

## COALESCE

PEER REVIEW 11<sup>th</sup> – 14<sup>th</sup> DECEMBER 2018, GREATER MANCHESTER, UNITED KINGDOM

### REPORT

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

COALESCE project stands for Community Owned and Led Energy for Security, Climate Change and Employment (or Economy). Community owned and led energy is referred to simply as “Community Energy”, and refers to renewable energy projects which have been conceived, developed, financed and delivered by a collection of citizens acting together as a community group.

Community energy can deliver energy security at a very local level, due to the local ownership and management of individual projects and the local distribution of energy generated by them. It can also deliver carbon emissions savings that are missed by private and public approaches to renewable energy because communities are generally interested in smaller, local projects, which have a local relevance and benefit (such as solar PV on community owned buildings), that energy companies and local authorities are not generally interested in. When amalgamated, these smaller community projects can yield significant carbon savings. Finally, the local supply chains used in the construction of community energy projects, and the local ownership of these projects, means that the local economy benefits much more than larger projects where technical teams are brought in from outside the locality for construction, and ownership is generally at regional or national level.

The community energy sector in Greater Manchester has existed for many years and has seen a number of successes over that time period. However, it is still relatively small and fragmented compared to the potential impact it could have. This is due to a lack of awareness and confidence in the sector across all stakeholders, and each stakeholder has its own particular concerns where they lack confidence in community energy. The focus of the peer review will be these areas where stakeholders lack confidence or capacity, and what actions there might be which could possibly address these concerns.

The Peer review was hosted by Oldham/Greater Manchester, UK and the team included representatives from: Abruzzo, Italy; Hajdu-Bihar County, Hungary; Prahova, Romania; Valencia Region, Spain; Sofia, Bulgaria; Baden Wuerttemberg, Germany.

A feedback meeting was held in Manchester on 14 December 2018.

##### 1.1 Specific questions the Host Region asked the Peer Review Team

1. Which are the specific areas, in which each of the key stakeholders lack confidence in the community energy sector, including themes, which are common across a number of stakeholders?
2. What recommendations can the peer review group make as to how these areas where confidence is lacking can be addressed?

## 1.2 Specific outcomes the Host Region expected to achieve from this Peer Review

1. Through discussion with the stakeholders taking part in the peer review, an understanding that lack of confidence in their areas can be successfully addressed and that community energy has much more potential than is currently being realised.
2. A commitment from the stakeholders to continue to engage with COALESCCE in order to fully realise the benefits of community energy in Greater Manchester. This will include participation in the local stakeholder action planning workshop scheduled for 1st March 2019.
3. Agreement from the stakeholders to consider the recommendations from the peer review, which they will seek to commit to as actions for their organisations at the 1st March 2019 stakeholder workshop.

## 2. MEETINGS & VISITS

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### 2.1. Peer Review program

#### Day 1 of the Peer Review - 11<sup>th</sup> December 2018

The Peer Review visits and meetings started with a **site visit in the morning to Stockport Community Hydro installation**. It is a 68kW hydro scheme on Otterspool Wier, Marple, Stockport. The double Archimedes screw turbine at Otterspool Weir generates renewable energy power on the river Goyt near Marple since 2012. It has been able to generate power even at times of low water levels. It generates enough clean, green energy to power about 60 homes, saving over 100 tonnes of CO2 per year or over 4,000 tonnes during the estimated 40 year life of the project. Today the Community accounts for more than 320 members.

In the afternoon number of presentations were given in the conference room of Crowne Plaza Hotel Shudehill, Manchester.

**Ben Alexander from Stockport Hydro** shared the experience from starting and development a community energy project.

- *The project development process requires knowledge and experience to be able to overcome legal constraints, to get all the required permissions and provide technical expertise*
- *The time to make such a project fully operational is minimum 2-3 years*
- *The finance raised for Stockport Community Scheme is a combination of share capital, loans and grants for a total investment of £ 600 000*
- *Participation of volunteers in daily operation of the installation and maintenance work is vital*
- *The main motivation for the members is the “green” effect of the Community activities and the legacy. Currently a fund for local environmental, community & co-operative projects has been established*

- *The main challenges are to attract more young people and to find new sites to develop more projects.*

#### **Greater Manchester Community Renewables (GMCR) presented by Kate Eldridge**

GMCR is a community benefit society, set up and run by volunteers to install community-owned renewable energy across Greater Manchester. The installed power so far include 140kW solar PV (3 schools & 1 community centre), 49kW on school and new 29kW project is planned. GMCR is run by a team of volunteers and has 190 members.

The strengths of GMCR among others are:

- *Built relationship with Local Authorities - Salford Council*
- *Historic relationships across the green community in UK*
- *Track record of existing sites to identify new projects and cash in bank*
- *Branding*
- *Attractive investment proposition*
- *Skills and experience on the Board*
- *Administration outsourced to specialized service company for accounting, billing, etc.*
- *General interest in social investments*

Main challenges faced include:

- *Long time required for project structuring and start – 3-4 years*
- *Government announced 3 changes to support renewables:*
  - *Removal of pre-registration*
  - *90% reduction in Feed-in Tariff proposed*
  - *Social Investment Tax Relief would not apply*
- *Reform in education system makes ownership of assets unclear which will create barriers in developing new projects*

#### **University of Manchester, Maria Sharmina**

Maria Sharmina from University of Manchester presented part of their project on community energy business models with findings regarding the sectors' characteristics.

- *Predominance of electricity generation particularly through solar PV*
- *Having no charitable status*
- *Employing not more than three full-time staff on average*
- *Leaning on at least 1 volunteer*
- *Relying on community shares*
- *Mainly working with one type of customer only*
- *Typically emphasising environmental value propositions over social and economic value propositions*

The sector survey outcomes prove that combined projects have better success factor. Main challenge in raising finance by the community energy cooperatives is that their share offers are not regulated by the Financial Conduct Authority (FCA). This is causing lack of confidence for community shares for potential investors/members.

#### **Resonance - Social investment Company, Leila Sharland**

The last presentation for the first day was of Resonance - Social investment Company, with more than 16 years of history of investing into community and social enterprise sectors. The team learned about the barriers to social investment in community owned renewable energy from the point of view of Resonance.

- *Lack of confidence in community share offers by the public*
- *The reduction in the FIT rate*
- *To underwrite any community share offer for the purchase of community assets*

Future investments of Resonance are motivated by:

- *Potential for large scale social engagement*
- *Potential to create meaningful projects to reduce emissions*
- *Recirculation of income into the local economy*
- *Creation of policy and economic drivers for more renewable energy investments*
- *Linkage to broader plans to improve community spaces and wellbeing*

#### **Day 1 findings and comments from the peer review experts:**

- The timeframe to launch a community project is on average 2-3 years. Special attention is paid to finding the right site and prepare the necessary project documents together with getting all the permissions to develop the project
- The project funding is secured from different sources - loans, share offering, local councils (small amount), members' capital
- Lack of confidence in community share offers by the public due to poor financial literacy, limitation in channels to offer due to legal restrictions. Community share offers are not regulated by the financial authorities
- The projects are predominantly energy generation
- Hydropower stations are the most expensive and with worst return on investment from energy generation, most profitable are wind and solar
- Community energy coops and BenComs rely on volunteers and people mainly in retirement age. Finding new younger members to continue the activities is a major concern

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- Community energy projects have one to two customers, which is regarded as a risk factor. The public sector is the biggest customer for the coops. Limitations in selling electricity directly to the end user
- Limitations in revenues from community energy projects lately due to:
  - Removal of pre-registration
  - 90% reduction in Feed-in Tariff
  - Social Investment Tax Relief would not apply
- Opportunity for the sector is the strong interest in social investments
- Possibility to scale up, develop larger combined projects and diversify the business and services is a good opportunity to develop the sector

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#### Day 2 of the Peer Review - 12<sup>th</sup> December 2018

**The morning site visit** was to Carbon Co-op and one of the projects supported by it, a deep energy efficient retrofit of a house in Eccles, Greater Manchester, belonging to a Co-op member. Carbon Co-op is owned and run by house owners and demonstrates a community benefit society, which supports its members with technical advice, skills and resources as well as the opportunity to meet other householders working to the same goals. The organization has no external shareholders or owners making profits, all resources are kept within the co-operative. Householders interested in upgrading their house to 2050 standards is among the target group of Carbon Co-op members.

**The afternoon sessions** were organised in Oldham Council. The peers met with representatives from the Greater Manchester Combined Authority, Oldham Council, Electricity North West (the local DNO/DSO) and national government (BEIS):

- Mark Atherton, Assistant Director of Environment, Greater Manchester Combined Authority ;
- Cllr Abdul Jabbar, Deputy Leader Oldham Council;
- Helen Seagrave, Community energy manager, Electricity North West;
- [Liam Tedds](#), Business, Energy, and Industrial Strategy (Government Department).

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During the presentations and discussions in the afternoon it was made clear that the environmental policy is high on the agenda of Oldham Council.

#### **Presentation 1: Mark Atherton, Assistant Director of Environment, GMCA**

It is on the agenda of the new Mayor to turn Greater Manchester into a green region through generating energy from RES including heat networks based on biofuel. Barriers for community energy are the existence of different definitions for community energy. Main focus would be heating which can be central and operated on a local basis.

**Four main barriers hampering the sector development in Greater Manchester are:**

**Political:** Oldham has cooperative nature but this is not true for the other regions in GM. Most of the councils (7) are not keen on community energy, partly because they do not have the technical capacity and knowledge.

A possible solution to that is integrating projects. From regulatory perspectives on National level, onshore wind is a priority. At the same time, the planning system in UK is shaped against onshore wind.

Technology is developing so people find less reason to reject RES because of new technical developments to store energy. The process is further facilitated by the fact that export tariffs from small users still exist. In addition, spatial framework is under development and it includes installation of PVs as obligatory.

**Economic:** Economic feasibility is reduced due to FITs going down. A possible solution is the self supply, application of new technological solutions like storing, selling to adjacent areas. This will increase the economic viability.

**Social:** Limited number (4-5) district heating systems across Great Manchester with small number of connected households, which makes it difficult? for the scheme to get running. The different utility companies have different time planning which is causing discomfort to citizens living in constant reconstruction environment. Possible solution is to have the same timeline i.e. impose collaborative packing of all the utility companies. Another problem for community district heating large capital costs which might be in contradiction with the heat demand.

**Technical:** Not all public buildings are fit to install PV on the roof. They might need reinforcement. In addition, old houses in GM are largely inefficient which makes deep retrofit of the homes very expensive (30-40 thousand pounds) with a very long paid back period.

Possible solutions might be:

- Installation of direct wire from the generator to the consumer, Utilisation of block chain technologies.
- Promote energy innovations and to use GM as a testbed.
- Develop sustainable local industrial energy strategy
- Develop schemes to make deep retrofit of old houses more attractive
- The existing programs of the Government are focusing on fuel poverty.

#### Presentation 2: Cllr Abdul Jabbar

The Councillor A. Jabbar is very supportive for development of RES and puts efforts to make community power part of the Council Agenda. An example of the dedication of Oldham Council Officials is the allocation of funds through a loan to Oldham Community Power to install the equipment, to be repaid after a share offer to local residents. One of the drivers in support of RES is the constant increase of energy and fuel prices.

Possible solutions to the challenges:

- *Involve politicians from the other (9) GM Councils, make them passionate about community energy and let them promote the sector*

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- Regular information and awareness raising campaigns among citizens on the green agenda
- Introduce technical criteria and standards for energy efficiency when financing social housing with public money – use of proper installation, apply energy efficient design. Developers and governments should come to the point to use proper insulation, heating, electricity to help to protect the environment.
- Engage citizens by practical things like monitoring system which shows how much electricity is produced or consumed
- All the ten districts of GM to buy from one supplier of energy to get a preferential rate. This gives the possibility to make large scale projects either by the investment or bring the small projects together and sale more energy

#### Presentation 3: Electricity North West, Helen Seagrave:

The local distribution company supports the producers of renewable energy in general since this is a trend and will help to reach the CO2 and climate change targets. Good communication between community energy organisations and local distribution company will support the community energy sector development. An evidence of the dedication of the DSO that in the person of Ms. Helen Seagrave they appointed a full time community energy manager – a DSO position hardly known in other parts of Europe.

#### Presentation 4: Community energy, BEIS perspectives , Liam Tedds:

The information shared by Liam Tedds helped the peers to understand the government vision on community energy sector. In England there is no target for community energy but in Scotland they aim at 2 GW produced by community energy. There is a general trend to move the state support from PVs to district heating. Community energy is innovative sector but the government finds it difficult to evaluate and assess the innovation aspect. Planning of community energy is difficult.

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What are the community energy groups from the governmental point of view?

- Local engagement;
- Production of energy;
- Generation of income.

The potential of the sector cannot be assessed, who is going to install how much and when – great uncertainty for the government. This is why the community energy is not very clear and government cannot identify instruments to support the sector. Government ask himself what is the future business model for the sector and how can the sector evolve, is it possible to have subsidy free business model.

The sector has started development about 5 years ago. The government needs to have very specific knowledge, data impact assessment and evidence material incl. the social impact. Task for the community energy sector could be to develop assessment model or something what can give evidence fact sheets.

In a document Future Energy Scenarios in Five Minutes, published by the National Grid Operator in 2018 the community renewables can contribute to decarbonisation in several ways:

<b>Electricity demand:</b>	Highest demand: high for Evs, high for heating and good efficiency gains
<b>Transport:</b>	Most cars are EVs by 2033 greatest use of gas in commercial vehicles but superseded from mid 2040s by hydrogen (from electrolysis)
<b>Heat:</b>	Heat pumps dominate high levels of thermal efficiency
<b>Electricity supply:</b>	Highest solar and onshore wind
<b>Gas supply:</b>	Highest green gas development from 2030s

**Some important conclusions from the presentation of Liam Tedds include:**

- *Efficient communication and exchange of information between BEIS and the community energy sector representatives will contribute for better understanding the sectors' specifics;*
- *BEIS needs to have very specific knowledge, data and evidence base to be able to assess the economic, environmental and social impact in order to support the community energy sector development;*
- *Possible task for the sector could be to develop impact assessment model to be able to generate evidence factsheets.*

**Day 3 of the Peer Review - 13<sup>th</sup> December 2018**

The peers participated in a round table discussion with Emma Bridge, CEO – Community Energy England, Mike Hemingway, Salford Council, Mark Atherton, GMCA, Kate Eldridge, GMCR. The input from the stakeholders helped the peer review team to refine the findings and recommendations for the host region.

The discussion contributed further for better understanding of questions arise during the peer review regarding community energy sector in Greater Manchester current status and potentials for future development such as:

- *What is the reason to hear quite negative reaction on the community energy sector? Is it because of the peer review focus defined or this is a kind of general perception?*
- *Is there available information for the initial start of the project design – subsidy for feasibility, mapping of potential sites for projects?*
- *Is there an updated inventory of assets of local government to be used for community energy projects?*
- *Is community energy taken as a serious sector, how stakeholders feel about the importance of the sector?*
- *Is there a strong communication among the community energy organisations to further intensify the sector development?*
- *Does the transfer of knowledge happen between the different community energy projects?*
- *What is the follow up of the projects developed as a pipeline during Region for Green Growth project?*



In the afternoon the peer review team developed the Peer Review Feedback Presentation.

### 3. FEEDBACK

The morning of 14<sup>th</sup> December was spent for final feedback and recommendations session.

The first draft recommendations were well received by the local stakeholders leading to a productive discussion and actions identified which could enable a step change in the community energy sector in Greater Manchester.

The main question addressed was: How to develop confidence in energy communities and the findings were summarised under four headings:

- What was good or interesting about existing activities
- Challenges faced
- Opportunities identified
- Recommendations

#### Background

Nationally the Community Energy sector is well-established, and provides much more than renewable energy. It often delivers projects that would not be installed otherwise, because its access to social investment (whether institutional or through ordinary investors) and its focus on community benefit means it can deliver projects for lower profit margins than private companies. It has access to skilled and experienced volunteers and the sector cooperates, and shares experience, information and expertise, and is mutually supportive.

Community Energy England and Community Energy Wales' State of the Sector report 2018 showed that Community Energy organisations have delivered significant benefits over time. (See below).

The community energy sector in Greater Manchester and the North West has installed at least 4MW of community owned renewable energy and retrofitted 30 homes. Community energy organisations are engaging local people on energy and developing new projects on district heat, LED lighting, solar PV, smart grids, electricity storage and energy saving.

GM's 'traditional model' community energy organisations have installed PV or hydro generation that benefits from FITs payments, and these groups mainly operate without paid staff and have voluntary directors. The exceptions are Carbon Co-op, with 6 staff and Manchester Tree Station with 25 staff. Both provide non-energy generation services (see table below). There are also other community energy organisations across the North West and all the groups cooperate via a google group Community Energy North West Network.

Some of the key issues raised in discussions with the sector and administration were:

- Limitations in revenues from community energy projects which appeared lately are due to: (i) drastic reduction of Feed-in Tariff; (ii) social investment tax relief would not apply

- There is no real leverage of the community group, the community groups are lacking self-confidence
- Succession building is also a problem for the key stakeholders due to lack of young people joining the energy community projects
- Lack of confidence in the sector from state administration point of view because of lack of evidence base
- Opportunity for the sector is the strong interest in social investments
- Possibility to scale up, develop larger combined projects and diversify the business and services is a good opportunity to develop the sector

These issues have clearly led to the formation of the key questions for the Peer Review:

- Which are the specific areas in which each of the key stakeholders lack confidence in the community energy sector, including themes which are common across a number of stakeholders?
- What recommendations can the peer review group make as to how these areas where confidence is lacking can be addressed?

### 3.1 Develop confidence in energy communities

#### Good/Interesting Existing Activities

- Existing community energy organisations
- Projects realised in urban and rural areas
- Motivated, engaged and confident
- GM City Mayor supports decarbonisation and green agenda
- Co-operation between municipality and community energy sector (not valid for all local districts in GM)
- Supportive Co-operative & Community Energy association
- DSO is supportive to community energy sector
- Easy to raise capital for community energy projects
- Long tradition in volunteering

#### Challenges

- Regulatory uncertainties and change – FITs, Social Investment Tax Relief, Eligibility for Community Share Offers, no subsidy schemes
- Lack of regulatory framework for CE
- Instability in public services
- Access to CE mainly for middle class
- Lack of common agreement on CE between communities and policy makers
- Community Energy is not well known to the citizens (2%)
- Limited portfolio of economically viable projects
- Lack of capacity (technical knowledge)
- Based on volunteers
- Working in silos

- Long time to prepare and start a project
- Limited exchange/dissemination of information on success cases

#### **Opportunities**

- Local commitment to energy transition
- Technological development: energy, ICT, communication, open source equipment, smart cities
- Pressure to reach medium and long-term targets (RES target for 2027, Carbon Neutral Manchester by 2038)
- Decentralisation as a drive to define ambitious regional targets
- Universities and R&D institutions offer numerous pieces of research related to community energy
- New market opportunities for transport and mobility sector
- Community energy sector has impact on health care, social and educational aspects
- Stock of old buildings in the cities creates demand for district heating or retrofit
- General interest in energy projects exist among citizens

#### **Recommendations**

The recommendations fall under three main headings:

- Communication and information sharing;
- Policy support measures
- Energy communities organisation

These recommendations are primarily aimed at the Community Energy and Co-operatives Associations to provide a framework of support and ideas sharing for co-operatives.

#### **Communication and information sharing**

- The community energy coops to emphasise the wider benefits – health, social, environmental impact and CO2 reduction, not only the economic part of it
- Target the communication based on the different stakeholders
- Organise workshops in schools to raise awareness regarding climate change involving experts with practical knowledge
- Involve local universities, R&D organisation in events to communicate benefits from energy communities
- Energy community to use existing surveys and information to provide policy makers with evidences
- Make sure that community energy theme is included in the “GREEN SUMMIT” event
- Identify possibilities to use community share standard mark for community energy projects

The initiatives for realising successful implementation of communication actions are on the end of the Community Energy Coops in collaboration with Community Energy England.

The knowledge transfer can be facilitated in collaboration with Knowledge Transfer Team at the MMU and identified contact team on the side of the community energy coops.

#### **Policy support measures**

- Cover the initial risk of development of project through establishment of a fund for support of feasibility studies for community energy
- Develop integrated energy and climate concept for Greater Manchester through involvement of key stakeholders including community energy sector
- Establish a working group with authority and coops participation to define obstacles for community energy sector development and work out more friendly regional level framework
- Identify potentials to include community energy in the Public Estate Exchange program
- Friendly competition at regional level between municipalities in GM for recognition in a league table

The policy design is a complicated process which desires the inclusion of both local authorities and representatives of community energy co-operatives. The community energy sector will be more successful in achieving its goals through identification of representative body which to enter in a working group with the local authorities. The working group can play important role in development of support measures to the sector. The local authority has the power and the tools to officialise initiatives like setting up a friendly competition at regional level between the municipalities in GM for recognition in a league table; set up a start-up phase risk covering fund and offer information regarding Public Estate Exchange program.

#### **Energy community's organisation**

- Professionalise community energy sector
- Provide shared services e.g. Administration
- Secondees from relevant industries to provide technical/ project development/ legal support: Community Energy England
- Apply new technological solutions like storing, selling to adjacent areas to increase the economic viability
- Create new business models for cooperation with aggregators
- Include social investors as an extra layer of investment

The community energy coops professionalisation and business model improvement is best achieved through training and workshop initiatives generator of which can be the Community Energy England organisation.

#### **3.2 Transferable Good Practices from COALESCE partners relevant to the recommendations of the peer review team**

##### **Good practices related to Communication and information sharing include:**

##### **1. Energiochi - Energy Games, Abruzzo region and Erasmus Hyschools, Abruzzo region**

The Energiochi initiative was developed by the Abruzzo Region's Regional Energy Agency (ARAEN) and aims to educate young people about the importance of renewable energy sources and their potential. The project points out that the youngest generations are an endless source of creativity and vitality which are fundamental for the promotion of environmentally friendly topics. The objective is to promote the knowledge of energy-saving criteria and renewable energy sources, and to raise awareness on the effect that everyday behaviour has on the environment, as well as to foster sustainable consumption oriented behaviour. Each year, the Energy Policy Service of the Abruzzo Region and ARAEN promote school competitions in the form of graphic assignments, musical compositions and short films. Entire primary and secondary schools have created unique assignments. Pupils from nursery and primary schools have learned about and become aware of the issue of energy, students of Higher Institutes have created important experimental projects. The project is carried on in collaboration with the Education Ministry, the Regional School Office and the University of L'Aquila. It targets the Abruzzo Region's Primary and Secondary schools. The yearly costs of Energiochi are 150,000 euro (70,000 awards to the winning schools, to be used the following year on educational activities on RES/EE, 50,000 for educational visits and 30,000 on implementation, support materials, etc.).

## 2. Solar – Bundesliga, Germany

The Solar-Bundesliga is a ranking system of the most successful solar energy communities in Germany. The benchmark for both solar heat and solar power is per capita output. A solar thermal system with a size of 1 square meter corresponds to an output of 700 watts. The league is organized by the editors of the journals *Energiekommune* and *Solarthemen*.

The target group of Solar-Bundesliga?

Anyone can report who can prove the data credibly. The "Solar-Bundesliga" is intended as an incentive for the local actors to determine reliable total numbers - for example, by counting on the rooftops or surveys with installers. The latest data are also available if you use the PV system register of the Federal Network Agency and you can evaluate the application numbers of the market incentive program for solar heat.

What is to be considered in the solar league report?

Only guaranteed minimum numbers are included in the rating - no estimates or uncertain projections.

How is the Solarbundesliga assessed?

For solar power and solar heat, there is one point per watt per inhabitant. In addition, there are bonus points that reward a balanced development of the two areas. The exact rules are explained on the FAQ page.

### What are the benefits for the energy communities?

#### 3. University – business cooperation for development of sustainable business models in energy sector, Romania

#### 3. University – business cooperation for development of sustainable business models in energy sector, Romania

For the past 2 years the Oil Gas University of Ploiesti is organizing a competition to stimulate students to develop innovative and sustainable models for implementation in the renewable energy sector. The students have the unique opportunity to pitch their ideas and receive valuable feedback from a specialist board that includes a wide array of key stakeholders well established in this sector from Prahova County Council, The Regional Energy Agency Ae3R Ploiesti – Prahova, Prahova Chamber of Commerce, The Romanian Association of Economists, The Society of Petroleum Engineers, The Romanian Association of Expert Accountants and various students' representatives. Participation is national wide with University representatives from all over Romania: Brasov, Targoviste, Sibiu, Alba Iulia, Suceava, Pitesti, Galati, Oradea, Arad, Targu-Jiu and Ploiesti. Last edition organized at the end of November 2018 was a huge success with 39 projects prepared by 94 students, the debates lasted 3 days and at the end the best ideas were awarded financial prizes.

This kind of competition makes great use of fresh ideas coming from future specialists (students) while giving them the opportunity to interact directly to representatives from both public and private sector, exchange ideas and receive valuable feedback. The main idea is to put together stakeholders from all areas, to foster discussion, increase cooperation at regional/national level and develop innovative approaches to tackle various barriers in the renewable energy sector.

[www.upg-ploiesti.ro](http://www.upg-ploiesti.ro)

#### Good practices related to Policy support measures include:

##### 1. Energy Atlas to support identification of energy potential, open source, Baden Wuerttemberg region

<https://www.energieatlas-bw.de/sonne/dachflachen>

The Baden-Württemberg Energy Atlas is the joint Internet portal of the Ministry of the Environment and the LUBW (State institute for environmental measurement) for data and maps on renewable energies. It provides citizens, municipalities, administration, research and industry with important information on the state of decentralised energy production and regional energy demand. With its nationwide overview, the Energy Atlas offers energy consultants, planners and interested actors background information and handouts. The aim is to use networked information to stimulate possibilities for the efficient use of energy in order to save energy on a long-term and sustainable basis. In the extended data and map offer of the Energy Atlas, additional information and evaluation options are also available. The open source GIS-based tool also illustrates realized good-practices. The energy atlas also documents the number of realized renewable energy project and gives an actual overview of the current key figures and the day feed-in power.

Effect:

- Raising awareness for all renewable energy sources
- Showing still available potentials for renewable energies and efficiency effects
- Networking effects
- Lower barriers for non-professional stakeholders (community energies) to find new project areas and partners
- Further links and information to find professional support
- “You are not alone effect!”

**2. Smart Tunnel in the City of L’Aquila, Abruzzo region**

<http://www.sottoserviziag.it/it/smart-tunnel.html>

**TO BE COMPLETED BY ABRUZZO REGION**

**3. IEKK, policy instrument of Baden Wuerttemberg region**

**TO BE COMPLETED BY LCF - Germany**

**4. Support for upgrading family heating systems, Bulgaria**

Sofia Municipal Council has developed an Action Plan for implementation of Air Quality Management Program for the period 2015 – 2020. The plan contains measures aimed at reducing emissions of fine particulate matter by 2020. The measures are broken down by sectors and depending on their implementation period - short-term (with a deadline to be completed by the end of 2017), medium-term (with implementation deadline 2018-2019) and long-term (with implementation deadline by the end of 2020). Of special interest for renewable energy support measures is the replacement of air quality ineffective forms of heating of residential buildings. Number of households in Sofia area is using solid fuel, which is causing significant air pollution. To overcome the problem Sofia Municipal Council has defined a scheme supporting replacement of old domestic solid fuel firing systems (wood and coal) with new pellet stoves and the provision of the required amount of pellets for one heating season. Beneficiaries of the project will be able to submit their applications to the regional administration within 2 (two) months. Candidates will be selected on the basis of previously developed ranking criteria. Approved households will receive a blanket contract, regulating the conditions and rules for using the heaters. During the first three years of using the pellet stoves, beneficiaries will be checked by the District Administration for compliance with the terms of the contract. Upon expiration of this period, the heaters will be owned by the households that use them.

A feasibility study was conducted to determine the technical characteristics of the stoves. The indicative value for purchase, delivery and installation of a pellet stove amount on average to EUR 1200, and for the purchase and delivery of pellets for one heating season – EUR 350/household. These funds are included in the budget of the Green System, Ecology and Land Use Department for 2018.

**Good practices related to Energy community’s organisation**

### 1. Straw balle house building community, Hungary

In Hungary, community owned and led energy solutions are rare - for most of the people it is a new concept. A new idea - even if proven well-working elsewhere - needs initiators, catalyzers, market makers - whatever we call the pioneers who aim at making a break-through for their concept. The example of the Environment and Energy Foundation in Nyíregyháza, East Hungary shows that an NGO can play the role of such an initiator. Straw bale houses are a "new old" concept as the first such houses have been standing for 100 years already, but these types of buildings are not widely known. These are highly energy efficient - their energy insulating performance is comparable to the most recent insulating materials. The above mentioned NGO spreads the word preparing information materials, posting detailed articles on their website and organising trainings on straw bale construction which includes both theoretical and practical training sessions. The trainings offer the course at a very favourable fee. They cooperate with an organic architect designer and a particular type plan is freely downloadable. The architect can also be involved if the prospective owner wants to modify the type plan. Since the NGO created a forum - a dedicated Facebook site with 27,000 followers - the number of straw bale houses built or planned has increased more rapidly. On this site everybody can share their experience or ideas on straw bale construction, and this Facebook group now operates almost autonomously forming a large community. The NGO also helps organise community participation in particular straw bale house construction works. We often think of formal organisations/legal entities such as cooperatives as actors of the community energy sector - this initiative shows an example that informal groups such as the straw bale building community can also take part in the community energy movement.

### 2. Electrical mobility for car sharing, Valencia region

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