes and products which improves quality, outcomes, and can stimulate further engagement.

Engaging citizens in the practical work being undertaken before, during, and after the installation, improves understanding and also trust in the process. A brief explanation of what has been completed and a one-off introduction to controls is less effective than longer term support. Where possible, projects should plan a *follow-up programme* of training and support for retrofit activities.

Few residents will sign up for a full-retrofit. Planning a *stepped-process* for residents to implement one or two measures at a time will have a far greater uptake, particularly if measures can be installed alongside existing renovation or remedial work.

Financial incentives need to be well thought through and provide a better alternative to other loan schemes. They should also account for the other incentives on offer, such as supplements for energy bills, and ensure that there is a *balance between the 'carrot and stick'*. Lithuanian partners clearly demonstrated the impact of modifications to financial incentives on retrofit uptake.

With regard to stakeholders, the importance of *providing stakeholders with a clear and well-presented overview* of the situation, facts, and potential outcomes, is vital. Often stakeholders are keen to engage but are unsure of the details and do not have time to conduct independent research; they need to have the reality of individual's circumstances brought to their attention. Therefore, well-thought out documentation and professionally presented marketing materials, including videos showing the reality of the situation for citizens, should be developed for this purpose.

Processes, procedures and associated documents should be simple, efficient and effective: procurement procedures and loan application forms are examples. Inefficiencies lead to disengagement, errors and excessive time for all parties. It is worth fine-tuning, evaluating and modifying all elements of the process throughout a project. Lithuanian partners provide good practice examples in this area.

The seminar provided some significant measures which can be taken for some partners and also a wide array of adjustments or considerations which should be made during planning, engagement, implementation, and follow up stages of projects and programme implementation. Whatever the plans, one of the most important values to keep at the heart of any project is that work is 'done with' rather than 'done to' vulnerable citizens.

Partners are grateful to all stakeholder and speakers who attended the event.

8 Appendices

- Appendix 8.1 Gloucestershire, UK Consortium Agenda
- Appendix 8.2 Stakeholder fiches
- Appendix 8.3 Seminar presentations - *all the presentations are available at the BUILD2LC project website using the following link:*
<https://www.interregeurope.eu/build2lc/library/#folder=660>
- Appendix 8.4 Seminar summary – *a brief summary of the seminar and site visit can be found on the Severn Wye Energy Agency website using the following link:*
http://www.severnwyenergy.org.uk/fileadmin/Resources/SevernWye/Projects/Build_to_Low_Carbon/Build2LC_FP_Seminar_A4_Summary_June_2017.pdf

Appendix 8.1: Gloucestershire, UK Consortium Agenda

Interregional Thematic Seminar - New energy culture, citizen involvement and energy poverty, Gloucester, UK

Tuesday 13th & Wednesday 14th June 2017

Venue: Gloucester Guildhall, 23 Eastgate Street, Gloucester, GL1 1NS

Day 1 – Tuesday 13th June 2017

Interregional Thematic Seminar

I – Registration and Welcome

- 08:45-09:15** **Registration** (refreshments available)
- 09:15-09:30** **Welcome and introduction to the UK decision making structure in the region** (Mike Brain, CEO, Severn Wye Energy Agency and Joaquín Villar, Lead Partner, Andalusian Energy Agency))

II – Health and Energy Poverty in an EU Context

- 09:30-10:00** **The health and well-being impacts of energy poverty across 32 countries** (Dr Harriet Thomson, Project Manager, European Energy Poverty Observatory)

III – The impact of energy poverty on health and citizen involvement in the UK

- 10:00-10:30** **Causes of energy poverty and the impact of policy on citizen involvement** (Barry Wyatt, Strategic Head (Development Services), Stroud District Council)
- 10:30-11:00** **The impact of energy poverty on health and social care** (Mary Morgan, Lead Commissioner for Older People, NHS)

Gloucestershire Clinical Commissioning
Group and Gloucestershire County
Council)

11:00-11:30 **Break**

11:30-12:00 **Evidence: Providing the evidence that retrofit can have positive impacts on health** (William Baker, Head of Fuel Poverty, Citizens Advice)

IV – How to successfully engage citizens

12:00-12:15 **Engaging citizens and lessons learnt in Lithuania** (Gvidas Dargužas, VIPA)

12:15-12:30 **Engaging citizens in Energy Poverty in Croatia** (Slavica Robic, DOOR)

12.30-12.45 **Social Prescribing (UK)** (Hannah Gorf, Gloucestershire Clinical Commissioning Group)

12:45-13:00 **Cheltenham Borough Homes: energy efficiency and fuel poverty in our properties** (Frances Crick, Cheltenham Borough Homes)

13:00-14:00 **Lunch – delegates go straight to workshops after lunch**

V – Strategies to manage fuel poverty and engage citizens – Workshops

The workshops provide an opportunity for smaller groups to find out more about project

and allow time for discussion between partners. Delegates should select two workshops

from the options below in advance.

Workshop 1: Warm & Well –a programme for providing advice, support and retrofit to domestic properties (Brian Canning and Sarah Dittman, Severn Wye Energy Agency)

Workshop 2: Link2Energy – Establishment, training and co-ordination of an energy and installers network (Neil Towler and Mike Brain, Severn Wye Energy Agency)

Workshop 3: Target 2050 – A project in Stroud District to reduce carbon emissions across domestic properties, businesses and community buildings. The project explores managing different types of buildings, support for those in fuel poverty and engaging installers (Maria Hickman and Barry Wyatt, Severn Wye Energy Agency)

14:00-14:30 Workshop rotation 1

14:30-15:00 Workshop rotation 2

15:00 Close for stakeholders and coffee break for partners

VI - Application to local areas

15:30-16:15 Making an impact on a local scale-case studies

Three 15 minute presentations summarising how those in fuel poverty have been targeted on a local scale. Potentially include a representative from:

- **Combating energy poverty in Andalusia** (Ms Inmaculada Guerrero, Andalusian Federation of Municipalities and Provinces)
- **Energy wise housing cooperative, Sweden** (Anneli Kamb, RJH)
- **Combating energy poverty in Slovenia** (Mrs Katarina Kafadar, Eco Fund)

16:15-16:45 Small group discussions – engaging citizens in policy and programmes. What works and what doesn't?

16.45 Close

17.15 City Tour of Gloucester – meeting outside the front of Gloucester Guildhall

18:45 Bus departs for dinner at Red Hart Inn, Longhope from Southgate Street following the tour

Day 2 – Wednesday 14th June 2017
Partnership Meeting & Study Visits

I-Site Visit to Berkeley GREEN & UTC

09:15-10:00 Travelling by coach to Berkeley GREEN and UTC

10:00-11.15 Site visit – Berkeley GREEN and UTC

Berkeley GREEN and UTC is a new training and educational establishment situated on the site of a former nuclear facility. The project aims to provide an avenue for professionalising the construction industry for adults and young people. It also works in partnership with a range of private and public organisations.

The trip will include a tour and a talk about: *The history of the site; reasons for creation, courses & enrichment opportunities offered and expected outcomes; partnerships; building design and sustainability*

11.15-11.30 Coffee break

II– Innovative ways to manage housing and energy issues

11:30-12:00 Schneider: Innovative ways to manage housing and energy issues (Dave Evans, Schneider)

12:15-13:00 Travelling by coach back to Gloucester

13:00-14:00 Lunch at Gloucester Guildhall

III-Partnership Meeting

14:00-16:00 Partnership meeting for partners only

16:00 **Close**

19:00 **Dinner at Bill's, Gloucester Quays***

*Dinner will be arranged for those flying home on Thursday 15th June. As this is after the close of the meeting, partners will need to fund their meal from their travel budget.

Appendix 8.2: Stakeholder Fiches

The following profiles for the visiting international stakeholders to the Seminar summarise the organisations attending, alongside the experience, expertise and areas of interest of the representatives.



*Andalusian Federation of Municipalities
and Provinces*
Andalucía, España

Brief description

FAMP was born in March 1985, and nowadays has 776 affiliated local bodies. Among its statutory purposes is the defense of local autonomy and the representation of local entities before different administrative bodies, local development and values inherent to the region of Andalucía. To this end, it provides services of interest for local bodies, such as technical advice and other activities to foster cooperation and collaboration among local entities. FAMP has a Committee for Natural Environment, and a working Group ascribed to it, with wide experience in generation processes and methodological tools for the establishment of actions and processes related to environmental matters.

Purposes and objectives

I work in the Programs department, which is also in charge of Networks and Equal Policies. I am responsible for the coordination of transnational actions within the different projects implemented by FAMP. At the moment we are implementing several projects linked to energy efficiency in public buildings.

Knowledge, expertise, products and services

Among the different working networks and committees within the federation, RECSA (Andalusian Network of Sustainable Cities) aims at contributing to the sustainable development of Andalucía and its towns and cities, through the environmental sustainability and the integration of natural environment in the Local Administration's policies.

Up to now, there're more than 300 municipalities ascribed to RECSA. Within this network, we work in a collaborative way with the local governments as well as with other organizations – public and private – trying to make our municipalities more attractive, comfortable and healthy places to live day by day, close to the needs of citizens and a source of opportunities for the integration and exercise of citizenship's rights. To this end, RECSA aims at objectives such as cooperating with the administration so as to help reinforcing the transversal character of environmental policies in Andalucía, contributing to the creation of sustainable municipalities and their mutual enrichment through the network, or making possible a more participative society, increasing their commitment with the



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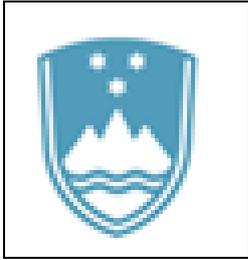


conservation of natural resources, the improvement of natural environment and the search for new solutions for environmental sustainability.

Areas of interest in interregional European collaboration

How to develop governance processes to be applied to different fields related to municipal competences.

Issues related to energy saving and efficiency in municipalities. How to work for the institutionalization of GPP.



Ministry of Infrastructure

ENERGY DIRECTORATE

Ljubljana, Slovenia



Brief description

The Energy Directorate performs tasks relating to the efficient use of energy and to the provision of renewable sources of energy, energy supply, sources of energy and mining.

Purposes and objectives

Its key activities include:

preparation and implementation of national energy policy (energy generation and processing, production, distribution and supply, efficient use and renewable sources of energy for heating and transport);

ensuring rational economic management of raw mineral resources and conferring mining rights for exploration and exploitation of raw mineral resources;

implementing measures to achieve energy and climate objectives while ensuring a reliable energy supply at competitive prices, in particular through encouraging the use of renewable energy sources and measures for higher energy efficiency;

cooperation within bilateral and multilateral regional energy frameworks aimed at providing a stimulating environment for cooperation at national, regional and entrepreneurial levels;

management of the energy sector database information system for the needs of the sectoral ministry and elaboration of economic analyses for the energy sector; and

drawing up legislative and other acts for the energy and mining sectors.

Knowledge, expertise, products and services

I work in the field of European cohesion policy measures to subsidize energy renovation of public buildings in Slovenia. The work deals with how on sustained and effective way reduce carbon dioxide emissions and energy use. With my work, contribute to joint efforts for a better and cleaner air.

Areas of interest in interregional European collaboration

- Sustainable use of energy
- Energy poverty
- European cohesion policy



Vojko Hvala

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Eco Fund, Slovenian Environmental Public Fund

Eco Fund

Ljubljana, Slovenia

Brief description

Slovenian Environmental Public Fund is a public fund, specialized in providing financial incentives to households, private companies and municipalities for different environmental investments.

Purposes and objectives

Environmental objective of Eco Fund:

part of Slovenia's responsibilities under EU regulation will be fulfilled through the effects of environmental investments subsidized by Eco Fund (currently, the most important goal is reduced energy use of 262 GWh/year).

Eco Fund's key financial mechanisms for fulfilling that objective are:

- soft loans with favourable interest rates (since 1994);
- non-repayable subsidies (grants) (since 2008);
- financing and coordination of Energy Advisory Network free for households;
- financing of awareness-raising activities in the field of environmental protection (conferences, meetings, publications, projects of NGOs, etc.).

Knowledge, expertise, products and services

I am a "make it happen" person. I like to organise and work in a group of people covering different areas of work. I am creative and like to refine any work currently being carried out. The challenge I like to address is how with limited available resources find a path to the target. I am in favor of sustainable living, where concern for the environment and respectful, dignified treatment of all living beings, healthy diet, maintaining the natural environment and sustainable farming is essential for the continuation of humanity

Areas of interest in interregional European collaboration

- Energy poverty
- Energy counseling
- Renewable energy sources
- Efficient use of energy



Katarina Kafadar

Eco fund's councilor

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REPUBLIC OF CROATIA

MINISTRY OF ENVIRONMENT
AND ENERGY

*Ministry of Environment and
Energy*

MZOE

Republic of Croatia / Zagreb

Brief description

Ministry of Environment and Energy is a governmental institution for environment and energy.

Purposes and objectives

The focus of the work carried out by the Ministry of Environment and Energy is to create conditions for sustainable development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Knowledge, expertise, products and services

The scope of work of the Ministry includes task related to protection and conservation of the environment and nature in line with the sustainable development policy of the Republic of Croatia, as well as tasks related to water management and administrative and other tasks from the field of energy.

Areas of interest in interregional European collaboration

The Ministry of Environment and Energy cooperates with other countries on environmental protection issues by concluding and implementing bilateral agreements and at the same time through regular exchange of information, that is, holding of bilateral interstate meetings with the aim of realizing the most efficient possible implementation of environmental protection. The Republic of Croatia is a party to a great number of multilateral international agreements and participates in the work of international organizations and initiatives focused on protection of the environment and sustainable development.



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Expert advisor

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Ministry of Finance of the Republic of Lithuania

Brief description, purposes and objectives

Knowledge, expertise, products and services

The Ministry of Finance of the Republic of Lithuania is an executive body, the mission of which is to formulate and implement an effective policy of public finance in order to ensure the country's macroeconomic stability and economic development. The strategic objectives of the Ministry include the formulation of fiscal policy which promotes trust in macroeconomic stability, and ensures effective and economical management, and use of public funds and European Union assistance. It also ensures development of the financial sector, and smooth implementation of other financial measures. The Minister of Finance represents Lithuania in the Economic and Financial Affairs Council of the EU (ECOFIN) and major international and regional institutions.

At present the Ministry has 14 departments and 8 independent divisions and a staff of 444 employees. Five special attachés delegated by the Ministry of Finance work at the permanent representative office of the Republic of Lithuania in the European Union (Brussels).

Areas of interest in interregional European collaboration

Please, list the areas you prefer to collaborate with other European actors.

- To develop policies for new financial instruments in Energy efficiency field etc.
- Transition to a low-carbon economy
- Enable smart governance using bottom up and top down initiatives.



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Society for Sustainable Development Design

DOOR

Zagreb, Croatia

Brief description

DOOR is a civil society organization of experts devoted to the promotion of sustainable energy development, founded in 2003. Our staff and members are individuals dedicated to sustainable energy, environment and sustainable development. We work in two main strategic areas Energy and Environment and Energy and Society. Our work is dedicated to climate change adaptation and mitigation, protection of the environment and alleviating energy poverty.

Purposes and objectives

Our mission is the promotion of sustainable development principles in all segments of society, at the local, regional and national level, primarily in the field of energy. Our values are: expertise, environmental acceptability, civic participation, social responsibility, social engagement, economic stability and measurable usefulness.

Knowledge, expertise, products and services

We have successfully implemented more than 75 projects with goals ranging from climate change mitigation, encouraging citizens' participation in sustainable energy policy-making, improving education about renewable energy sources and alleviating energy poverty. Within our projects we organized more than hundred workshops, round tables, trainings, conferences and other public events attended by several thousand participants, we published a dozen manuals, organized a number of study trips and established continuous cooperation with numerous organizations from Croatia and abroad. We also offer wide range of services: organizing and moderating events, developing local sustainable energy development strategies and action plans, drafting regulations and other legal acts, facilitating citizens' inclusion in public policy processes, providing education on sustainable energy and consulting on renewable energy sources and energy efficiency etc.

Areas of interest in interregional European collaboration

We cooperate with numerous Croatian and foreign organizations active in environment protection, education, social services, rural development, renewable energy sources, energy efficiency. We work with associations, local and national authorities, schools, universities, institutes, agencies.

We are interested in collaboration and partnerships with different actors dedicated to tackling climate change and energy poverty and promotion of sustainable development.



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