**COALESCCE**

**PEER REVIEW 23 – 26 OCTOBER, BULGARIA SOUTH WEST AND SOUTH CENTRAL**

**PLANNING REGIONS**

**REPORT**

**Please insert photos when received from the Photographer**

**1. INTRODUCTION & FOCUS OF THE PEER REVIEW**

The Peer review Team included representatives from: Oldham/Greater Manchester, UK; Prahova, Romania; Abruzzo: Italy; Lake Constance, Germany; Valencia Region, Spain; Debrecen, Hungary.

COALESCCE: Community Owned and Led Energy for Security Climate Change and Employment (Economy)

In Bulgaria, one of the few existing frameworks for energy efficiency and renewable energy is the Operational Programme Regions in Growth and OP Innovation and Competitiveness 2014-2020.

The peer review examined how this existing framework can be used as a policy basis for partnerships with community energy groups and aimed to identify potential business models for such partnerships, and to recommend practical steps, which can be taken to enable these partnerships to be established.

The group received detailed information provided by EPF (European Perspectives Foundation – Peer review lead), Genady Knodarev (Za Zemiaata) and held meetings with: Nikola Tsankov (SEDA), Irena Petkova (RIOSV) in Sofia. The group visited two municipalities and met Toni Karsarov (Ihtiman municipality) and Rumiana Grigorova (Bratsigovo Municiaplity).

A feedback meeting was held in Sofia on 26 October 2017.

**1.1 Specific questions the Host Region asked the Peer Review Team.**

1. How the existing policies and support programmes for energy efficiency and renewable energy can be upgraded and used as a basis for establishment of community energy groups and projects?

2. How to stimulate the active participation of all relevant parties like municipalities, households and business to establish and manage community energy groups?

3. What business models are most suited for such partnerships?

4. How to support local authorities and households in development of better and most efficient projects for application for financing under OP Regions in Growth 2014-2020.

**1.3 Specific outcomes the Host Region expected to achieve from this Peer Review**

1. Working ideas on how to engage municipalities, businesses and civil society in regional EE and RES policy development and implementation

2. Recommendations for measures and actions to support development of projects on community level allowing them to become self-sufficient and sustainable in energy.

The Peer Review team would like to thank those who met with them, hosted visits and provided information, especially Vihra who worked tirelessly to make the visit a success.

**2. MEETINGS & VISITS**

**2.1. Introductory Meeting at EU Commission Sofia - 24 October 2017**

**Vihra Andonova** welcomed the Peer Review team and attendees from SEDA, RIOSV and Za Zemiaata. She explained that the Regions in Growth directors were not able to present on funding of Energy efficiency measures due to changes in the Ministry of REvional development. Regions in Growth have expressed an interest to provide more support on Energy Efficiency and Renewable Energy. It is hoped that the findings of the Peer Review will feed into the new structure of the Regions in Growth Programme to achieve synergy.

**Genady Knodarev of Za Zemiaata** (Bulgarian Friends of the Earth) presented on Community Power Projects in Bulgaria.

He defined Community Power as:

* Invested in by the community
* Used for the benefit for the community (providing energy for their own needs, sale of excess generation and providing knowledge and experience to the community)
* Includes electricity, fuels & heating, energy savings and financial instruments (co-ops, mutual, group purchasing).

There are individual, isolated examples of community Energy projects since 2003, however this is not a trend or a growth area and lessons have not been captured or shared.

Project examples included:

|  |  |  |
| --- | --- | --- |
| Levski District, Sofia Panel block building with 4 x 20 dwelling sections. | Solar hot water system installed 2003. Failed ESCO project, system abandoned by owner due to inability to collect bill payments. System taken over and operated by the owners. |  |
| Saharna Fabrica District. 24 dwellings | Thermal insulation in multi-family building. UNDP demonstration project, 2005. Funded through conversion of attics to dwellings. | Issues included technical problems with the building – renovation needed before insulation could be installed. 100% of owners must agree to scheme. |
| Obnoven Dom | UNDP project 2007 – 2012. 50 buildings improved through glazing, water piping and building fabric. Residents had to put in own funds, programme subsidised communal building areas including complete roof renovation. | Certified to level B under Bulgarian Energy Efficiency Act. |
| Oborishte District, Sofia | Stacatto-Concert project 2007 – 2014. Provision of solar hot water with link to district heating system. | Savings of 50% on heating bills. ESCO could not convince all owners to sign up. Issues with guarantee periods and maintenance contracts. High excise costs. |
| Milev District, Sofia | 29kW PV system installed by owners 2010 -12 using spare funds. Owners have also agreed to make income from cell phone operator and are looking for other projects. | FIT payments provide income to maintain common areas, green surroundings. |
| Sofia | Pilot heating replacement system to replace coal boilers with biomass pellet stoves. | 30 households to benefit.  Genady’s own pellet stove has paid back in 3.5 heating seasons. |

Various NGOs have developed studies and resources to aid community energy but there is not a cohesive movement.

Learning points gathered included:

* Installing PV for own consumption is permitted
* Energy prices are strictly regulated and few households purchase from the liberalised market.
* The Operational Programme funding is merged with the National Renovation Programme for 25% co-funding. EU funds (2007 – 13) were only available in 2012.
* Where owners have begun working together successfully, then can then deliver more projects together. Developing human skills and resources to bring together community projects is important.
* Bureaucracy is a big problem e.g. RDPE thresholds are too high to access. Big companies benefit.
* 40% of buildings in Bulgaria are heated inefficiently using electricity while 58% use coal/undried wood causing particulate pollution.
* 47% of the Bulgarian population live in fuel poverty and there are 300,000 recipients of state heating subsidies.
* People have a lower payback horizon due to lower incomes, lower self-organising skills and lack of financial instruments.

**2.2 Nikola Tsankov, General Secretary, SEDA - 24 October 2017**

Mr Tsankov explained that SEDA’s role is to enact the Energy Efficiency Act and the law on Renewable Resources, promoting energy efficiency and the production of renewables to supplement building measures in domestic housing and companies in the industrial sector.

The Peer Review Team asked questions and discussed issues with Mr Tsankov covering:

* Problems faced by the district heating scheme in Sofia with technical issues, pricing problems and distrust in the service. Much time is spent in court pursuing payments. There is underinvestment in the system which is inefficient due to system losses. The district heating scheme is seen as a ‘social service’ that helps people avoid using coal, wood and electricity for heating.
* Where people have to pay for an energy audit to supplement funding for residential improvements before energy efficiency measures can be installed, no one was interested in this.
* Operational Programmes with EU funding have enabled 1,681 residential buildings being audited and having energy efficiency measures installed.
* The state has achieved its 16% renewable energy targets. There was discussion about whether the target was too low, or whether the state is still aiming to install more renewables. There was significant foreign investment due to the high FIT rates.
* SEDA is working with industry to reduce the carbon intensity of their energy production which is mainly from coal, with some larger industries reusing waste as biogas.
* 97% of housing is in private ownership
* SEDA finds it easier to engage with industrial clients.
* SEDA has provide information to citizens, schools and the public on energy efficiency projects however, there is little take up.
* A meeting of Obligated Parties is taking place on 1 November, which relates to these companies installing small scale energy efficiency measures. This will be documented through an Energy Efficiency Certificate they must give to SEDA. Others installing measures will be able to trade these certificates which may provide an opportunity and driver to install more measures and recoup costs.
* Suggestions that the Obligated Parties or SEDA fund measures to provide a Demonstration Block to motivate others were discussed.
* Bulgaria is reliant on a single gas source. This is not seen as an energy security issue or as a risk to climate change.
* The German bio-energy villages model was explained – delivering heat on networks to 100 – 150 homes through ESCOs in small villages. This is supported by the government and communities and NGO provide finance with a return of 4/5%. This helps develop energy security and meet climate change goals and is supported at a small community level.
* Lozen village near Sofia would be an interesting place to start up a community energy scheme.

**2.3 Irena Potkova, Directior, Regional Agency for Environment & Water, Sofia Capital & Region - 24 October 2017**

Mrs Potkova explained the work of the agency which is responsible for the protection of the environment and conducts some climate reporting. It has a planning role for renewable energy in terms of controlling project design etc. Mrs Potkova covered the following points:

* Municipalities are developing their own targets and approaches to install energy efficiency measures. Their main role is in encouraging people to apply for the funded energy efficiency schemes.
* OP Energy & Innovation provides industry with a 70% subsidy, business, especially energy intensive ones are trying to use these funds, however, it is it is still not popular.
* Often there is bad publicity about renewable energy such as biogas, hydro power – public fears about costs and harm.
* A new regulation on Energy Efficiency & Renewable Resources is being developed, amending the old regulation. It is hoped that there will be support to encourage the households, and it may become easier to connect smaller renewables.
* Air pollution is a big problem. There are areas with people in fuel poverty burning polluting fuels. There is no emissions standard for smaller pellet stoves/boilers as found in the UK with RHI approved boilers, or with burners that meet smoke-less fuel requirements for cities.
* After heating, transport is the main contributor to air pollution; the government aims to introduce electro-mobiles to the public bus fleet. A network of charging stations will need to be installed.
* Discussion ensued about developing pollution management plans with municipalities, painting a picture of what a clean, green, warm, affordable housing sector looks like, keeping profits local (not exporting profit abroad to big companies) and providing environmental protection.
* Also discussion about involving people themselves in energy consumption and future energy plans, as is done in trials in the UK on grid innovation and load-shifting.

**2.4 Tony Katzarov, Deputy Mayor, Ihtiman Municipality – 25 October 2017**

Mr Katzarov welcomed the Peer Review Group and provided an overview of Ihtiman municipality including:

* 18,000 inhabitants; centre of the city of Ihtiman has 14,000 with surrounding 15 villages having 4,000. It is close to the highway connecting Istanbul and Europe and strategically placed between Bulgaria’s two main cities of Sofia and Plovdiv.
* 50% of the inhabitants are Roma people, and there is a problem with low educational levels, low income and a struggle for people to pay their taxes. This results in a low income for the municipality, and steep problems to tackle.
* There are two main large factories, one for steel casting, employing 300 – 400 people, in its heyday it employed 5,000. The other is an electronics factory. There are also some small textiles workshops and a large amount of agriculture and livestock breeding. The surrounding forests are municipal and state-owned and are used for wood production. There is little tourism, despite the municipality being the first to put in a golf course.
* The Municpality has carried out energy efficiency projects including building, reconstruction and renovation of schools, kindergartens and municipal buildings since 2011 using the National Energy Efficiency Fund and the National ECO fund.
* The EU Rural Fund is also used and Ihtiman has just signed a contract to reconstruct and install energy efficiency measures on the main school, including PV.
* Private investors have installed renewables, including solar parks, one in Pounovu village and the solar park visited by the Peer Review team; this was a 2MW Chinese owned park a short distance from the centre.
* There is a single heating plant in the city, linked to the municipal buildings. This is a woodchip biofuel boiler. It is currently unviable because when it was finished co-generation for electricity had not been added. It is only operating at 20% capacity for the municipal buildings. It was a joint venture between a national and foreign investor. It is currently not operating and the bank has ownership of the heating plant which it has put up for sale for Euro1m. An immediate problem is that winter is approaching and there is currently no means to heat the buildings, including schools and the hospital. The municipal budget is Euro 5m. Even if they could afford to purchase the system, they are not a registered energy supplier so cannot heat their own premises.
* The municipality is not on the mains gas network and it is too expensive to connect.
* One solution is to connect multi-family blocks to the heating scheme, however all the residents must agree.
* Similarly there has been no success in getting multi-family blocks to access the National Energy Efficiency Programme because they will not agree. Just one block has now been convinced and has submitted a bid with the support of the municipality.
* The municipality does not have an energy manager; external experts are developing an energy plan and strategy.
* The barriers to convincing people to apply for energy efficiency improvements are:
  + People do not believe the state will give something for free
  + Political opponents use the opportunity to sew doubts that taxes will go up after a project is delivered
  + People suspect they will lose ownership of their building
  + They suspect the politicians are in it for themselves.
* The current programme is now spent, and due to restart in 2019.
* Other issues the municipality faces are:
  + Water sources; supply pipe built in the 1960s is leaking
  + Sewage problem in the small villages
  + Water purification is only installed in two of 15 villages
  + Street lighting needs replacement at a cost of Euro 500,000
  + Rubbish has to be taken 35 miles to a tip which meets the correct standards, the local rubbish tip has been closed. Any EfW scheme would need an investor.
* There was discussion of whether the municipality can use the Forestry resources it owns as a means to creating jobs.
* Elected members do receive some training when elected, from the national Municipal Association, on issues such as municipal ownership, accounting and tenders.
* Heavy industry does not have spare heat, and are 5 & 15km away from central heat demand.

**2.5 Rumiana Grigorova, Bratsigovo Municiaplity – 25 October**

The Major greeted the group and Mrs Grigorova, who is responsible for energy provided information including:

* A rich history with a tradition of wood and stone building. A tourist centre with beautiful surroundings. City, six villages and two mountain resorts.
* Membership of the Covenant of Mayors aiming to reduce CO2 emissions by 20%
* Nearly finished energy efficiency measures in schools and municipal buildings, including windows, frames and replacement heating systems.
* In kindergartens they have installed wall, windows and boiler insulation and biomass pellet boilers.
* The Municipality has saved some budget to invest and to continue to invest in energy efficiency measures in the future.
* Municipal hospital, installed 30kW PV system on roof; mainly for self-consumption (80%) and surplus sold to grid. Savings on energy bills. Payback on this project is 5 – 6 years.
* On-line energy monitoring system, with records kept.
* The cultural building has had roof repair, solar panels and new biomass boiler.
* Under the National Programme for Energy Efficiency they have succeeded in putting forward a private block of flats, and have four more buildings ready to put forward for the National Energy Efficiency Programme. Lessons from the first multi-family project:
  + *“It was not easy to get agreement*
  + *We established very good contacts with the owners and reassured them that the municipality and region would support them.*
  + *The Ministry of Regional development came to visit*
  + *All these projects are funded, so during preparation we worked on building good contacts with the development bank.”*
* Winner of Eco-Municipality 2016 for inhabitants under 10,000.
* Winner of European public green tender for 2016
* Certified ISO 50001 for Energy Efficiency
* Plan to replace street lighting with LEDs
* Energy Efficiency of multi-family buildings is the next priority.
* Main heating source for homes was wood; over the last two years households are investing in pellet boilers, some use LPG.
* The municipality does not have a pipeline itself – as the national programme has almost expired, but they have identified buildings.
* Funding is required for preliminary work – the law requires that construction projects must include an energy audit, construction survey of seven parts including water, sewage, electricity etc.
* The national Energy Agencies do not share the Bratsigovo examples, it is up to the Municipality itself to share its lessons and examples.

The group toured the Cultural Building and saw the 125kW biomass boiler and then visited an LED Lighting factory recently opened and employing 8 people; exporting to mainly EU countries.

**3. FEEDBACK**

The Peer Review team reflected on findings at the end of each day. The morning of 26 October was spent discussing the findings and recommendations.

The SWOT analysis conducted produced three main themes; Finance, Regional Development and Communication. Findings and recommendations were therefore presented along these themes and good practice examples were also provided.

Each section notes good, positive or interesting practice

**3.1 Finance**

Finance was a vital element of delivering any energy efficiency measures or renewable energy schemes. However, there is a rather narrow focus on grant funding and the Peer Review Team sought to identify potential models for community energy combined with national and EU funding opportunities.

**Good Practice observed in the Peer Review**

* The National EE scheme has delivered 1,500+ projects in multi-family blocks, even though this is a challenge, it shows that schemes can succeed.
* Operational Programme & Rural Development Programme has funding available for energy efficiency measures.
* Other national funding is in place for energy efficiency measures.

It was interesting to note that a project may work in one place but not another. Contexts are not the same, so outreach to multi-family blocks, design and tendering of particular schemes etc. are not a ‘one-size fits all’ model.

**Weak Areas/Threats observed**

There appears to be a lack of access to capital for municipalities and private owners. Municipalities do not seem able to raise finance or take out loans for schemes which would have a reasonably short payback period and would save money on energy meaning a loan could be serviced and the capital paid back.

There is a reliance on funds and grants, whether financed from national or EU grant funds. This has had the effect of creating a reactive approach in some municipalities or with the government whereby a pipeline of projects may not be developed because the funding is coming to an end. This seems to have meant that alternative financial instruments or mechanisms have not been developed.

In Bratsigovo, a project pipeline for municipal buildings and list of domestic buildings has been developed, however alternative finance has not been located in the absence or expiry of grant schemes.

When targets have been achieved, it would appear that the government then waits until a new target is provided or funding stream opens up to develop further projects.

Some technical and financial skills are lacking to fully develop the business case for investable projects.

Existing funding schemes (e.g. multi-family housing energy efficiency) are not used in most efficient way as they are complex and bureaucratic to develop and residents to not fully understand the benefits as explained by the state.

**Opportunities**

* There are opportunities to share financial modelling for non-grant finance, for example from the privately owned residential PV scheme, the Bratsigovo hospital PV scheme and other projects which have achieved short-medium term payback with energy cost savings.
* Other finance schemes present an opportunity to reduce reliance on ERDF funding.
* The Obligated Parties Conference and further work on this is an opportunity to share good practice, experience of outreach and to engage a wider range of delivery partners, including community organisations and NGOs in developing viable energy efficiency and renewables schemes.
* Renewable energy under Bulgarian circumstances is viable, as proven by existing installations and projects.

**Recommendations**

* Share use of financing mechanisms for Community Energy e.g. grant, loan, equity etc.
* Develop financial modelling skills & knowledge across region
* Municipalities to develop a project pipeline (and share)
* Diversify funding mechanisms including development-stage finance to start-up projects and for energy audits, building surveys etc.
* NGOs to attend Obligated Parties conference on 1 November, or events/meetings beyond this time.

**3.2 Regional Development**

Community energy can provide a range of economic, employment and investment benefits to regions, by developing skills, supply chains, attracting further investment and funding/finance. Success breeds success, so regions with proven financial, technical and communications expertise and project delivery skills are likely to further identify and attract yet more projects.

If the region can become a magnet for investment and is seen to be delivering benefits it will create a virtuous circle of renovated buildings, more attractive environment, warmer, healthier homes, cleaner air, citizens with more disposable income, jobs in the energy efficiency/renewables sector, suppliers and more financial investment. The state, municipality, NGOs and residents can work constructively to deliver benefits for the region.

**Good Practice observed in the Peer Review**

* Good projects have already been delivered which provides organisational models
* There is an emerging supply chain e.g. LED light factory (local skilled employment)
* The Co-operative model & not-for-profit models appear to be suitable for community energy

**Weak Areas/Threats**

As noted above, there is a reactive approach and each region has not developed a project pipeline, vision and has not sought alternative finance should funding streams come to an end.

The heavy bureaucracy in licence regulation holds back project development.

There is dependence on single gas source which risks energy security, stands in the way of a move towards renewable energy and tackling climate change and which can perhaps reduce imaginative options to install local community energy schemes.

Profit, skills and jobs are going abroad because of foreign investment.

Old buildings are reaching the end of their life, which makes installing energy efficiency measures complicated because renovation is needed first.

**Opportunities**

* ESCOs to run community energy schemes
* Regional or local investment can retain profit, jobs and develop skills
* Community energy can be viable on a 5-6% return on investment
* Reduce carbon emissions to meet national/international targets
* Community energy can be part of the energy mix solution and adds significant regional value by retaining citizens’ money in the regional economy and by attracting investment

**Recommendations**

* Explain & simplify licences and regulation required for energy generation
* Explore ESCO models to provide energy
* Develop education and skills for a skilled workforce for energy efficiency and renewable energy projects
* Conduct a risk assessment of buildings and assets and build an options analysis and timeline.

**3.3 Communication**

**Good Practice observed in the Peer Review**

* Good projects have already been realised e.g. Bratsigovo municipality, multi-family blocks
* There are some committed stakeholders and supporting organisations
* There are some committed and skilled individuals

It was interesting to note that the public are not engaged in the climate, environment or energy efficiency agendas.

**Weak Areas/Threats**

The weak areas relating to communication are a serious threat to achieving scale in community energy schemes and the associated benefits outlined in the Regional Development section above. The Peer Review found that:

* There is a very low awareness of community energy
* There is a lack of trust in the state
* The message for energy efficiency does not get across (perhaps due to the trust issue)
* Examples of successful projects are not shared
* There is a negative perception of renewable energy.

**Opportunities**

Despite the weaknesses, there is sufficient good practice achieved to identify opportunities including:

* Using community energy leaders/champions from existing projects to deliver the positive messages about energy efficiency, renewable and community energy
* A central source information on all energy efficiency/community energy projects
* Obligated Parties Conference
* Mentoring across region
* Raising awareness of enabling regulations
* Existing business models
* Drawing on international community energy expertise.

**Recommendations**

* NGOs & government should promote existing projects together (including large scale publicity and a central collection of information on projects already achieved)
* Provide support for committed stakeholders - organisations & individuals (creating a network and mentoring scheme)
* Communicate drivers for community energy at a high policy level (this could be done by a neutral organisation such as a university)
* Train and support community leaders/champions to promote schemes to peer citizens
* One failed project can create a negative legacy – a rescue plan needs to be developed for Ihtiman’s heating scheme.

**3.4 Transferrable Good Practice**

Members of the Peer Group shared examples of transferrable good practice and offers to support the development of the Bulgarian community energy sector. These included the following:

**Community champions – Erasmus**

Oldham Council in Greater Manchester, UK offers to partner with Bulgarian groups on future submissions to the [next Erasmus round](https://www.erasmusplus.org.uk/funding-deadlines?utm_source=Erasmus%2B+UK+News&utm_campaign=b1a5166c71-EMAIL_CAMPAIGN_2017_10_26&utm_medium=email&utm_term=0_5b0a8c47ab-b1a5166c71-256755389&ct=t(2018_Call_published10_26_2017)&mc_cid=b1a5166c71&mc_eid=7a24501df4). Deadlines are February, April and October 2018. Oldham previously led an Erasmus community champions scheme to promote healthy food and growing food and trained environmental advocates in some deprived areas where there was resistance to energy efficiency programmes in social housing. The council also face issues of mistrust of the local authority (municipality) and mistrust of energy suppliers. The training of volunteer residents to talk to neighbours and break down barriers was very successful. The Growing Ambassadors model is one that will lend itself well to the ERASMUS+ programme, for further discussions contact Dave Catherall.

**Roma village’s own heating supply, Hungary**

In Hungary a small Roma village in a region with 500 inhabitants. A foundation was set up to help provide home heating. They built some machines and involved Roma people to make briquettes from an agricultural by-product. Within six months the project had made 70,000 briquettes to enable the Roma people to heat their homes. A small, but classic community energy project. This approach could be a very useful project for Ihtiman, making use of agricultural by-product, and creating jobs, engagement and a starting point for talking about waste as well.

[**http://www.badurfoundation.org/project-details/bio-briquette-production-pilot**](http://www.badurfoundation.org/project-details/bio-briquette-production-pilot)

**Local Authority community energy collaborations, UK**

Oldham is one of the poorest areas of Greater Manchester. The council is a ‘co-operative council’ and wanted the benefits of renewable energy to be shared with the residents. The council conducted feasibility studies on schools and a community centre for PV installation. Local members of the community were invited to collaborate on the project. Three people came forward to help, bringing a range of business and environmental activism skills. The study identified five schools and a community centre that were feasible for community-owned energy. A type of co-operative known as a Community Benefit Society was formed and they signed roof-top leases at no cost. The group, called Oldham Community Power, offered shares. They raised some money, and borrowed a low interest loan from the council to meet the FIT deadline and install the PV panels. Once the local people could see the PV panels on the roofs, they bought shares in the organisation, and half of the cost of the scheme was paid for by local people who receive an annual interest payment on their shares. See: <http://oldhamcommunitypower.org.uk/>

**Small scale district heating, Germany**

Small-scale district heating became popular eight years ago in Germany. 170 schemes are installed in Baden-Wüttenberg in South Germany. The idea is to help people living in small villages of 500 – 3,000 inhabitants to participate in the energy transition away from fossil fuels. To stop the flow of resources and money out of villages, small district heating schemes powered by bio-gas, wood-chip or PV, were installed, aiming to supply as many homes as possible. At least 60% of homes should be connected to achieve success. These are infrastructure projects, as the pipework must be installed and the government provided support. However, the schemes feed on local resources, and there is high participation by farmers, foresters, electricians, mechanics and the community with community share ownership.

**ESCOs investing in communities in flats, Spain**

ESCO investment in multi-family buildings has helped them to realise energy efficiency savings in communities where residents to not have the money to invest up-front in energy efficiency measures. The ESCO carries out an audit to see what measures will be possible and financially viable. The company makes the investment and signs a contract with the community for between 5 – 10 years depending on the scheme. Residents normally continue to pay the usual energy costs, with the difference going to the ESCO, this then pays off the investment. Once the cost has been recovered by the ESCO the measures then belong to the community the residents then benefit fully from the energy efficiency cost savings. For more information contact German Rumbo

**ERDF examples of energy funding (investment fund), Greater Manchester, UK**

Greater Manchester has two different funds supported by ERDF. Firstly a 15mEuro fund at a 50% intervention, totalling 30mEuro. This is a loan/equity fund for low carbon investments. It is drawn down and repaid at a low interest rate. Once the fund has been recycled twice it becomes ‘clean’ of ERDF obligations; it creates a revolving fund which can later be used as a match for EU funding.

The second fund is a 20mEuro ERDF grant at 50% intervention, so is a 40mEuro fund for Low Carbon Energy Innovation, covering the whole energy system. Gaps in the system have been identified and are being filled by this fund, lessons are shared across the entire energy system. The main challenge is to find match funding. There are also rules about making a profit from investing in energy.

**Climate protection managers, Germany**

Climate protection managers support municipalities and renewable energy projects by supplying information for projects. They work with municipalities to tackle climate change concepts and support networks of cooperatives and stakeholders. Municipalities can apply to have a climate protection manager, and the role is funded by the Federal environment Ministry for 2 – 3 years. This is an example of how the central government could support municipalities in reducing greenhouse gasses. <https://www.ecologic.eu/9908>

**Community Energy England: networks & support**

Community Energy England <https://communityenergyengland.org/> is the umbrella organisation for community energy organisations in England (it has sister organisations in Scotland and Wales). With just three staff, it is funded through membership fees, corporate members and through charitable funding to provide support to groups, and representation and lobbying to government and the regulator. It holds events to help groups share best practice, understand regulation and has brought in the District Network Operators (energy transmission and supply companies) to innovate with community energy groups. It also has a [Community Energy Hub](http://hub.communityenergyengland.org/) website where case studies can be uploaded to share.

**Abruzzo participatory processes with citizens on climate change, energy efficiency and sustainability from Italy**

The Abruzzo region of Italy has promoted the *Charter of Pescara*, a roadmap that promotes the sustainability of businesses through 61 requirements of social and economic sustainability. Through its PACT it brings together technical and financial advice for enterprises joining the aims of the charter.

Abruzzo also promotes participatory processes with citizens more widely through a series of meetings and conferences bringing together expertise from the university. Stakeholders can also meet politicians to talk about energy efficiency, sustainable energy and climate change. Citizens can share their feelings and what they’d like from the region, including about agriculture and tourism.

